

Your Mass Notification Cheat Sheet - Revised

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Here's the latest breakdown of some of the pros and cons of the more commonly used emergency alert systems. Deploying multiple modes will help to ensure the strengths of one solution compensate for the weaknesses of others. Also, be certain to test the systems regularly, and account for the hearing and sight impaired.

Solution	Strengths	Weaknesses	Application Comments
Bullhorns	<p>Inexpensive</p> <p>Can operate when there is no power</p> <p>Easy to use</p>	<p>Limited to small areas of coverage</p> <p>Challenges with voice intelligibility</p> <p>Require many personnel to operate when they could be better used to respond to an active shooter or other incident requiring immediate response</p> <p>Potential for misuse by unauthorized personnel</p>	<p>Be certain batteries are always charged</p> <p>Good for evacuations for foreseeable events (hurricanes, tornados, etc.)</p>
Call Boxes	<p>Since they are already installed on many campuses, the technology can be repurposed to push information out</p> <p>Individuals located in the area of a call box can communicate with law enforcement, and police/security can pinpoint their location</p> <p>No sign-up required to receive messages</p> <p>Campus constituents are familiar with this type of technology</p> <p>Strobes that are normally installed can alert hearing impaired</p>	<p>Challenges with voice intelligibility</p> <p>Depending on the units installed, speakers may not be loud enough for individuals standing away from the devices to hear an announcement</p> <p>Normally not designed for communications inside buildings</p> <p>Cost due to hardwiring or maintenance</p> <p>Designed for 9-1-1 calls and assistance calls, not to be a warning device</p> <p>Depending on the model, messages may not be able to be catered to specific areas</p>	<p>Normally deployed in parking lots, intramural fields, bike trails and other remote areas not easily reached by other means of communication. Also deployed around campus (usually outside)</p> <p>CCTV/security cameras can be installed on them for additional situational awareness</p> <p>Speakers can be installed for mass notification</p> <p>Wireless units can overcome some cost/installation issues</p>

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Digital Displays (changeable message signs, LED signs, LCD signs, etc.)	<p>Many are portable</p> <p>No sign-up required to receive messages</p> <p>Reach hearing impaired</p> <p>Good return on investment if used regularly for non-emergencies</p> <p>Intrusive when properly deployed</p> <p>Many can integrate with other emergency alert solutions for a multi-modal approach</p> <p>Some use Power of Ethernet (POE), reducing energy usage</p>	<p>Can be costly on large campuses with many rooms or due to hardwiring or maintenance issues</p> <p>Can be overlooked if not used regularly or placed properly</p> <p>Portable units can take time to deploy</p> <p>Not all are CAP compliant</p>	<p>Good for traffic control, crowd control and alerts during major events (football games, etc.)</p> <p>Can be deployed inside buildings (classrooms, hallways) and public areas (cafeterias, student unions)</p> <p>“One of the things that makes mass notification behavior and systems work well is when you get to exercise them everyday for routine kinds of things. Electronic display signs are a classic example of something you should and could use almost all of the time. People are looking at them, expecting to get useful information from them and learn quickly that if they follow the information, it makes their life better.” — David Lindstrom, chief privacy officer, Penn State</p>
E-mails	<p>Can leverage pre-existing E-mail system</p> <p>Effective for messages going to staff who have computers controlled by the campus</p> <p>Campus constituents can't opt out of the system</p> <p>Communicates with off-campus constituents</p> <p>Can be used for non-emergency communications (attendance notification, outreach and important reminders)</p> <p>Can integrate with other emergency alert solutions for a multi-modal approach</p>	<p>Not very reliable. Not everyone checks their E-mails immediately (e.g. Message recipients in class, with a patient, or away from their desks or PDAs for some reason)</p> <p>Server overloads may result, causing delays in message receipt</p> <p>Messages may be mistakenly classified as spam by recipients or third-party servers</p> <p>Students sometimes configure their E-mails to block institution-initiated messages</p> <p>Often follow-up messages can't be sent until the initial E-mail is delivered</p>	<p>E-mails can be prioritized so they get through faster</p> <p>Divide recipient list into appropriate groups (e.g. by campus) and when possible, only send messages to affected individuals</p> <p>Know how many E-mails per minute your network can handle. Too many could overload the system</p> <p>Test the system regularly</p> <p>Educate message recipients on how to sign up, what they should expect and how to configure their spam filters</p>
Intercoms	<p>Because they are frequently used in medical centers for regular business, they offer a good return on investment</p> <p>In most hospital cultures, staff are accustomed to using this solution</p> <p>On many educational campuses, intercoms are already installed and can communicate emergency alerts</p>	<p>Many are not CAP compliant</p> <p>Not as applicable to educational campuses for mass notification purposes</p> <p>Many are not supervised, so campus facility personnel might not know when speakers/system are in disrepair</p>	<p>Used frequently in hospitals by employees. Because the campus has more control over its staff (v. students on college campuses), a higher level of training can be achieved, making the system very effective for mass communication during emergencies</p>

