



SAFE

Interconnected systems (such as the Schlage Control lock shown here) are being used in multifamily complexes, student housing, and senior-living communities.

AND SOUND

Four certified security professionals offer 38 tips on how to keep your next rental or condominium project as safe as possible.

BY ROBERT CASSIDY, EXECUTIVE EDITOR

We asked four top experts—all members of the International Association of Professional Security Consultants (IAPSC)—for their advice on securing multifamily projects. Here's what they told us:

1 | Make security a key component early in design. Start in Programming or Schematic Design. Don't wait till you're in Design Development or Construction Documents. "At that point there's a reluctance to change the design in any meaningful way," says Michael A. Silva, CPP, Silva Consultants, Covington, Wash. Permanent structures like building entrances, stairways, elevators, storage areas, parking garages—all need to be designed early with security in mind.

2 | Put a qualified security consultant on your team. Hire a certified consultant, preferably one with experience in multifamily work. "You'll save money in the end if you get the right equipment and systems for the job," says Frank Pisciotta, MPA, CSC, Business Protection Specialists, Raleigh, N. C. Check for credentials like CPP (Certified Protection Professional), PSP (Physical Security Professional), and CSC (Certified Security Consultant).

A great source for finding a consultant: the IAPSC (iapsc.org). Submit an RFP for a consultant at iapsc.org/rfp.

3 | Do a threat and crime analysis up front. Commercial services like CAP Index and SecurityGauge can give you a crime risk "score" for your location, says Silva. Your security consultant can help gather additional data (which, unfortunately, can vary greatly in quality) from local police, city government, etc., to determine your neighborhood's level of risk, how elaborate your security system needs to be, and how much to budget. Otherwise, you're just guessing, and that can lead to problems. Says Pisciotta: "We get calls all the time from condo associations screaming about the lack of security, but they don't have the money to fix it after the fact."

4 | Develop a comprehensive security plan. Work with your consultant to inject security into the entire design process. What technology are you going to use? What level of security staffing, if any, will there be? Will future occupants be educated about security?

"When you don't have a plan, and the security system is not integrated, then it leads to frustration," says Christopher R. Lanni, CPP, Secure Residential Services, LLC, Concord, Mass. "This level of planning is being done much earlier in residential projects, in part because the technology systems are becoming much more sophisticated."

5 | Use basic security principles like "concentric circles of protection." "You want to create multiple layers of security, not just a single deterrent," says Silva. The first layer starts at the site boundary; add more layers as you move inward until you're in the "high-value assets"—people and property—in the building. (See Silva's article, <http://bit.ly/2wPKP5s>.)

6 | Bone up on CPTED. That's Crime Prevention Through Environmental Design—using design to discourage criminal activity. "Most architects understand basic CPTED principles like 'territorial reinforcement,' such as removing graffiti and keeping trash collection orderly, to mark your boundaries," says Chad Parris, PSP, CSC, President, Security Risk Management Consultants, Columbus, Ohio. "These visual clues send a deterrent message to the bad guys: 'You're on private property, watch your step.'"

EXTERIOR SECURITY MEASURES

7 | Keep the number of entrances to a minimum. One is best, but not practical when you have multiple structures. "The more entryways you have, the greater the potential for improper entry," says Silva. Factor in the layout of the property, access to roads, parking, public transportation, etc. Make sure all entries are in well-lit, highly visible areas of the site.

8 | Design exterior areas to direct visitors to the main entrance. Use landscaping, fencing, signage, and other visual and physical guides to funnel them to a secure entrance. In large multi-building complexes, fence the gaps between buildings to keep people from entering the complex at other than designated entrances.

9 | Follow the "3/7 rule" for landscaping upkeep. Trim bushes to no higher than three feet, tree canopies no lower than seven feet, to enhance "natural surveillance." "You want open sightlines, eyes on

the street,” says Parris.

10 | **Eliminate hiding places.** Nooks or doorways that are tucked back under canopies or recessed spaces create hiding places for bad guys to hide or stash weapons or stolen goods. Ditto for dumpsters.

11 | **Design fencing for security, not just for decoration.** “One project I reviewed had a fence with horizontal rails spaced just right to climb—a perfect ladder,” recalls Silva. Also avoid landscaping trellises that can be climbed to second-floor apartments.

