

ATLAS SAFETY & SECURITY DESIGN, INC.

DESIGNING FOR CRIME AND TERRORISM: CPTED TRAINING IS ESSENTIAL

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Creative Architectural Design can counter inherently insecure security concerns.

There are three really good reasons why architects need to be trained in Crime Prevention Through Environmental Design (CPTED):

- ◆ You need to know how to prevent crime in the buildings in order to prevent negligent liability.
- ◆ You want to design for the health, safety, and welfare of building users against the threats of workplace violence, terrorism, and street crime.
- ◆ You have to design for security for all federal architecture by complying with the GSA Federal Security Standards.

The architect needs to know the basic techniques and skills of CPTED to meet the general standards of care of building codes, specific industry standards like the hotel and shopping center industry. As the result of criminal incidents and accidents happening on properties, the architects are being drawn into premises liability lawsuits. Architecture impacts the safety and security of a building in many features including: stairs, ramps, handrails, interior and exterior lighting, floor materials, parking lot design, blind spots and dead end corridors, the selection of doors, windows, and access

control systems, building circulation patterns, and more. The architect is often held accountable for inadequate locks, poor key control, inoperative equipment, inadequate lighting, and systems failures. The architect is also held accountable for having foreseen or having prior knowledge of designing high risk buildings prone to crime for not taking adequate measures by the every nature of the building. The architect is being held accountable for knowledge of the building types, but knowledge of crime trends as a reflection of operational design criteria. Architects must provide for security considerations in many urban buildings by designing for ground street level protection, basement level protection, parking areas, exterior grounds, and shipping/receiving and intake into facilities.

While lawsuits were relatively rare in the 1950's, a typical jury award in a premises liability case was \$10,000 in damages. In 1982, the average jury award was \$1.04 million. The average jury verdict was \$3.35 million in 1992 and the average settlement was \$545,800 in 1992. 58% of all civil cases in 1992 being reported were premises liability issues, with over half of those cases involving inadequate security. The location of crime in the premises liability suits brought from 1983 to 1992 happened in parking lots 19% of the time, in apartment buildings 23%, hotel and motel rooms 15%, stores 9%, and restaurants 8% of the time. Architects are viewed with a deep pocket because they are often forced to carry insurance. The result is architects being successfully dragged into litigation involving third party premises liability security negligence lawsuits.

The architect wants to be informed of all of the relevant design criteria that could impact the uses, users, and design of the building that is contracted. The architect has been traditionally considered the master builder. The architect should start the security design process in the architectural programming phase with the security consultant who then conducts the security needs and threat assessment. The threat assessment establishes design criteria for the specific building to be designed.

The Oklahoma City bombing, World Trade Center Bombing, the firebombing in the New York subway, the toxic gas attack in Japan's subway, and the derailment of the Amtrak Train in the Arizona dessert are now forever etched in our memory. Terrorism represents a real threat for our society and to our peace of mind. The face of terrorism is undergoing systemic changes as the level of sophistication of terrorists increase with the availability of knowledge and materials to carry out these acts of violence. Timothy McVeigh, who blew up the Oklahoma City Courthouse, stated in an interview shortly after his arrest that he picked the courthouse because 'it was architecturally vulnerable'. Who would have ever thought that a rental truck and a load of manure could be so deadly? These national tragedies have permanently changed the way government and private sector clients select sites, program, and design their buildings. Crime Prevention Through Environmental Design Strategies can be very effective in diminishing the threats and losses to persons, information, and property.

Knowledge about bombs and terror has proliferated to a point that virtually any terrorist or criminal can find out the information to build a pipe bomb to a nuclear bomb or to develop killer toxins to carry out their particular misgivings.

The targets of the future will be cities, utility companies, government buildings or agencies, technology companies, and high profile corporate entities. New technology has made the infrastructure of America more vulnerable to sabotage, especially disruption of communications and information systems, which have the same net result as a bomb going off.

Yet, with all of the catastrophic effects of terrorism in the past and the huge potential for damage in the future, acts of terrorism are relatively infrequent. The overall damage to society and the criminal justice system is less than loss of life and property from ordinary street crime. The societal damage from guns far exceeds the damage from any bomb.

As the role of the security designer and the architect gets redefined for the 21st century, designing against the threats and vulnerabilities of crime and terrorism are ever present. But, is there really a difference designing against terrorism or designing against crime?

The first step in designing against terrorism or crime is to assess the threats and vulnerabilities. The first step is to evaluate the tangible and intangible assets that are to be protected. Usually the assets of our buildings are (PIP), PEOPLE (users and employees), INFORMATION, and PROPERTY. The threats are the potential for losses of the assets. The vulnerabilities are the weaknesses, shortcomings, or perception of risk of attack by the actuality of crime or terrorism.