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Loudspeakers (fixed or portable, aka “Giant Voice”)	<p>Inexpensive</p> <p>Cover a large area</p> <p>No sign-up required to receive messages</p> <p>Highly intrusive</p>	<p>Dead spots</p> <p>Challenges with voice intelligibility</p> <p>Aesthetics (speakers are very large)</p> <p>Portable solutions can be expensive</p> <p>Unintended message recipients (e.g. Neighbors in residential areas)</p>	<p>Very useful at athletic events</p> <p>Increase effectiveness by combining with strobe lights to alert hearing-impaired (or those listening to their iPods)</p> <p>If conducting a test and another area is in earshot but is not the intended recipient, announce the test well in advance to prevent panic and unnecessary alarm</p> <p>Consider the topography of the area where the speakers will be deployed to get the maximum output so messages reach their intended targets.</p>
Phone trees/ telephony	<p>Location and recipient specific</p> <p>Call receipt acknowledgement</p> <p>Compatible with major mapping systems</p> <p>TTY/TDD calling for the hearing impaired</p> <p>Remote launching capability</p> <p>Can be used for non-emergency communications (attendance notification, outreach and important reminders)</p>	<p>Cost</p> <p>Database management</p> <p>Not appropriate for large scale notifications due to limited trunk or cell tower capacity – landlines and cellular providers might experience service failure/saturation during a major incident like 9/11 or Katrina</p> <p>For calls going to landlines, recipients may not be where the phone is located, depending on time of day (during class, in surgery, etc.)</p> <p>Landlines might not be connected/cell phones might not be turned on</p> <p>Requires sign-up</p> <p>Relies on customer support for upgrades</p>	<p>Particularly effective for small scale mass notification (e.g. Emergency team members, small communities, hospital staff) and during the evening/overnight hours</p>
Popup message (banners) on computer screens	<p>Allow messages to be displayed on computer desktops and PowerPoint presentations even if the user has not logged onto E-mail</p> <p>Intrusive for those at their computers or sitting in class watching presentations</p> <p>Relatively inexpensive</p> <p>Messages can be discreetly specified for individuals or groups of persons</p>	<p>Currently not effective on computers that are not controlled by the campus, unless the institution sets up a process whereby message recipients can enroll to receive alerts on their computers</p> <p>Messages do not reach those campus constituents who are not logged onto their computers</p>	<p>Effective for messages going to staff and faculty who have computers controlled by the campus</p> <p>Future technology might enable pop-up messages to reach students and other visitors on their personal computers who are logged onto the campus wireless network</p>

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Posters	<p>Placed in common areas</p> <p>Inexpensive</p> <p>Easy to create and deploy</p>	<p>Can be overlooked</p> <p>Can be slow to create and deploy</p> <p>Require many personnel to deploy when they could possibly be better used to respond to an active shooter or other incident requiring immediate response</p>	<p>Create templates before incident occurs to increase deployment speed</p>
Radio announcements	<p>Can connect with campus and local police departments</p> <p>Inexpensive</p>	<p>AM coverage can be a challenge inside buildings</p> <p>Messages usually cannot be catered to a specific area; must be general</p>	<p>Create text for announcements beforehand. Be certain public information/communications department reviews verbiage</p>
Sirens	<p>Inexpensive</p> <p>Cover a large area</p> <p>No sign-up required to receive messages</p> <p>Highly intrusive</p> <p>Versions with strobe lights alert hearing impaired</p>	<p>Dead spots</p> <p>Inability to communicate specific messages</p> <p>Limited indoor use</p> <p>Frequent tests required</p>	<p>Good for alerts</p> <p>A network of sirens can be deployed to overcome some dead spot issues</p> <p>Can be mixed with voice instruction and strobes for improved communication of specific information</p>
Social media (Facebook, MySpace, Twitter, etc.)	<p>Free: Does not require any equipment purchase</p> <p>Very popular with K-12 and college students who willingly sign up as friends of the sites</p> <p>When a campus updates its Web site, these sites can automatically update via RSS feeds</p> <p>No bandwidth issues</p> <p>Helps with rumor control: Administrators can respond to inaccurate information posted on unauthorized sites</p> <p>Campuses use as intelligence gathering tools</p> <p>Can be used to deliver non-emergency information to stakeholders and personnel</p>	<p>Usually, unauthorized individuals have created unofficial college pages, so it is difficult for visitors to identify the institution's official site. Visitors signed up on the unofficial sites might receive inaccurate information.</p> <p>Potential for hacking, denial of service attacks</p> <p>Another mass notification portal to manage, which requires additional staffing</p>	<p>Campuses can visit www.namechk.com to determine if their sites have been spoofed or their names have been taken</p> <p>Fad factor: Although social media appears to be here to stay, it has yet to be determined how viable specific sites will be in a few years</p>