12 | **Use the right exterior lighting.** “Most people think you need bright lighting, but ‘balanced white light’ is really the best,” says Parris. “A white light provides proper color rendition, without which it’s difficult for identification purposes.”

INTERIOR SECURITY MEASURES

13 | **Entry doors should be specified with security in mind.** “Architectural doors” with a lot of glass don’t necessarily provide security; sliding barn doors are almost impossible to secure. Doors over eight feet tall can also be a problem. “Use your aesthetic creativity elsewhere, not on the entry doors,” cautions Silva.

14 | **Ditto for door hardware on the residential units.** What looks good may not work well for security purposes. Consider using high-security lock systems in units and common areas. High-security locks help guard against “lock bumping” (check it out on YouTube), lock picking, and unauthorized duplication of keys. “This can increase costs about \$100 per unit when done at the time of construction, but it’s a good idea for a luxury condominium or high-end rentals,” says Silva. The keys are also more expensive (\$10 versus \$2) but the security benefits are well worth the added cost.

15 | **Provide adequate space for security staffing.** If the property is to be staffed by a security person or concierge, give them enough room for equipment, workspace, a decent-size desk, and storage—200 to 250 sf, advises Silva.

16 | **Figure out your plan for handling packages.** Package handling can eat up a tremendous amount of time for your concierge or security staff, so develop a package-handling plan as part of the building’s design. Make sure to provide adequate space for package storage, based on the number of units. Highly recommended: install an automated package locker system (see BDCnetwork.com/PackageCenters).

17 | **Don’t let elevators discharge directly into living spaces.** “This is a problem in some luxury condo properties,” says Silva. Criminals can get hold of the same keys fire departments use to operate elevators in an emergency. Put a secured door between the elevator and the unit, Silva advises.

18 | **Storage rooms should be real rooms.** “Don’t use chain-link fencing, or 2x4s and chicken wire,” says Silva. Use conventional construction materials and doors with secure hardware. Storage areas should only be accessible to residents. Says Lanni, “I’m seeing a lot more technology being used in storage areas”—electronic locks, security cameras, and electronic access control systems to monitor, control, and document these areas.

SECURITY IN PARKING GARAGES: WHAT OUR EXPERTS ADVISE

Parking facilities, whether enclosed garages or outdoor areas, are “probably the biggest headache” for security in multifamily complexes, says Michael A. Silva, CPP. “In many cases, you’ve got people coming into the building through the garage,” he says. “It’s an extremely vulnerable place.”

Here’s Silva’s take on how to make parking structures in apartment and condominium projects safer.

19 | **Make sure the parking garage can be fully secured so that intruders cannot enter it from the outside.** Some garages in multifamily complexes are designed using an open-air concept that allows anyone to freely walk in from the outside. These garages are difficult or impossible to secure after the fact should the property experience security problems.

20 | **Don’t permit direct access from the parking garage to residential floors.** Stairways should be split at grade level, with discharge to the street. Emergency egress from the garage should not permit direct access to the residential portion of the building.

21 | **Garage elevators should be in a secured, locked lobby in the garage.** “Elevators are not a great security barrier,” says Silva. “Access to the elevators themselves should be controlled.” (Christopher R. Lanni, CPP, adds: Make sure garage elevator banks are captured in secure “havens”—enclosed “islands” or vestibules—that are controlled by a key fob or similar device, monitored by camera, and equipped with a phone or intercom.)

22 | **Get the lighting right.** “We like to see 1-3 foot-candles of light, and relatively uniform across the floor,” says Silva. You don’t want 75-80 foot-candles at the fixture and only 0.25 foot-candles away from it. The uniformity ratio should not exceed 4:1, so it’s better to have more fixtures, more frequently spaced. “This situation has improved with the greater use of LED light fixtures,” says Silva.

23 | **Paint concrete walls and columns to enhance visibility.** Use a reflective color, and run the paint up six feet or so. “This provides better visibility and contrast, to see people and cars, and makes people feel safer,” says Silva.

24 | **Look into installing emergency phones in the garage.** Cell-phones may not work in an enclosed garage.

25 | **Use high-performance overhead doors in enclosed parking structures.** Silva advises specifying a door that’s rated for heavy-duty cycling and can withstand thousands of openings without failure. It must also be fast—able to close in six seconds or less—“so the bad guy doesn’t have time to sneak in,” he says.

