

By Brian Fung July 10



(New York National Guard / Flickr)

Not long after he became the country's top telecom regulator in 2009, Julius Genachowski wanted to find out what it was like to be a 911 dispatcher. Like anyone in his position, he thought it'd be wise to learn about the systems he'd actually be overseeing. So he went down to Fairfax County, Va., where he spent a day behind a desk with a bunch of call-takers.

Genachowski wondered: What happened when someone dialed 911 from a cell phone? How easily could they be found on a map? The director of the call center suggested Genachowski pull out his own phone and give it a shot. So he did — but instead of showing the dispatcher the chairman of the Federal Communications Commission was sitting right there, the system showed the call as coming from inside the Costco across the street.

The dispatcher hit a button in an attempt to "re-bid" — asking the network to refresh the data for a better fix. This time was a little better, but not by much. The system thought Genachowski was standing in the back of the store, by the meat and fish section. The third re-bid attempt wasn't much better.

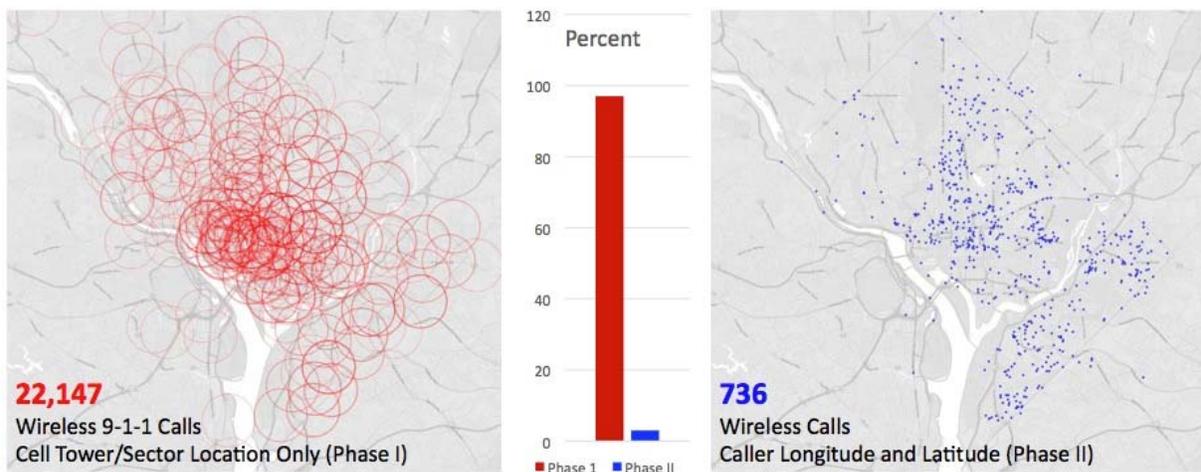
"It moved him from where he was in the store up to where they sell the pizzas and the hot dogs," said Steve Souder, the director of the Fairfax call center. "That was closer than where he was the first time, but still a quarter-mile away from where he was."

If it were a real emergency, first-responders would've burst into the Costco supermarket looking for a person who wasn't there.

Public safety officials say this location problem is widespread. While the data to prove it is spotty and unavailable in many places, new data on the nation's capital appears to show some alarming results underscoring that claim.



## T-Mobile Wireless July 1, 2013 – September 30, 2013



Source: Public Safety Network analysis of D.C. Office of Unified Communications data.

Over a six-month period in 2013, the D.C. data show, calls to 911 were easily narrowed down to a general geographic area covered by a single cell tower. But a startling proportion of those calls lacked the latitude-longitude data required by federal regulations for pinpointing people in distress.

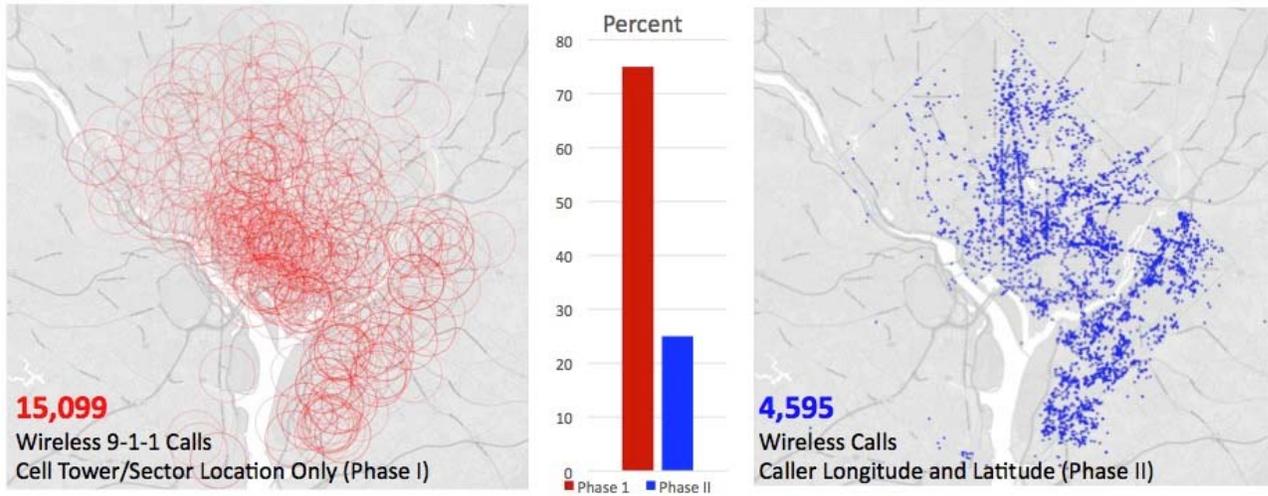
The more specific data was missing for as many as 90 percent of such calls over a six-month period last year, according to data from the D.C. government that was provided to the FCC and obtained by the Washington Post. Of the 385,341 wireless calls to 911 made during that time, technological systems were able to provide accurate location data for only 39,805.

