Parking Security in

BY PETE GOLDIN

ARKING STRUCTURES ARE OFTEN perceived as – and sometimes actually are – unsafe locations where criminal activity takes place. This negative perception and related problems can be avoided, however, by the use of crime prevention through environmental design (CPTED), according to Randy Atlas, Vice President of Atlas Safety and Security Design and author of "21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention."

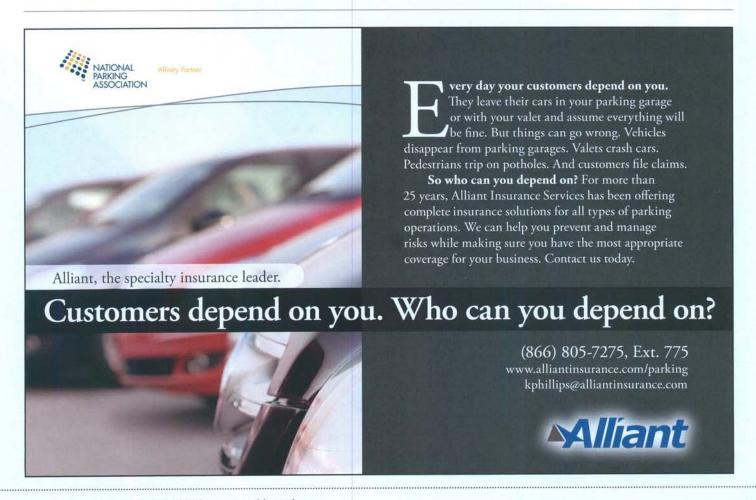
"I have seen that major errors in the design and operation of parking facilities come from the fact that they are viewed as merely stables for vehicles and not as places where human behavior occurs," Atlas says.

Consequently, parking structures can have hiding places for criminals, poor visibility for patrons and staff, and inadequate access control. To make matters worse, many parking facilities are dirty and poorly maintained, he said. CPTED provides a set of principles that can turn this situation around, however, and



make the facility a place that not only appears safe, but is safe, Atlas says.

CPTED incorporates five principles that can be applied to parking structure design and operation: natural surveillance, natural access control, facility management and maintenance,



the 21st Century

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Natural Surveillance

CPTED directs architects to design parking facilities so that patrons and attendants have greater visibility, making it harder for criminals to hide or carry out unlawful activities.

"Screened ground levels, rather than walls, and open upper levels allow natural surveillance and make it more likely that calls for help will be heard," Atlas says, although he warns that floorto-ceiling screening on the ground level can enable criminals to climb to higher floors.

When solid walls are necessary, screened portholes, windows or alternative openings should be incorporated wherever possible. This fosters an open environment that allows observation, he says.

For new construction, Atlas recommends round structural support elements rather than rectangular, because a round column allows for much greater visibility around corners. In addition, he advises that ramps should be exterior loops, preserving unobstructed lines of sight.

A stairwell can be a prime location for criminals to hide or even assault users. To minimize the security risk, stairwells should be constructed of clear glazing materials to allow visibility from the street. Elevators should incorporate similar elements. For example, glass-walled elevators on the building exterior provide excellent natural visibility from the street and within the garage.

Atlas also counsels designers to make stairwells and elevators centrally located and visible from the attendant's position. In enclosed structures, where stairways and elevators are located in blind spots, CCTV cameras, panic alarms and door-position switches should be utilized.

Proper landscaping also is important within CPTED because it impacts visibility. In general, landscaping should be intermittent in size and texture. For example, rather than a solid hedge, a combination of low hedges and high canopy trees allows greater visibility. In addition, all vegetation must be properly maintained to enhance visibility and limit potential hiding places. For similar reasons, plants taller than 3 feet should not be placed within 15 feet of entrances.

Natural Access Control

"Pedestrian access points in parking facilities often fail to provide natural surveillance from the sidewalk through the garage door," Atlas says. "At the ground level, it is important to define the perimeter and control access to deter unwanted pedestrians."

Controls can include fencing, level changes, ground floor protection, and other architectural and environmental barriers that route people to designated entry points and discourage criminals from hiding outside and inside the parking facility.

"Traffic engineers often include multiple access points in parking structures to increase circulation patterns," Atlas says. "The more entrances, however, the more difficult it is to control access and ensure security. Consequently, CPTED guidelines recommend one means of entry and exit for all vehicles."

If the volume of traffic requires more entrances, Atlas says that each access point should have an attendant booth, accessgate arms, roll-down shutters for after-hours closure, CCTV and good lighting.

Encouragement of Legitimate Use

An important aspect of CPTED is to encourage the legitimate users of the space while discouraging criminal activity. This is done, Atlas says, by clearly displaying that the parking

> structure is the territory of the legitimate users, attracting patrons and making them feel safe, while at the same time deterring criminals.

> Facility management and maintenance can have a positive effect. A clean, wellmaintained space – with doors, gates and lights working – makes legitimate users more comfortable while

sending a signal to criminals that the facility is being supervised.

In addition, proper security, surveillance systems and lighting can make criminals perceive a parking facility as a place where they will be observed and where illicit or suspicious behavior will be challenged.

"Vandalism, graffiti and general disrepair are clear signs to criminals and other undesired users that the site is fair game," Atlas says. "At the same time, it makes legitimate users feel insecure and has a negative impact on their territorial behavior."

Graffiti in parking environments is a sign that gangs or vandals loiter there, and therefore should be removed as quickly as possible. As a preventive approach, wall surfaces can be coated with graffiti-resistant epoxy paint.

"Efforts to prevent graffiti warn vandals that the parking facility is the territory of its rightful owners," Atlas says.

In addition, embedding parking in a mixed use development – by adding retail storefronts such as fast food or car washes – supports legitimate activity, attracts legitimate users, and increases territoriality of those users, he says.

"When a parking facility follows the CPTED recommendations in terms of design and operation," Atlas concludes, "illicit activity will decrease, criminals will search for new ground, and a safe haven will be established for legitimate users."

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