HIGH-TECH CRISIS PLANS

Tools for School Safety

By Tom Sanchez, Captain, Special Operations, Hollywood, Florida, Police Department

As if it was not difficult enough to plan for the next student school shooter, law enforcement now must consider the possibility of terrorist attacks on our schools. On October 7, 2002, the so-called Beltway sniper shot a Maryland middle school student outside his school. That same month, a terrorist arrested in Oregon said he considered attacking a school.

On November 11, 2001, U.S. military personnel recovered three training manuals from a raid on an al Qaeda training camp in Afghanistan. One appears to be an 18-chapter, 179-page manual written by operatives of Osama bin Laden. It identifies "buildings, bridges, embassies, schools, [and] amusement parks" as targets for destruction in the West.

Schools need to have plans for dealing with crises such as school shootings, suicides, major accidents, and even large-scale disasters such as the events of September 11. Every school should review its school safety plan to ensure that it is comprehensive and addresses a wide range of crisis situations. As emergency planners, we must anticipate worst-case scenarios, develop strategies to prevent them, and have plans to save lives in the event they occur.

If a crisis developed at a school in your area, could your first responders view all the information they need with a few clicks of the mouse? Officers in the Holly-wood Police Department could, as could members of a number of other law enforcement agencies in Broward County, Florida.

In 1999 the Broward County Sheriff's Office introduced its Safe School Initiative. It features a computer program that contains floor plans, aerial photographs, pertinent data, and images of the interiors and exteriors of schools. The program was created using Adobe Acrobat software and could be replicated by any law enforcement agency without much difficulty.

Components

The user-friendly configuration of this program provides an ideal resource for first responding officers. As officers respond to a school, they can view pertinent information on their laptops. Information

> First responders can use the program to view floor plans, photographs of building interiors, and more.

about more than 60 schools fit on one CD-ROM. This provides officers with an incredible amount of critical information. The large amount of storable data makes it adaptable to cities of all sizes. Descriptions of the sections of the Safe School Initiative program follow.
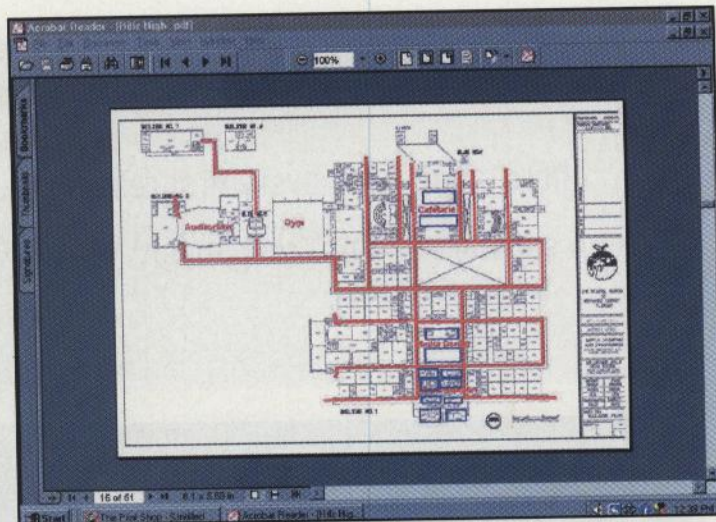
Maps: The map section provides supervisors with an area view of assignments and locations and includes representations of traffic patterns and intersections that will be affected. It also identifies the following key locations:

- Student site
- Parent site
- Media site
- Command post (on and off campus)
- Triage site
- Nearest hospital
- Ingress and egress routes
- Areas requiring evacuation
- Critical intersections
- Perimeter positions
- Fire department vehicles
- Helicopter landing zone
- Transportation site bus routes

Photographs: There is a section for aerial photographs. An aerial picture is taken from multiple directions and labeled with identifiers and landmarks. An aerial perspective of the campus and surrounding area is helpful to responding personnel.

Interior photographs of primary gathering locations in the school are available. Included in this section are key locations such as the camera room, elevator, and staff offices. Exterior photos of all sides of the school and entrances are viewable. These photos assist in identifying cover, concealment, and fields of fire.

Narrative: The narrative section contains the names and phone numbers of all key personnel. A phone tree is a good thing to have in this section; it can help officials notify everyone quickly. The following information should also be contained in this section:

- Custodial personnel
- Principal
- Assistant principal

- PTA contact person
- Gang officer (intelligence)
- School resource officer
- Resident on-campus officer
- Total number of students
- Special needs students
- Hazardous material location
- Utility shutoff locations (water, gas, electric)
  - Internet and telephone shutoff
  - Video cameras and intercom
  - Fire alarm and sprinkler systems
  - Campus clinic
  - Teacher and employee roster
  - Student rosters and pictures
  - Master key location

Floor plan: The architectural floor plan, the section that officers rely on the most, is digitally enhanced. The program's hyperlink technology allows the user to "move around" the interior of the school. While looking at the floor plan, a user can click a particular room to view an interior photograph of that room. The red lines in the floor plan indicate exits from the building. Architectural blueprints of the school building would be especially important to a SWAT team. Detailed information may be critical, especially in the event of a bomb threat.

Nonschool Applications

The system can be tested using computer simulation scenarios. Private businesses have been using modeling and what-if testing for some time. Private contractors of nuclear energy, for example, are constantly using modeling to improve their security measures. Only recently have government agencies attempted to use this technology to improve security systems. This type of crisis plan is now being used for other locations that present a challenge to law enforcement and constitute potential terrorist targets. The following are locations that must be evaluated in your jurisdiction when making plans.