Dispatchers in some cases may have been able to get an address from the caller. But in other cases — for instance, where the caller was unable to speak due to danger or injury — dispatchers would have had little to go on aside from a search area the size of a few city blocks. Other data the D.C. government provided to the FCC — covering a three-month period last summer and breaking the calls down by wireless carrier — showed that some carriers did

a better job than others at providing the latitude-longitude data. But rates of compliance were still no better than a coin toss, according to the research.



**Sprint**  
July 1, 2013 – September 30, 2013



Source: Public Safety Network analysis of D.C. Office of Unified Communications data.

Location data is broken down into two types: "Phase I," which is generally measured in the hundreds of meters, and "Phase II," which is more specific — down to within 150 meters of the caller. Wireless carriers are fairly efficient at providing Phase I data using cell towers, but as the study of D.C. data suggests, obtaining Phase II information is a different story.

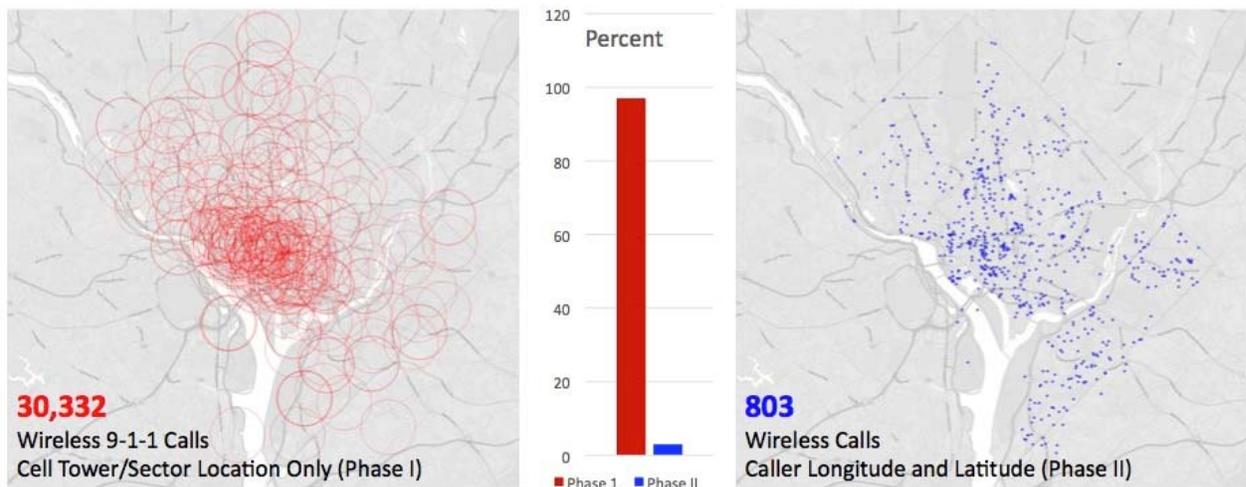
Dispatchers get Phase II data using a cell phone's GPS chip. But as anyone who's tried to use location services on their phone will know, getting an accurate fix is difficult if you don't have a direct line of sight to an orbiting satellite. Waiting for a better signal can improve results, but that takes time — a luxury first-responders don't have, said retired Rear Adm. Jamie Barnett, a former head of the FCC's public safety and homeland security bureau who now advocates for 911 dispatchers.

"When you talk to those folks, you can really tell that they are upset about this," he said. "They are having people die on the phone because they can't find them."

A recent [survey of 911 call centers](#), also known as public safety answering points (PSAPs), found that only 187 of 1,000 expressed "a great deal of confidence" in the location data they get from wireless carriers during emergency calls.



**AT&T**  
**July 1, 2013 – September 30, 2013**



Source: Public Safety Network analysis of D.C. Office of Unified Communications data.