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Text (SMS) messaging	<p>Most college students pay attention to text messages they receive on their cell phones</p> <p>Effective way of communicating with parents of K-12 students (via cell phones, PDAs, etc.) and off-campus constituents</p> <p>Text delivered via a separate control channel that is reserved for data only on cell networks. Solution uses much less bandwidth than voice</p> <p>Can be used for non-emergency communications (attendance notification, outreach and important reminders)</p>	<p>Messages may be considered spam by some systems and/or recipients</p> <p>Cost</p> <p>Registration required</p> <p>Database management challenges</p> <p>Limited by trunk capacity, which may slow delivery of message</p> <p>Many K-12 schools/districts do not allow students to carry or use cell phones while on campus. College professors may require students to turn off cell phones during class</p> <p>Messages cannot be catered to a specific area; must be general</p> <p>Some smaller, regional carriers don't have agreements with major carriers, which prevents the messages from being delivered</p>	<p>Develop credibility of system and institution by only using it when appropriate; avoid overuse</p> <p>Test the system regularly</p> <p>Educate message recipients on how to sign up and what they should expect from the solution</p> <p>Database of intended recipients can be broken down by distribution groups to increase delivery speed</p> <p>Inform those who sign-up to verify they have an SMS messaging plan, otherwise messages might not be delivered</p> <p>If using a third-party vendor, make sure they have made the appropriate arrangements with aggregators and cell carriers so their emergency messages won't be delayed or blocked</p> <p>Have the message originate from a campus rather than a vendor. This increases the likelihood that the message will be prioritized correctly</p>
TV announcements	<p>Inexpensive</p> <p>Can be fast to implement if campus already has a TV station or controls the campus cable network</p> <p>No sign-up required to receive messages</p>	<p>Messages cannot be catered to a specific area; must be general</p>	<p>Messages can be scrolled across screens; can interrupt regular programming if campus has control of cable system</p>
Voice evacuation (connected to the fire system)	<p>Since they have been in place on campuses for years, the technology can be repurposed for mass notification, increasing the system's return on investment</p> <p>Highly regulated by industry codes</p> <p>Are fully supervised so campus personnel are informed immediately when system or portions of system are not functioning</p>	<p>Mainly deployed indoors</p> <p>Voice intelligibility issues</p> <p>Does not reach hearing impaired</p>	<p>"For very tight applications, you can put external speakers off of a fire alarm voice evacuation system on the exterior of a building so people just leaving or approaching the building can be made aware that something is going on inside." — Pete Tately, mass notification program manager, Siemens Building Technologies</p> <p>Combine with strobes to reach hearing impaired</p> <p>Watch for 2010 NPFA code changes</p>

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Weather radios	<p>Preprogrammed to activate during weather warnings</p> <p>Can also send civil emergency messages</p>	<p>Announcements are usually not site or campus specific</p>	<p>Counties might eventually become subdivided so a campus can receive its own designation for alerts</p>
Web announcements	<p>Information can be updated quickly</p> <p>Can leverage pre-existing campus Web site at no additional cost</p> <p><input type="checkbox"/> Good for communicating information to those outside of campus (parents, media, etc.)</p> <p>RSS feeds can automatically populate social networking portals (Facebook, MySpace, Twitter, etc.)</p>	<p>Sites can become overloaded when there is a lot of traffic due to limited server capacity</p> <p>Web sites may not be regularly checked by campus constituents</p> <p>Is a passive information delivery mechanism; is not intrusive</p>	<p>Explore catastrophic bandwidth options</p> <p>Temporarily water down site (limit use of graphics and scripting) during emergencies so more people can access site without it crashing</p> <p>In hazard-prone areas, Web sites should be redundant, being hosted (as back-up) in an off-site area where there are no (or fewer) hazards</p> <p>Other mass notification systems often direct campus community to check Web site for additional information</p>
800 numbers (hotlines)	<p>Inexpensive</p> <p>Message center usually located away from area where disaster is occurring so the line remains functional</p> <p>Not limited by number of landlines on campus</p>	<p>Is a passive information delivery mechanism; is not intrusive</p> <p>Can be limited by local cell tower and other capacity issues</p> <p>Messages cannot be catered to a specific area; must be general</p>	<p>Particularly appropriate for providing information to those outside of affected area (parents, media, etc.)</p>

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