The Wrong Access Control System Can Keep **Everyone** Out

by Tom Chronister, CPP

A security consultant lists the positives and negatives of emergency access system types.

As a professional fabricator, you may create ornamental gates for condominium complexes, private communities, industrial compounds, and apartment buildings. Depending on the application and level of security required, access control systems may be completely automated or staffed around-the-clock. While gates and fencing are intended to keep out undesirables, they also do a great job of keeping everybody out, including emergency medical services (EMS) personnel, firefighters, and law enforcement whose job it is to answer calls for help emanating from within these residential and commercial fortresses.

As a security consultant and police officer, I have found that access control systems serve as a meaningful deterrent to trespassers and opportunistic criminals while giving those who live or work behind these gated communities and commercial compounds a greater sense of security. Unfortunately, these very systems meant to protect people and property may actually imperil both. Access control systems must be properly planned to ensure that public safety personnel are not unduly delayed when it comes time to make fast, efficient entry into protected properties. Understanding what solutions are available in the emergency access control market is the first step in avoiding a potential tragedy that could result when rescuers are denied access while responding to an emergency.

Emergency entry products and their manufacturers.

Visit these web sites:

Lock Boxes	
Key Systems	www.perma-vault.com
Knox® Company	www.knoxbox.com
Supra® Products	www.supra-products.com
Cards	
AWID	www.awid.com
Datacard® Group	www.datacard.com
HID Corporation	www.hidcorp.com
Motorola	www.motorola.com
Intercom Entry Control	
American Access Systems	www.americanaccess.com
Code Blue®	www.codeblue.com
Talk-A-Phone	www.talkaphone.com
Light	
Fire Strobe	www.firestrobe.com
Opticom™	www.3m.com/market/trans/its/prod_info.jhtml
Tomar Electronics	www.tomar.com
Sound	
SOS™	www.sosgate.com
Transmitters	
Linear Security	www.linearcorp.com
SecuraKey	www.securakey.com
LoopComm™	www.ustraffic.net
Radio Identification	
Click2Enter®	www.click2enter.net

This represents an impartial list of manufacturers and vendors of emergency entry products. Some technologies are proprietary in nature and are only available from one company.

Emergency Access System Types

There are eight basic methods that emergency personnel can use to bypass gated systems: keypads, third party, locks, cards, light, sound, radio signals, and forced entry. Each have there own strengths and drawbacks.

Keypads

Some gates come with combination locks or keypads that accept a numerical pass code assigned to emergency crews. The code is entered by hand and entry is made. Many keypad systems lack any real audit control as all emergency crews typically use only one code collectively. It is not uncommon for officers to find themselves completely locked out of a call for service when the code changes and no one bothers to inform the police department. There is usually some delay encountered in getting to the keypad and inputting the proper combination.

If the 911 center has an up-to-date pass code that is not known to the responding officer, dispatchers will typically broadcast it over an unsecured police or fire radio frequency. A common police scanner, available for purchase at most electronics stores, can pick-up such transmissions. If the transmission of the pass code was intercepted, the results could be costly.

Third Party

By requesting access from a third party through an emergency dispatch callback procedure or intercom system, residents, guards, or employees can remotely grant access into the gated area. Responders might be able to get in by hailing a passerby or by tailgating a vehicle through the gate. During off-hours, no one may be present to provide access. In some situations the police may prefer not to alert people inside the complex of their arrival, such as when the call involves a crime in progress.

Locks

Rescue personnel can gain access by using a key that opens a lock or activates an electric switch. Some police agencies use lock boxes, but this solution is used almost exclusively by fire departments. Within the

Tennessee Fab

lock box is either a switch to activate the gate mechanism, another key, or an access card that can be used to open the barrier.

The downside to keys is accountability and the sheer number required to equip each emergency vehicle that may be dispatched to a particular location. A lost key might require the re-keying of all matching locks, switches, lock boxes, and the replacement of all existing keys — a costly proposition.

Cards

Access cards offer an audit trail of activity, as each can be associated to individual users or vehicles by the access control system. Common card technologies include touch-plate, embedded chip, and magnetic stripe. These card types require the insertion into, or the touching of, a card reader. In the case of proximity cards, the pass-through speed of emergency vehicles is increased because actual contact with the card reader is not required.

If a card is lost, the permissions associated with it can be quickly removed from the access control system. Cards are relatively inexpensive and replacements can be put into use quickly. But just like keys, managing a card for each piece of emergency equipment can be an expensive proposition and an audit control nightmare.

Light

Some cities use the patented Opticom™ traffic priority control system manufactured by 3M™. Each emergency vehicle in the jurisdiction is equipped with a strobe light that contains a proprietary and coded infrared component that preempts traffic signals during emergency responses so that the fire truck or police car gets a green light at controlled intersections. Similar to those found on traffic lights, a compatible receiver can be attached to gate operators and provide emergency access to vehicles flashing the special strobe.

This solution requires that each emergency vehicle be equipped with an appropriate strobe emitter. Unless the city in question already uses Opticom™ to control traffic lighting, the system may prove to be cost prohibitive and impractical for this limited use. Another important point that law enforcement must consider is that using visible light to signal an emergency entry may tip off persons of their pending arrival.

