

cover story

CELL PHONE DEAD ZONES

How federal funds and wireless companies are working to close the gaps

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We're living in an age of technology, but for the many Maine residents who live in rural areas, the latest and greatest in such technology is a long time coming. But as wireless communication quickly becomes more advanced, it's important for these communities to keep pace.

There's a catch, however: How can wireless companies afford to build new towers in less populated areas when they can't expect enough customers to cover costs?

That's where the Universal Service Fund comes in. Created in 1996 to help level the telecommunications playing field, the fund has been used mostly by wire line companies since it was created before wireless technology became more accessible and affordable to your average Joe.

Recently, wireless companies like U.S. Cellular and Unicef have been making use of these funds to build towers in less populated parts of the country – and Maine.

"It's difficult for us to justify \$350,000 to put in a new tower [in rural areas]," said John E. Rooney, president and CEO of U.S. Cellular in an interview. "The Universal Service Fund instituted by the government to subsidize the expansion of telecommunications services in rural areas has helped us provide the funds to justify that investment."

Building these towers is a benefit to many communities, and it paves the way for economic growth and improved public safety. After all, if Maine doesn't have wireless service where businesses want it, then businesses won't come.

"We will continue to build up the wireless network in Maine so everyone has coverage where they need it," Rooney said.

continued on next page

continued from previous page

A matter of priorities

As wireless technology grows, maintaining the infrastructure is becoming increasingly important. In more urban areas, such as Bangor, maintaining and improving the existing network is a top priority for employees of U.S. Cellular, which includes focusing their efforts on building sites with larger capacities for data and call volumes.

"We have an established customer base that keeps growing. In these heavily populated areas, we're approaching our limit, so we need to build a capacity site which has priority over building [new sites]," Jon Veinot, a system performance engineer at U.S. Cellular, said of his company's own capital investment focus. "This is where the USF funds come in. Because with those funds, we're able to build sites that normally wouldn't make our priority list. We only have so much money to build what we need."

Prioritizing capacity sites first allows the company to ensure those who have service continue to get the quality they're used to. Only after those needs are met are other sites considered and the USF funds tapped.

"We prioritize our capacity sites the highest because you're our existing customer. We've got to take care of our existing customer before we think about getting new ones," explained Jim Holmes, director of sales at U.S. Cellular.

Call the repairman

Finding and repairing network problems is something that's been fine-tuned by telecommunication companies over the years - albeit by necessity. Being able to maintain the capacity sites - as well as identify troublesome areas - is key to making sure problems get fixed.

"My job is to monitor all the statis-

tics from a switch: the drop call level, the ineffective attempts, if someone is trying to make a call and they get blocked - things like that," said Veinot. "[My equipment] will also tell me where I dropped the call and give me the signal levels. I record all this data and play it back anytime. If there's a problem area and I have to look at it more, I can bring it back to my other computer and dissect what's going on."

The company also has software that can simulate a radio network, telling engineers how radio signals move over land. Veinot says such technology helps them target areas where signals are less than optimal or show entire gaps in coverage.

"We can identify where the holes are with that, and then I also have to do a backup drive-test to make sure that [the simulation] is accurate," he said.

But with all the cool gadgets, engineers can't be everywhere, and that's where customers come into play.

"We get a lot of data from our customers every month," said Holmes. "We talk to our customers every month, or our customers talk to us through customer service. We log all that data and then determine where we can best serve our customers." Critical access for public safety

Getting decent wireless coverage isn't simply a matter of convenience

- it can mean life or death. The advent of wireless has fueled a decline in the number of pay phones and call boxes a person has access to. If you get into trouble in a place where your cell phone isn't functioning, the situation can become dire, especially when you have the expectation the network will be there and accessible.

When wireless companies began to use the Universal Service Funds to build a wireless network in rural areas, it drove costs up. The FCC responded by starting a committee to look into the issue, and the commission proposed a spending cap pending more research. This has caused concern and unfortunately affected many people and agencies, especially those involved in public safety.

"For Maine, [USF] is crucial. [The cap] hinders public safety and the people we're supposed to be taking care of," said Everett Flannery, the chief deputy for the Kennebec County Sheriff's Office who also represents the Maine Sheriffs' Association. "[The FCC cap] goes against the grain of what the USF was put into place for."

Flannery believes that if the funding is capped and more towers aren't built in rural communities, the resulting poor coverage will have a detrimental effect on how well law enforcement and emergency services can respond to emergency situations as other technology progresses.

"If [law enforcement officials] try to set up a command post with wireless command trailers, they want it in the best place for what's going on - not the best place to get a signal, which could be up at the top of a hill

where we can't see what's going on," he said.

Flannery mentioned both U.S. Senators Susan Collins and Olympia Snowe have been very active in writing letters to the FCC and testifying before Congress in opposing the cap, but for now the spending cap remains in place.

"I know that you can't get four bars everywhere, but [wireless coverage] is inadequate," said Flannery. "I think rural citizens should be standing up and screaming about this."

Getting more reliant on wireless

Getting critical information is important to any law enforcement agency, and for officers serving the more rural areas, being able to access that information can make a huge difference in terms of safety and efficiency.

"We rely on wireless communications. Almost all of our patrol units are equipped with wireless," said Chief Deputy Troy Morton of the Penobscot County Sheriff's Office. "This is tremendous for us because, unlike municipal police departments or agencies, if [officers] need something from the office - data or forms - they can simply run back a couple of miles to the police department and get the forms and do some research. Our rural patrol officers cover six to eight towns per officer and don't have that luxury."

According to Morton, the more information law enforcement agents have when they respond to a situation, the safer everyone is, especially if the information can be available through wireless data services accessible via a computer in their vehicles.

"Not only are they getting it through dispatch, they can actually get in and read some reports of what's been going on in the last couple of days and see the whole report, not just the a brief description from dispatch," said Morton.

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