

Testimony of Heather Tiernan
Emergency Planning Coordinator
Contra Costa County Community Warning System

Implications of Next Generation 9-1-1 for Public Alerting

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Contra Costa County's Community Warning System (CWS)

Contra Costa County has a fully integrated Community Warning System that is also one of the most robust systems in the country. Contra Costa utilizes various public alerting tools including outdoor sirens, social media postings, a public website that provides information about emergencies, and a telephony system that delivers phone calls to residents in affected areas using a "Reverse 9-1-1" and pre-registration website. The Community Warning System is also integrated with national public alerting tools including the Emergency Alert System (EAS) which broadcasts alerts over television and radio stations, the National Weather Service (NWS) which broadcasts alerts over weather radios, and the Commercial Mobile Alert System (CMAS) which sends text like messages to CMAS compatible cell phones.

Contra Costa County's Community Warning System is not the norm in public alerting – most other agencies and jurisdictions do not have such a robust system with dedicated staff. However, many agencies utilize a system similar to the telephony portion of Contra Costa's CWS. These types of systems can be purchased as "off the shelf" products and can be integrated with Reverse 9-1-1 databases and include options for public registration.

Challenges of Public Alerting

Contra Costa County has faced several challenges with the Community Warning System, ranging from public education to communication with stakeholders and the public during emergencies to the functionality of various technical notification tools. One of the major challenges faced by any agency is the bottleneck effect that occurs during emergencies due to aging telecom centers. This slows down the speed at which notifications reach the public through landlines. Additionally, there has been a dramatic drop in landline users over the past several years. In Contra Costa County, there was an 18% drop in landline subscribers in 2012

alone. That represents a drop of approximately 77,000 landlines. Over the past three years, the decline in landlines equals about 40%.

Between the slow process of getting a large (over 10,000) number of calls out to landlines through the telecom switches, and the decline in the number of people that even subscribe to landline phone services, the current Reverse 9-1-1 database is becoming a somewhat unreliable way to get an emergency message out to everyone affected. Agencies are becoming more and more reliant on members of the public taking the initiative to register their cell phones to receive alerts. Currently, Contra Costa County has only about 14,000 cell phone registrations, out of our 1.2 million residents.

Furthermore, cell phone registration is for a static location. While subscribers can choose to be alerted for incidents throughout the county, most register for a few locations or cities only – like where they live, work, go to school, and so on. Because of the increased mobility of the population, people can be driving through an affected area and have no idea of a hazard because they did not register for that specific location.

Potential Improvements Offered by Next Generation 9-1-1

By integrating with the Next Generation 9-1-1 system that can pull all phone numbers, landline and cell phone, from within a specific geographic location, several issues with current public alerting can be addressed

- Notification will go out to all telephones within an affected area, regardless of device type (cell phone or landline) or prior registration. More people in a currently affected area will receive notification and protective action instructions.
- With the aging telephony switching stations that continually get bottlenecked during major emergencies, the use of cell phone tower broadcasting of messages should get notifications out to cell phones much more quickly. This will **not** solve the issue of slow landline communication, but should increase the over speed public awareness.
- While CMAS (Commercial Mobil Alert System) is a beneficial tool intended specifically for these types of situations, there are a few issues that restrict its usage or limit its effectiveness. Currently CMAS is only available at the county level – meaning upon activation **every** cell tower would broadcast a message with limited flexibility to message construction. In Contra Costa County, we currently have a very limited use case for this

type of alerting. The use of CMAS, just as the use of the Emergency Alert System is currently reserved only for the highest level of emergency. If the Next Generation 9-1-1 is able to more specifically geotarget areas, it would be used far more frequently than CMAS. Additionally, CMAS only sends short text like messages which limits the amount of critical information about the nature of a hazard and protective action instructions included in most messages.

Funding of the Contra Costa CWS

Contra Costa County's Community Warning System is entirely funded by industry fees. Each of the hazardous material facilities in Contra Costa County must pay Certified Unified Program Agency (CUPA) fees – Contra Costa County is a local agency that is certified by CalEPA to collect fees to fund various projects and initiatives including regulation of hazardous materials facilities, release prevention and detection programs, and, in Contra Costa County, a Community Warning System. Our unique funding stream is what has allowed Contra Costa County to become such a robust system with dedicated staff.

Conclusion

Contra Costa County is an outlier in the public alerting world. However, many agencies use “Reverse 9-1-1” systems to notify their public of emergencies and provide life saving, protective action instructions. With the migration away from landlines and towards cellular phone service, communication with cell phones during emergency situations is critical. While public alerting is only a small part of the Next Generation 9-1-1 system, it has that potential to make a big difference in the speed and accuracy of notifying the public of an emergency in their area.

Thank you.