- Air and sea ports
- Courthouses
- Energy sites
- Government buildings
- Convention centers
- Water plants
- Hospitals
- Office buildings
- Large factories
- Complex architecture
- Religious institutions
- Sports arenas
- Public schools
- Private schools
- Day care facilities
- Shopping centers
- Bridges
- Amusement parks
- Large-group gathering places

## Other Technology Available to Make Schools Safer

In addition to the Broward County program, safety technologies are emerging and improving all the time. What follows are descriptions of just a sample.

Remote surveillance: Remote viewing through surveillance cameras is the wave of the future. This technology allows the police to view activity from remote locations and a multitude of end-user sites. It can be customized to interface with law enforcement mobile computer terminals and central dispatch databases. These units include security cameras with digital data storage units that allow both on-site and remote retrieval of data. This type of technology is priceless for tactical operations. Officers have the ability to see everything the surveillance cameras see. A laptop brought along with an entry team can show team members what to expect on the other side of a door or down a hallway. Remote viewing of surveillance cameras are also being used to monitor students on buses.

Global positioning systems: GPS systems allow for the continuous tracking of school buses. A UHF trunking system can be used to reduce the cost of expensive systems. At 22 locations around the United States, GPS satellite technology is used to track the locations of public buses, trains, and streetcars. The predicted time of arrival is then made available on the Internet and to wireless devices, including signs at bus stops and other personal digital assistants. To view a working system, go to www.nextbus.com.

Intelligent surveillance: A video-based perceptually intelligent surveillance system is being developed. It uses automated face and facial expression recognition, gesture recognition, body motion analysis, and interpretation of human activities. These "smart cameras" are supposed to analyze body gestures and motion and determine if violence is going to occur. If this determination is made, an operator is alerted. The purpose is to eliminate the human challenge of one person watching multiple surveillance cameras.

Virtual tours: More futuristic research is being conducted to develop a virtual walk-through of schools on a laptop. These products would include on-screen architectural drawings and a seamless collage of pictures of the interior tied to the floor plan. Architectural plans would be included for electrical systems, communications, ventilation, plumbing, and surveillance cameras. A 360-degree videotape of each room in the school will be linked to the architectural plan and viewable on computer. This is beneficial because ventilation and electrical systems have a value in tactical operations. The
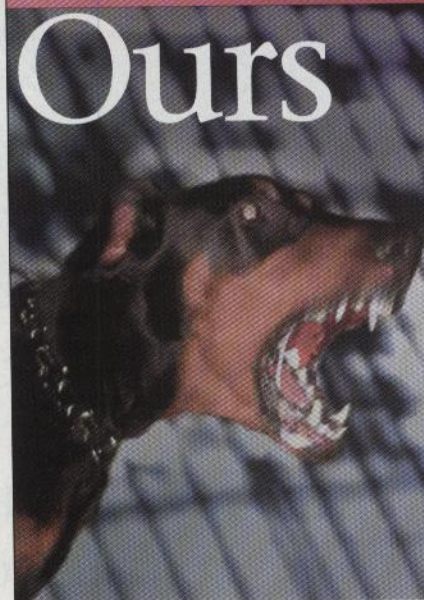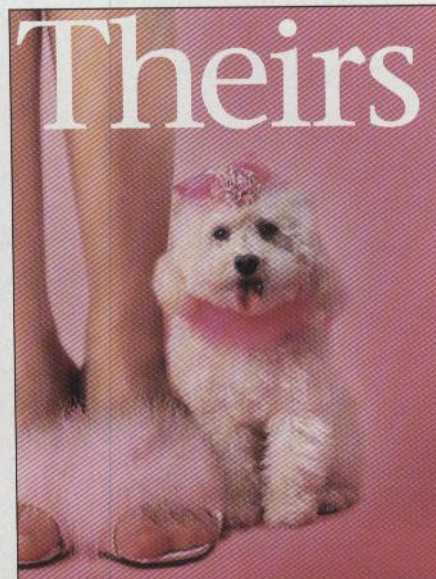
Heroes aren't born.
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technology could also be useful to maintenance personnel for troubleshooting electrical, air-conditioning, and plumbing problems. This system can be costly compared to the low cost of remote viewing via surveillance cameras.

Cellular telephones: Enhanced communication for teachers and staff is another area being explored. This concept uses cellular telephones to provide immediate communication with police or school staff.

Biometrics: The use of biometrics technology such as retinal and fingerprint scans has become more affordable. These items can provide accountability and access control, and allow the tracking of students throughout the day.

Advanced weapons detection systems: Such systems are being developed and tried by different companies. These new systems go beyond metal detectors by trying to identify plastic guns and bombs. A few systems are incorporating biometrics with their weapons detectors. If a student runs through a detector at a door, three different cameras photograph the student, then compose a three-dimensional picture and process it through a student database to determine an identity.

Geographic information systems: The National Imaging and Mapping Agency (NIMA) used its expertise to provide maps for the Utah Winter Olympic games security. NIMA accessed commercial and government databases as well as classified satellite information. Security personnel from police officers to fighter pilots were provided with maps specific to their particular mission. Using cellular telephone software, a shooter's field of fire could be identified with the click of a mouse. The officers also had the ability to view computer animations of the interior of buildings from architectural maps.

Another example of geographical information systems at work was in New York after September 11, 2001. Within 72 hours, managers and technicians from a variety of agencies and contractors in New York regrouped and started accessing multiple databases and geographic information systems. At ground zero, potential hazards that workers needed to know about, from gas pipes to truck routes, were superimposed on aerial photos. This information was updated daily and was immensely helpful to the rescuers.

Funding

One method of funding this type of technology is through the Safe School Technology Grants from the Science and Technology Branch of the National Institute of Justice. Visit www.nlectc.org/assistance/schoolsafety.htm for help with creating critical incident response plans. ❖