Designing Safe and Secure School Entrances

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Course / Learning Objectives
- Learn to utilize a risk threat assessment
- Be able to identify passive and active design features to protect entrances
- Be able to identify high risk areas that need CPTED features
- Be able to develop functional security design criteria

CPTED and it’s role in security
Through proper use and design of the built environment you can reduce the opportunity for crime and improve the quality of life.
- Access Control
- Surveillance
- Territoriality / Boundary Definition
- Organized methods
- Mechanical methods
- Natural methods

The threats are real and looming.

Local
Gun puts schools on lockdown

‘A HORRIFIC DAY’
1) Perimeter fencing to deter trespass

- Fencing and perimeter boundary definition serves as the first layer of security for persons to gain access to the main entrance.
- The goal is to limit access to non-primary entrances or exits, and funnel pedestrian traffic to areas where persons can be observed and screened.
- Fencing should encourage entry to higher visibility and well-monitored areas, preferably those under video or staff surveillance. While fencing in of itself, does not prevent unauthorized access, it does make persons approaching the facility from unobserved or remote areas more obvious and increase the difficulty to access the site.
2) Single point of entry

- Effective access control requires that entry to and from a building be controlled. Efforts to prevent forced entry and trespass are compromised if secondary points of entry, or fire doors are unsecure or easily defeated, and unobserved.
- While large schools may have multiple points of entry, the more entry points there are, the more expensive and duplicative the security efforts.
- The main point of entry should look and act like the primary entry point, and not a fire egress door. The primary point of entry needs to be regulated with access control features, surveillance features, and strong design features that resist breakage, or compromise.
3) Staff monitoring of arrival and dismissal times.

- Arrival and dismissal times in K-12 schools require a lower security posture due to the volume of student and staff movement. Properly trained and equipped staff must be assigned to monitor activities during these staff periods. The involves training on intruder response, reverse evacuation and how to assist in the arrival of public safety vehicles, school buses, private vehicles, or the media.
- Staff should be equipped with radio communications with building and administration staff and the ability to call 9-1-1.
- The primary entrance should be designed to allow separation of ingress and egress of students, to avoid mixing of circulation patterns. The foyer area where staff is stationed should be under video surveillance.
4) **Strong visitor management systems**

Visitor management is another very important feature for a safe and secure school entrance environment. Without properly screening visitors, schools are at risk of allowing people who pose a threat access to their buildings, staff, and students. After the Sandy Hook school attack, the security industry has noted a dramatic increase in the utilization of paper-based as well as computerized visitor management systems. Though computerized systems cost more, they are highly robust now, and offer features that the paper-based system cannot.
• Remote preregistration features that allow parents, grandparents and guardians to log in via computer for special events. This speeds up the signing in of large numbers of visitors in short windows of time.
• Duress button capabilities which allow school staff to press a button to discreetly call for assistance.
• Capturing visitors' photographs and printing visitor's photo ID badges as well as maintaining a database of these photos.
• Sending alerts to appropriate school and/or school district administrators and staff by e-mail, text messages, or other methods of notification when a potential threat has been identified.
• Conducting background checks for volunteers, chaperones and contractors.
• Providing the ability to generate quick reports in the event of emergencies such as building evacuations or sheltering situations.
• Allowing integration with other access control technologies.
• Visitor management programs should include prominent signage on all building entrances, visitor parking areas, and parking lot entrances. Let visitors and vendors know your expectations.

5) Create a secure vestibule
• Besides acting as a weather vestibule, a double door system can greatly enhance security layering and screening. While a school vestibule is not up to the same level of security of an embassy or jail, the purpose is the same, serving as a way to prevent one-step entry to the primary spaces, with the ability to lock one or both sets of doors.
• The hardware should be designed to resist tampering, glazing should be able resist breakage, and the ability to electronically lock down greatly enhances the ability for quick response during an active shooter situation.