Sound

A popular solution to the emergency access conundrum is sound activated entry systems. When an emergency vehicle gets within range of the proprietary audio sensor, the gate opens after detecting the sound of a siren for 2.5 to 4.5 seconds. Such

Crescent City

This sun visor attached to a Santa Maria Fire Department rescue vehicle stores an assortment of signal transmitters for the different gated communities within the vehicle's district.

systems are fairly inexpensive to purchase, are compatible with most gate operators, and are popular with fire departments.

While fire equipment responds to calls with lights and sirens most of the time, this is not the case with police. Depending on the circumstances, the last thing law enforcement may want to do is to tip-off their arrival by blasting a siren. Such systems only work on vehicles equipped with a siren. Other service providers like security and utility companies, which otherwise would have been provided

with a card, code, or key to gain access to the property, would find themselves locked out.

Radio Signal

Once a gate operator is equipped with a compatible radio receiver, any authorized vehicle can open a security gate in one of several ways:

• Activating a manual transmitter.
• Equipping a vehicle with an "always on" transmitter.
• Use of a radio frequency identifier.

Manually activated transmitters require that users push a button to open a gate. This proven technology is used to activate garage door openers in most American homes.

Active or "always on" transmitters require no user action. Similar to those mounted on the windshields

Cards are inexpensive and easy to replace. But like keys, managing a card system can be tricky

of vehicles using automated toll roads, it continuously emits a radio signal. Upon approach to a gate, the receiver detects the signal and activates the gate operator. Another type of transmitter is mounted on the underside of the vehicle. The signal is detected by a roadway loop similar to those used to detect cars at traffic signals.

There are several manufacturers for each of these technologies. Although each offers rapid emergency access, every emergency vehicle must be equipped with a compatible device and the device must be maintained in an operable condition. The likelihood of each gated facility in a jurisdiction

using the same access frequency or technology is unlikely creating the need for each piece of rolling police, fire, or EMS stock to carry any number of gadgets to gain emergency access. Of course, the loss or theft of a transmitter or transponder poses particular concerns for facilities with matching frequencies. In the case of the always-on transmitter, simply driving past a gated complex may inadvertently activate the gate operator.

Radio frequency identification is the latest technology being marketed in the access control field. Agencies are assigned specific frequencies by the FCC. By determining which frequency was used to activate the gate bypass system, the system determines the identity of the user.

A patented receiver monitors 20 different frequencies programmed into memory by the user or installer. Coordinating radio clicks with a visible light, the possibility that spurious radio traffic may inadvertently activate the gate operator is nearly eliminated. Radio signal identification is quick — less than four seconds — and secure. Receiver range can be set from within inches to about one-quarter of a mile away and handheld or vehicle-mounted radios can be used to open the gate. An internal log in the receiver maintains details on what agency gained access and when — retaining 50 of the most recent transactions.

Forced Entry

More of a method than a system and certainly last on the list of emergency access options is forced entry. Crashing fences, cutting locks, and breaching gates are proven means for public safety to get where they need to go, but such tactics usually result in collateral damage to facility equipment and/or emergency vehicles. Jumping fences puts emergency responders at significant risk of injury and leaves them without access to equipment in their vehicles. As such, brute force and scaling barriers are considered a last resort.

Failsafe Systems

Although outside the scope of this article, security gates should also include "failsafe systems." Such systems include manual release mechanisms that can be used during mechanical or power failures, and backup power supplies. While on battery standby, the access control system operates normally until available power reaches critical levels, at which time the gate system locks in the open position.

Quick, Reliable Access

If you have not thought about emergency access to gated projects before, now is the time to start. The popularity of gated systems is on the rise as more people feel increasingly

Sharpe

vulnerable in light of recent national events and reconsider the priorities of safety and security at their homes and workplaces. Without proper emergency access controls in place, public safety response times are unnecessarily lengthened due to the blockade posed by improperly equipped gate opera-tors.

Working on independent solutions on individual gate jobs will complicate the issue. In doing so, every emergency vehicle and worker will be responsible for even more pass codes, keys, access cards, or transmitters. Some emergency unit visors are already covered with a myriad of transmitters and their key rings can't get much bigger. And who will have to replace these access devices if they are lost or stolen? There are simpler technologies that guarantee reliable access through automated gates.

The existence of local ordinances should guide gate manufacturers and installers to the preferred method of emergency access. The absence of applicable codes should not be a factor as to whether or not such access is provided. Simply because your local jurisdiction has not implemented requirements does not mean you can ignore the benefits of emergency access equipment. It does not take much imagination to envision a lawsuit stemming from the delay of public safety personnel responding to the call of a heart attack victim from inside a gated community if the delay was a result of inadequate or improperly planned emergency access controls. How you give police and fire personnel emergency access is as important as giving access to them at all.

The Future

Radio frequency identification looks to have a strong future in the emergency access control arena, they're easy to use and require no purchasing or tracking of additional equipment. Existing radios do the job.

Because many local ordinances were developed before this technology existed, cities still mandate older sound, light, and keypad bypass systems.

> # How you give police and fire personnel emergency access is as important as giving access to them at all.

With the introduction of this new technology, several agencies across the country, including the Napa Fire Department, Fairfield Fire Depart-ment, and the city of Oxnard (all in California), are making installation of public safety radio activated devices a requirement for future gated access properties. These municipalities are working with existing gated communities on voluntary compliance programs. Such devices can also be used on commercial roll-up doors and sally ports.

Chronister is a commander with a Southern California police de-partment, a Certified Protection Pro-

Majka

Encon