Wireless industry officials are pushing back against the study, arguing that it doesn't account for re-bids. If attempts to improve the Phase II data were reflected in the data, the numbers would look dramatically better, they say. And if some 911 dispatchers aren't performing re-bids at all, then that's their own fault. An analysis by T-Mobile last year showed that, for instance, dispatchers in some California call centers made re-bids for only one in five calls.

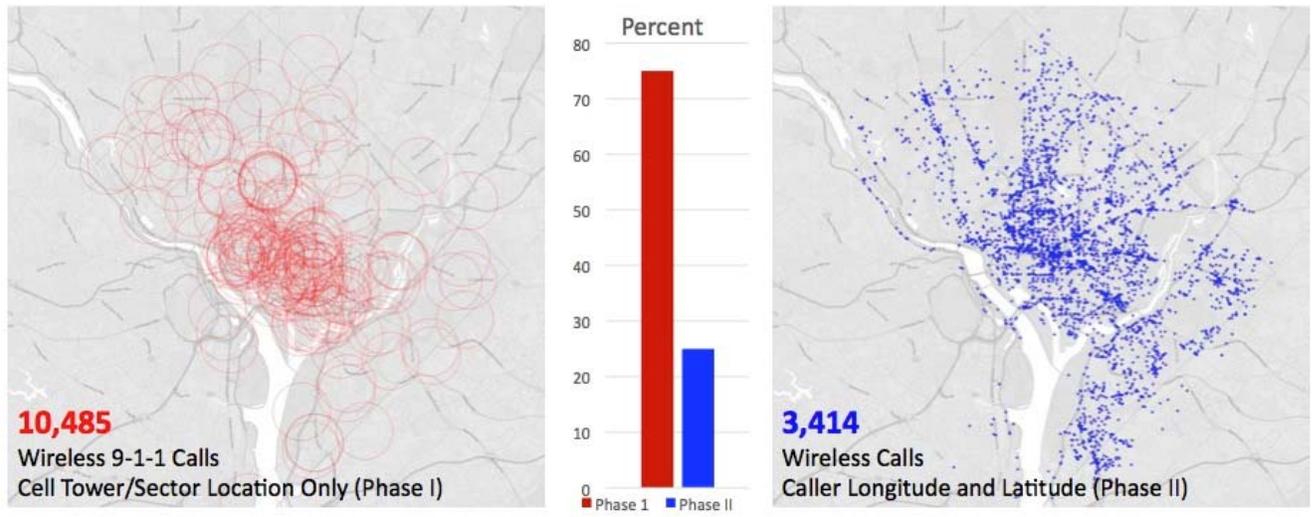
"When we raised the issue of re-bids in California, a lot of people were scratching their heads — only to find out that the state had implemented a policy saying, don't rebid," said a wireless industry official who requested anonymity in order to speak more freely.

The industry may have a point. Public safety officials concede that re-bids work; Fairfax's Souder said that in his experience, the process results in between 60 percent and 80 percent of calls getting accurate Phase II data

eventually. It's unclear whether D.C. dispatchers perform re-bids; the Office of Unified Communications, which oversees calls to 911, did not return multiple requests for an interview.



**Verizon Wireless**  
July 1, 2013 – September 30, 2013



Source: Public Safety Network analysis of D.C. Office of Unified Communications data.

But the critique about the study's methodology is a distraction, public safety officials say. Here's why: Every time a re-bid is triggered, it starts a process that can run for as long as 30 seconds while the phone tries to acquire a line-of-sight connection with an orbiting GPS satellite. If the caller is indoors, as an estimated 64 percent of all wireless calls to 911 are, they'll never get an accurate reading. Mashing the re-bid button will not be enough to overcome concrete walls, no matter how many times a dispatcher tries.

Even for callers who are dialing 911 from outdoors, the time it takes to perform a re-bid means that by the time more accurate readings arrive, it may already be too late. Seconds count; in the United States, heart attacks kill people at a rate of [one per minute](#).

So while the wireless industry may find flaws in the way the study is presented or in the way PSAPs sometimes don't re-bid, that doesn't dispatch the public safety officials' overall claim, which is that accurate Phase II data isn't coming in quickly enough to be useful. The industry fires back that Phase II compliance has actually increased over time.

"There is a tradeoff — getting that more accurate fix may in certain circumstances take a little more time," the wireless industry official acknowledged. "We are working on technologies to improve that, and we will continue to, but at the same time we are working within the constraints of technology."

The FCC under Genachowki's successor, Tom Wheeler, has proposed new rules that would require carriers to provide location data accurate to 50 meters within 30 seconds of a dispatcher picking up a call. If the regulation is approved, 80 percent of all cell phone calls to 911 would have to satisfy that rule. But if the rates of compliance are really as low as the D.C. study makes it out to be even under the existing regulation, the industry may