What is the chance or likelihood that our private or public sector buildings would be a victim of an act of terrorism? The perceived level of threat is much greater than the actuality. The incidence of terrorism in the United States is extremely low. The probability of becoming a victim of a robbery, burglary, auto theft, assault, or murder has affected how most of us live our lives.

An example of increased awareness is the threat of workplace violence. Workplace violence is closely related to terrorism in its level of predictability. Yet, with all of the assaults at the post office or in office buildings, the frequency is relatively low. Yet, the threat is just waiting for an opportunity to surface.

The threat of terrorism is more marketable than ordinary street crime. For decades efforts have been made to have a national security code or security ordinances as

part of state or national building codes. These efforts have fallen on deaf ears. Efforts to have criminals serve their actual sentence, or truth in sentencing, has collapsed under the weight of prison overcrowding and construction and budget moratoriums. Terrorism has been the vehicle for change in an otherwise stuck universe of crime prevention. For example, President Clinton in June of 1995 mandated basic standards of security for all federal facilities. The mandate states that each federal building shall be upgraded to the minimum security standards recommended for its audited security level by the Department of Justice.

Prior to the U.S. Marshals Service conducting a vulnerability assessment, there was no government wide standards for security at federal buildings. The Marshals Service building security study developed 52 standards primarily covering perimeter security, entry security, interior security, and security technology planning. Each federal building is rated within the five levels, with level I being minimum security to level V being a defense plant or nuclear facility. Most courthouses with multi-tenant , multi story buildings are considered level IV and require shatter resistant glass, controlled parking, 24 hour CCTV monitoring and videotaping, x-ray weapon and package screening, and a photo identification system.

The creation of basic minimum security standards is needed, and the federal government has now established a minimum standard of care for federal buildings. In the private sector, the American Society of Testing Materials Premise's Liability Committee was disbanded by lobbying pressures for developing minimum security guidelines for multi-tenant residential housing environments. Presently, there is an effort to resurrect the effort with the National Fire Protection Association. The NFPA regulates fire protection and life safety requirements and security is definitely considered part of a life safety issue.

The threat of premises liability litigation is what has driven the major organizations for hotel and motels, shopping centers, retail association, and builder associations to try to block all efforts of minimum standards. A legal and physical benchmark will put all of corporate America on notice to make their buildings safe against crime, not just the remote occurrence of fire. Insurance companies are strongly supporting standards that they could measure a business against and reduce their losses. The auto industry created the momentum for reduction of auto theft by redesigning locking systems, installation of alarm systems, improved driver training, and redesign of car stereos to resist theft (removable faceplates). Responsible car owners now realize discounts in their premiums because of the inclusion of security features and minimum standards.

The media covered the recent acts of terrorism for weeks with unrelenting enthusiasm. The personal dramas of terrorist attacks unfolded piece by piece. However, the secretary raped in a school or hospital parking lot barely makes the back page of the local section of the paper. The commonness and greater frequency of murder, rapes,

assaults, and robbery is only newsworthy if someone famous is involved or the crime is particularly heinous. The numbness to the high frequency of street crime does not motivate our politicians, insurance companies, building and zoning officials, or design professionals to make change or improve the quality of life. The actuality is that terrorism is much more marketable for the press and media frenzy to motivate politicians to create change in the security field, develop standards, and make changes in our physical environment to resist criminal behavior.

Crime Prevention Through Environmental Design (CPTED) is the effective use and design of the built environment to reduce the opportunity and fear of predatory stranger-to-stranger crime and improve the quality of life. CPTED uses a multi-tiered approach to increase the effort needed to commit the crime, increase the risks of being detected when attempting to commit a crime, reduce the rewards for committing the crime, and remove the excuses for inappropriate behavior. The strategies for achieving these goals is to use natural access control strategies, natural surveillance strategies, legitimate activity support, management and maintenance strategies, and territorial boundaries.

Can Crime Prevention Through Environmental Design (CPTED) make a difference in preventing acts of terrorism? Absolutely! CPTED emphasizes problem seeking before rushing into problem solving. CPTED starts with the threat and vulnerability analysis to determine the weakness and potential for attack. Attack from criminal behavior or attack from terrorist activity only reflect a change in the level and types of threats. The process and challenges are the same. CPTED and Defensible Space planning are a planning process as compared to fortressing or target hardening. When designing against crime or terrorism the security consultant must resist the rush for quick answers. The CPTED process provides the direction to solve the challenges of crime and terrorism with organizational (people), mechanical (technology and hardware), and natural design (architecture and circulation flow) methods.

If one of the outcomes of the threat analysis for a government building is the challenge of a truck bomb and the goal is to distance the bomb from the building, then the CPTED approach would propose careful consideration of:

- * Where is the parking placed?
- * How does service delivery get screened and controlled?
- * How do pedestrians flow into the building?
- * How many entrances are there for the public, staff, and service?
- * Is there one main entrance for the public?
- * How much distance is the exterior path of travel from the street or pedestrian plaza to the building facade?
- * Do all four facades have setbacks from the street?
- * What is the most appropriate bollard system or vehicular barrier system?