Features a computer based system can offer:
• At a minimum, visitors should not be able to enter the school without registering at the front desk or main office.
• The issuance of a visitor badge and visitors, and potentially vendors, should be escorted to their destinations.
• Allowing front office staff to check visitors against a national sexual database by scanning some type of government issued or school district issued identification (ID).
• Allowing a systematic school-maintained database (with a way for staff to flag visitors with outstanding child custody orders, adults who have been banned, and based on other databases developed for schools or school districts use) and providing off-site accessibility the ability to view visitor data from any computer with internet connection and authorized system access.
• "Trusted party" features which allow regular visitors to use a key fob to sign in more rapidly.
The center mullion is a vertical element between the double doors. A sturdy mullion is vital to the integrity of the locked doors. Door handles and push bars should be flush with the door to prevent them from being tied together to delay law enforcement or prevent emergency egress. Likewise, the push bars should not be accessible from the outside by fishing with a wire hanger or device that can open the door by illicit means.
6) Security glazing

Glazing that supports natural surveillance and acts as a strong physical barrier. Large windows, vision panels, and glass swing or sliding doors, are easily defeated. Minimizing or strengthening the gazing presents a more secure image and makes forced entry more difficult. If the primary entrance is designed to be primarily glass and metal mullions, there should be some kind of designed barricade or bollard that could prevent or stop a vehicle entry.

Glazing in modern buildings is now required to meet wind resistance standards, which also act as forced entry protection. Wind resistant glazing is typically laminated with interlayers that bond the glass and give it strong forced entry protection. However, forced entry or burglary protection is not bullet resistant.

7) Classroom barricade devices

Conventional locksets meet the code requirements for:

- Free egress – Allow all occupants to exit without obstruction.
- Fire protection – compartmentalizing the building to deter the spread of smoke and flames, and
- Accessibility – ensuring access for all, including people with disabilities.

Parameters that should be satisfied:

- The door should be lockable from inside the classroom without requiring the door to be opened.
- Egress from the classroom through the classroom door should be without the use of a key, a tool, special knowledge, or effort.
- For egress, unlatching the classroom door from inside the classroom should be accomplished with one operation.
- The classroom door should be lockable and unlockable from outside the classroom.
- Door operating hardware shall be operable without tight grasping, tight pinching, or twisting of the wrist.
- Door hardware operable parts should be located between 34 and 48 inches above the floor.
- The bottom 10 inches of the ‘push’ side of the door surface should be smooth.
- If the school building does not have an automatic fire sprinkler system, the classroom door and door hardware may be required to be fire-rated and the door should be self-closing and self-latching.
- If the door is required to be fire-rated, the door should not be modified in a way that invalidates the required fire-rating of the door and/or door hardware.
**Shelter in Place hardware**

**The Good**
- Quick, Easy and Inexpensive
- Some Meet Code
- Additional Safety

**The Bad**
- No Life Safety Standards in place
- No Standard to Measure Effectiveness

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**Innovative but... non compliant**

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**Covering the door closer?**
Electronic access control advantages such as:

- Allow access by means of a PIN code or proximity card, eliminating or greatly reducing the number of metal keys in use and the risk of lost or stolen keys.
- Give different levels of access to individuals, even controlling the times of day a person has access to a particular classroom or area.
- Provide an audit trail with useful information like whose credential was used to open a door and when.
- Authorize and de-authorize any credential from a central location, instantly.
- Use a radio frequency (RF) fob, similar to a car remote, to perform localized lockdown on standalone electronic locks by pressing panic button.

Overall Safety Initiatives

- Anyone should be able to deploy locks, not just the person in the office.
- Key entry and the ability to open a door from the outside is vital.
- ADA Compliance – height, twisting.
- Code Compliance – single movement, no special knowledge or skill.
- The need for speed – be able to execute a lockdown in less than one second without restrictions or risk of panic induced error.

