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LESSON LEARNED

School Safety: Installing Radio Repeaters in Campus Buildings

SUMMARY

School public safety officials should work with school administrators to install radio repeaters in buildings to ensure communications among responders during incidents. School public safety agencies should collaborate with local response agencies to test and train on the communications system.

DESCRIPTION

The Columbine High School Shootings

On April 20, 1999, two students at Columbine High School in Jefferson County, Colorado, began an armed assault that resulted in 15 deaths and 24 injuries. More than 1,000 law enforcement, fire, and medical personnel responded to the incident. Emergency personnel encountered difficulties communicating with each other and the command center during the response. Responding agencies employed various radio systems, channels, and bandwidths to communicate. In addition, the size of the school building disrupted digital radio signals. According to the Jefferson County Sheriff's Office, "With 46 separate agencies responding, it was inevitable that they would be operating on different emergency radio channels, and in different parts of the radio spectrum or bandwidth."

The [Report of Governor Bill Owens' Columbine Review Commission](#) found that the inability of response agencies to maintain effective interoperable communications constituted a major problem during the response. The limited interagency communications impaired the ability of responders to enter the school, evacuate students, and treat victims in a timely manner. The commission recommended that jurisdictions using 800 megahertz (MHz) radio systems for responder communications should install radio transmission repeaters in large schools and other public buildings.

For more information on the Columbine school shootings, please refer to the [Report of Governor Bill Owens' Columbine Review Commission](#) and the *Lessons Learned Information Sharing* Lesson Learned [School Safety: Involving Emergency Response Agencies in School Emergency Management Planning](#).

Jurisdictions have undertaken many initiatives since the Columbine High School shootings to improve interoperable communications both in general as well as for on campus active shooter incidents. However, interoperable communications for school incidents remains an area for improvement for some jurisdictions. For example, a 2008 [Massachusetts report on campus violence](#) found that 41 percent of the surveyed schools lacked the equipment that would allow interoperable communications with local law enforcement agencies.

The California State University Fullerton 2011 Active Shooter Drill

On January 16, 2011, the Anaheim/Santa Ana Urban Area sponsored the California State University Fullerton (CSUF) 2011 Active Shooter Drill. Participating agencies included the Fullerton and Brea police and fire departments; the Placentia and California State

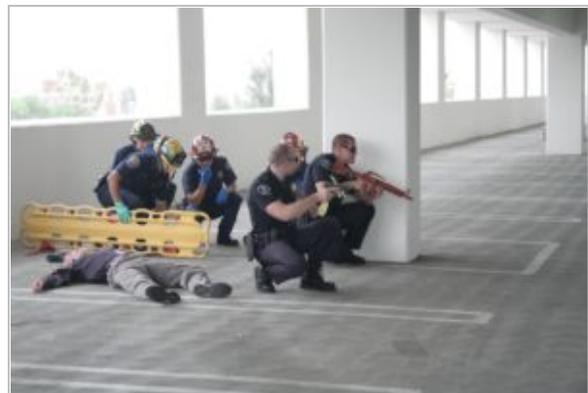
University, Long Beach, police departments; and the Anaheim, Santa Ana, and Newport Beach fire departments. The drill evaluated agencies' plans, policies, and procedures for responding to an active shooter incident. It also tested multi-agency communications and victim extraction procedures.

Exercise planners constructed a creative round-robin drill that consisted of simultaneous yet independent scenarios at three campus locations: a new student housing facility, a library, and a science laboratory. Each presented the drill participants with unique challenges for responding to an active shooter at that specific location.

CSUF is a public university located in Fullerton, California. With more than 35,000 students, CSUF is the third largest university in the state. The CSUF Police Department includes 25 sworn officers with full arrest powers, 15 non-sworn support employees, and 25 part-time student assistants.

Throughout the drill, participants encountered radio communications that were interrupted, inconsistent, or non-existent at some campus locations. Some drill participants lost radio communications upon entering certain buildings. In addition, several participants could not communicate effectively with other members of their team during operations. This lack of communications hindered the ability of drill participants to coordinate effectively with the Incident Commander as well as other response teams.

The CSUF 2011 Active Shooter Drill AAR attributed these communications problems to the absence of 800 MHz radio repeaters in parts of the campus. This AAR, like the Columbine Commission report, recommends that the university install 800 MHz repeaters throughout the campus. The AAR also notes that CSUF Police Department officers should continue to test and train on radio communications capabilities in specific campus areas.



Fire Personnel Assist a Victim while Law Enforcement Officers Stand Guard during the Exercise at the CSUF Campus

CONCLUSION

In order to facilitate responder communication and interoperability, public safety officials should coordinate with school administrators to install radio repeaters on all campuses. School public safety agencies should also collaborate with local response agencies to conduct training and test various communications systems. These steps will better facilitate communication among responders during on campus incidents.

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