- * Do bollards or planters create blind spots or sleeping places for homeless persons and street criminals?
- * Does the threat exist from bicycles and motorcycles bombers, thus requiring a smaller net?
- * Does surveillance from the building to the street remain unobstructed?
- * Do landscaping and plantings remain unobstructed?
- * Do barriers hinder accessibility by persons with disabilities?
- * Where do private or public security forces patrol?
- * Are security patrol patterns unobstructed and verified with a guardtour system?
- * Is the structure of the building designed with structural redundancy?
- * Does the building become a less appealing target by layers of buffer zones that make it more difficult for an intruder to reach the intended target?
- * Has the structural components been designed to allow the decompression effects of an explosion?
- * Are the window systems designed to protect against the threat of broken glass by using window film Mylar coatings, blast curtains, or blast resistant glazing materials?
- * Does lighting around the property provide a uniform level of light to resist shadows or hiding places?
- * Is there CCTV in places of extra ordinary activity to detect inappropriate behavior and record and monitor that activity?
- * Does the building have a consistent and comprehensive weapon screening program for the building users, staff, and packages and mail?
- * Does the property use security layering to create a sense of boundary of the property (site), the building, and specific points within the building?
- * Do management and maintenance practices and policies support security operations, the use of security staff, monitoring devices, weapon screening procedures for people and property, screening of employees backgrounds, and physical upkeep of the premises?

As a result of the Oklahoma and World Trade center bombings, there has been an increased awareness of the vulnerability to acts of terror. Everyday street crime and acts of workplace violence and acts of terrorism have created a sense of loss of control and loss of peace of mind. People are feeling insecure and afraid. Be afraid, be very afraid! Fear is an excellent motivator for change!

The architect has to comply with the General Services Administration Security Design Standards. The goals of the security design standards is to save lives, prevent injury, and protect the property and assets. The security design criteria provides a performance based approach to various building systems and components from window glazing to structural systems. The GSA standards require a security risk assessment at the early programming stage of any federal project. Risk factors may be as diverse as a building's symbolic importance if it is a highly visible landmark or its function is considered vital to national interests. Designs should allow for the ability to

increase in response to a heightened or temporary threat, such as a courthouse holding a high profile trial.

The GSA Security Standards follow a five tiered process, with zones of security starting at the building perimeter and decreasing toward the restricted areas in the core. Design features include clear zone from the building, access control features for public and staff, weapon screening features, safe zones, controlled parking, emergency power backup, egress lighting, and physical barriers: bollards, planters, street furniture, and design and architectural features to limit pedestrian and vehicular access to the building. Glazing protection is one of the major lessons learned from the previous threats. The GSA and manufacturers have studied and tested several types of glass, security window film, and other materials under test explosions. Laminated windows and window films designed to reduce flying glass shards and fragments.

To insure that a fully balanced security design does not impede on the normal daily functions of the building, a knowledgeable security consultant should be involved in the design process using CPTED and security design strategies from the very beginning (architectural programming). Treating security as an afterthought increases the cost and obtrusiveness of security features later when construction is completed. Whether the threat is from terrorism or street crime or workplace violence, the increased threat of premises liability litigation will be the strongest driving elements for change. Where common sense fails and building codes obscure, where management executives overlook, the slap of premises liability is driving building owners and managers to make the necessary safety and security improvements. Large judgments are striking fear into the hearts of building owners and managers as much as any act of terrorism!

The difference between protecting against terrorism or crime is really not very big. The probability of being a victim from an act of terrorism is relatively remote but the potential for loss is very large. The probability for being a victim of a robbery, assault, burglary, or auto theft is quite high, yet the individual loss may be perceived as small. Yet, the collective loss from ordinary street crime is tremendous on the costs to society, the criminal justice system, insurance companies, and our personal beings. Designing for street crime and crimes of opportunity is going to reduce the opportunity for acts of terrorism.

CPTED must be part of the redesign process of courthouses, office buildings, and corporate America. CPTED represents a planning process that reduces the architectural vulnerability. The real threat to buildings and its users is from street crime, not terrorism. Buildings need to be designed to reduce crime with the same level of attention as fire prevention. Security standards are needed for a minimum standard of care, just as fire disasters has created a uniform standard for fire protection. Protecting people, information, and property must be a high priority for all buildings. While terrorism is a lot more newsworthy and marketable in government buildings, other

building types such as schools, public housing, convenience stores, residential housing, and retail and commercial buildings should not be ignored. Even family planning clinics are subject to the terrorist activity of pro-life groups. The goals for designing to protect against terrorism are different than designing to resist crime but the process is the same: CPTED.

The value of training our clients, building managers, and our design professionals on the principles and practices of Crime Prevention Through Environmental Design and security design standards is making it the number one priority of owners and clients to protecting the health, safety, and welfare of the building users and its assets.