26 | **In mixed-use projects, separate residential and commercial parking.** Don’t just “reserve” spaces in the residential garage for visitors using the retail and commercial facilities. Provide separate entry systems, so that shoppers and other visitors can’t get into the residential building.

27 | **Avoid shared restrooms in the lobbies of mixed-use projects.** Diners and shoppers should not have direct access to the residential portion of the complex.

TECHNOLOGY CONSIDERATIONS

28 | **Work with your security consultant on your technology systems.** Most apartment and condominium projects use four electronic security systems, according to Silva:

- Security intercom—the “buzzer” in the lobby or at the entry door.
- Access control—key fob or card, with high-quality lock cylinder.
- Electronic key management, especially for larger rental properties.
- Video surveillance—becoming more popular as camera prices come down and video resolution goes up. Most video systems for multifamily properties use high-resolution IP network-based camera systems, which let you to manage the cameras via the network.

The new trend for high-end multifamily projects is NFC (near-field communications) technology—services like BLE (Bluetooth Low Emitting), which lets you use your smartphone to open the door to

your unit. Another emerging technology, ButterflyMX intercom system, acts like a “remote doorman” and lets occupants see visitors on their smartphones.

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29 | **On the horizon: biometric systems that use occupants’ fingerprints to access their units.** “These systems can provide a high level of accountability,” says Lanni. “With an individual’s biometric features, you know who’s using them, even if it’s a facilities staff member who’s using a master key to access your unit.”

30 | **Get bids from more than one maker on door hardware, access control, etc.** “Each manufacturer has its strengths and specialties,” says Pisciotta. “You should look at the requirements for each need, and specify the correct product for each use—a mix of products, based on the project’s specific needs.”

31 | **Look into video surveillance cameras with Wide Dynamic Range.** This applies especially to cameras in your vestibules, where the light can vary from direct sunlight, to mixed lighting, to almost complete darkness. Cameras with WDR operate effectively under varying lighting conditions, says Pisciotta.

32 | **Ask about network latency in wireless and WiFi lock systems.** Commands sent to wireless locks may experience “latency”—slowdown—from the network, says Pisciotta. His advice: Hardwire all doors that may need to be locked down quickly and reliably.

33 | **Check if the wireless lock system can detect open doors.** This is especially important in mixed-use developments with retail or offices, where doors can get propped open for deliveries. “Not all these wireless products have the technology to tell you a door has been held open beyond the programmed permissible time,” says Pisciotta. “This leaves the residential building vulnerable to entry by unauthorized persons.”

If you have to cut back on cameras, prewire for future installation. “Cameras are usually the first thing to go, due to cost,” says Silva. Prewiring the building gives management the opportunity to add cameras later if the need arises.

PLAN NOW FOR POST-OCCUPANCY SECURITY

Think about how your security program will operate once the building is occupied.

34 | **Residents need to be involved in building security.** Tenant education and involvement must be part of your comprehensive security plan. “I can’t overemphasize this point,” says Silva.

Residents should be educated on the simple things that they can do to make the property safer: waiting for the parking garage gate to close behind them before driving off, not allowing unknown people to “tailgate” into the building when they leave or enter, not leaving doors propped open, not sharing their keys and access fobs, and promptly reporting suspicious people and activities to the authorities.

35 | **Manage expectations.** “You can’t guarantee absolute security,” says Silva. Overpromising might even lead to legal problems down the road. As Pisciotta notes, “If a risk is not recognized in the programming phase and is omitted from the design, that could result in costly retrofits later and leave you with legal exposure.”

36 | **Be prepared to tweak the security system after move-in.** “You’re not going to get it perfect the first time around,” says Lanni. Once residents settle in, you may need to change an entryway, or adjust the lighting, or shift a camera angle. Budget for such work, and allow for some modest changes to your system. “If not, you’ll hear about it from the condo association or tenant board,” says Lanni.

37 | **Budget to operate the security system after occupancy.** Your security package must be fiscally sustainable. One way it can go wrong: “You design a security kiosk for the building, but when the condo association takes over, they get rid of the concierge, so it becomes a ‘dark booth’ at the entryway,” says Silva.

38 | **Remember, it’s one thing to install technology, it’s another thing to care for and feed it.** Your building’s security system has to have a real “owner,” preferably the facility manager, says Parris. The more sophisticated your technology systems, the greater the level of maintenance and care they will require. In the absence of a caretaker, the system could essentially become worthless, leaving occupants and the structure itself at risk. **|M|**

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