

This location accuracy is assessed per carrier and, as of November 2007, the rule stated that carriers were required to meet this level on a PSAP-area basis. That change meant that carriers would no longer be able to show adherence over a wide geographical area, such as a state, by having adequate numbers only in the urban areas where towers were more abundant and closer together and natural obstacles and terrain issues fewer.

Recent changes to the FCC wireless location standards which require that only 90 percent of calls (as opposed to 95 percent) meet minimum location standards (in all counties/PSAPs for handset solutions and in 85 percent of counties/PSAPs for network solutions) recognize the carriers' difficulties with and resistance to the FCC location standards, which make accurate location incumbent on the carriers, despite the emergence of better location technologies, and the changes in our cell phone technology since the FCC's entry in this arena during the late 1990s.

The FCC's guidelines for indoor location released in 2015 call for all national carriers

to provide "dispatchable locations" or x/y locations within 50 meters for 80 percent of callers within six years. The guidelines call for using parameters such as effective barometric data from handsets capable of delivering that measurement and require that carriers develop a test bed to deliver z (elevation) with call data to locate indoor callers in multi-floor buildings. Location continues to be considered a carrier responsibility, though local and regional carriers can apply for extensions and exceptions.

The message, in the end, even with better and better technology and location solutions available and in development, is that both the 9-1-1 caller and the 9-1-1 call taker should be educated on the actual, current and realistic capabilities and limitations of wireless call location. Managing consumer expectations is always a challenge, especially when 9-1-1 callers have access to other location technologies like Uber that allow location based on a pin-drop on a map, but must be attempted by education and communication while the new location standard

adherence is underway. And 9-1-1 directors, coordinators, dispatchers and call takers must have as part of their own arsenals a thorough understanding of technologies in use by the carriers served at their PSAPs, the limitations of those technologies, and solid standard procedures to use every tool at their disposal—high tech and old-fashioned voice-to-voice communication—to locate emergencies quickly and, in doing so, save lives and property. ●

Susan Cunningham is President and Principle Owner of Spatial Data Research, Inc. (SDR) of Lawrence, Kansas. Incorporated in 1993, SDR offers GIS and addressing services and software to the E9-1-1/public safety community. Ms. Cunningham has led her team in numerous projects to help clients improve their ability to save lives and property by developing, deploying, correcting and maintaining GIS data. Susan is an advocate for improving the quality and success of 9-1-1 services through education, data sharing and improved communication.



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