8) Door hardware and monitoring:

- All exterior doors should be monitored electronically to determine if they are fully closed, and locks engaged. Door position switches (DPS) should be built into the doorframes and connects with contact switches in the doors. This can be accomplished at the top of the door, the door hinge, the door closer, or within the door lock itself. A door that looks closed but isn’t, poses a very serious risk of being used to gain unauthorized entrance to the building and introduce weapons, or a shooter, or at the very least allows all of the security efforts at the primary entrance to be undermined.
9) Video intercoms for visitor screening

A video intercom system allows staff to see and talk with visitors admitting them into the secured school buildings. By determining a visitor's identity before unlocking the door, staff can avoid face-to-face confrontations with a possibly dangerous or aggressive person. The development of security technologies also helps improve emergency communications in schools. For example, one of the most important school emergency communication assets can be a robust and reliable internal and external intercom or public address system. The ability of office personnel to notify all students and staff on campus with incident specific warnings can help reduce the loss of life.

Systems Integration

• When integrated with intercom and camera systems, automated door control can allow staff to manage visitors at main entry doors to facilitate screening by front office staff before entering the building.

• The use of this type of integrated access control system is of particular importance to schools with open design concepts where there are limited opportunities for staff and students to be secured in lockable interior spaces.
The video system should follow the guidelines

- All cameras should record in full color.
- Interior cameras should be mounted at the door looking down the hall so that a full-face shot of any person leaving the school with a child is more readily available.
- The camera system should be checked daily, with documentation detailing the status of the system as a whole and individual cameras, identified problems, and steps taken for problem resolution.
- A video surveillance system should be installed that covers, at a minimum, the main entry exterior, front lobby, main office and student pickup/drop-off lane.
- A properly trained, manufacturer certified installer, in accordance with state and local codes, should install the video system.
- The video system should have the capability and flexibility to expand to meet the guidelines of the subsequent video surveillance TIER.
- The video system should have the capability to export historical incidents for forensic review.
- The video system should be capable of storing archived video for a minimum of 14 days.
10) Panic and duress buttons

Often referred to as “panic buttons,” these types of systems allow school staff to rapidly and sometimes discreetly summon emergency assistance by pressing a button. Although panic buttons are reactionary, they make it easier for school staff to notify police and call 9-1-1.

The duress alarms allows for more communication efforts to be directed towards safeguarding students. If the school is totally dependent on front office staff to provide notification of an intruder situation, consider expanding the panic button system to a full intruder alarm that broadcasts a unique warning to the entire school.
Technology systems should provide:

- CCTV at site and building entrances and fenestration.
- High resolution cameras with appropriate recording times.
- Interior lighting at glazed main entrance areas with evenly distributed lighting to the entrance.
- Card readers at main entrances and other heavy use areas (staff entrance, receiving areas, playground areas, etc.)

Continued:

- Card readers in lieu of keyed entries to control key distribution issues (lost master keys)
- Consider providing cameras situated by building zones to protect users.
- Two way communications from central administration to all rooms.
- Provide CCTV for authorities to find an intruder during lockdown.

Continued:

- Provide panic or duress alarm at reception desk.
- Use CCTV as a deterrent to protect property from vandalism.
- Provide Green security lighting.
- Provide CCTV for evidence documentation with adequate recoding time and high resolution at appropriate distances.
- Provide radio-frequency communication.

Continued:

- Generator backup power supply for phones and emergency communications.
- Provide redundancy in mass notification systems.
Physical and Electronic Security

- Schools should ensure that all exterior doors are properly constructed and lockable.
- Schools should develop a reasonable plan for electronic access control in the event of an emergency.
- Schools should install CCTV cameras throughout their campuses.
- Schools should equip all classrooms with emergency signaling/notification capabilities.

Mass Notification

- Schools should have a communications system that is interoperable with outside agencies.
- Schools should establish a formal policy for use of their mass notification system.

Conclusions

- Conduct the risk/threat assessment to establish a base line of needs
- Meet minimum security and safety standards of care
- Use CPTED as an approach to the problem
- Take reasonable measures, not extraordinary measures
- JUST DO IT!!!!
References:

- Randy Atlas. 8 ways to Improve Entrance Security. Campus Safety Magazine May 2017
- Brad Spicer. 11 Components of a secure school front entrance. Campus Security Magazine. 2013