

Wireless, cable companies can't rest on their networks

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Think of your car as a smartphone on four wheels. Or your smartphone as a wallet. Or your home as a connected network center where thermostats, video cameras, lights and televisions all "talk" to each other. That "talking" would more likely be stammering if the Internet or wireless network weren't working properly.

Like maintaining a [water pipe](#) or widening a road, [wireless](#) and [cable companies](#) must spend billions of dollars to expand their networks for gobs of information to travel through them without a hitch. Companies such as AT&T Mobility, Verizon Wireless, Comcast and Cox Communications say they must constantly invest in their wireless, Internet and cable networks to stay ahead of new, rich technology that takes up more space.

They also must make improvements to stay ahead of the growing wave of consumers who are using more than one mobile or wireless device now or are downloading larger files and streaming more video.

For example, Comcast recently announced it was doubling the speeds of two Xfinity Internet plans, and boosting the speeds of a third one. The faster speeds will support the higher quality of video and data that consumers frequently download over the cable or wireless networks, executives say.

"In the home, people are using multiple devices. They all have laptops, smartphones, tablets. They are all active, all using high-definition

(video)," said Rick Lang, Comcast's sales and marketing vice president.

New and better technology will drive more people to use more wireless products. For example, consumers this year are expected to buy more smartphones than basic, "feature" phones for the first time, according to market research firm International Data Corp., or IDC. The amount of data that consumers send and receive over wireless networks is on track to grow 66 percent a year for the next five years, according to networking equipment giant Cisco Systems.

"These are things that weren't on anybody's radar five years ago, but today they are," said Jeff Kagan, a telecommunications analyst. "People are using the Web not only to read words but to watch clips, to watch live television, watch recorded television, watch movies. The next question is: If that's what we've done in the last five years, what will we do in the next five years?"

And if they can't send those text messages or share photos, "it's a frustrating feeling," said Brenton O'Bryant, an Atlanta resident.

Companies can take a variety of steps to enhance their networks. Cable companies use technology to widen their broadband networks, similar to adding lanes on a highway, to allow more information to pass through. For wireless networks, companies can build cell towers or upgrade current ones. Small cells - similar to miniature cell towers that wireless companies can attach to things such as light poles or buildings - are another option to boost mobile coverage.

"Investment is the basis for innovation," said Ralph de la Vega, president and chief executive officer of Atlanta-based AT&T Mobility. So if upgrading a network isn't done, "there would be less-innovative products, and the products would not work as fast or as well. It doesn't enable any new innovations to flourish."

The improvements cost serious money. Comcast, for example, has invested "billions" in its Internet and network infrastructure over "several" years, the company said. Atlanta-based Cox Communications has spent more than \$24 billion to upgrade its Internet and cable infrastructure in its markets since 1996. Cox Communications is owned by Cox Enterprises, parent company of The Atlanta Journal-Constitution.

A consistently fast network may mean the difference between adding or losing customers. In the fiercely competitive telecommunications world, frustrated consumers who are unable to watch their favorite show, send large files, play games or use applications because of a network problem can switch to another wireless or Internet company.

"It's just really important for us from a brand and reliability standpoint that our customers have access to those data speeds regardless of where they are at," said Lynn Carlson, Verizon's network executive director for the Georgia-Alabama region.

Streaming video, such as on YouTube or Hulu, is the main driver behind increased Internet use and the need for faster speeds, said Len Barlik, executive vice president of product management and development at [Cox Communications](#), which sells cable in some markets.

The average home now has seven mobile or Internet devices, including "smart" TVs, mobile devices and gaming consoles, Barlik said. And when consumers are using those devices, 65 percent of the traffic on the network is streaming video, he said.

The trends reflect how the world has gone wireless. Consumers can use smartphones and tablets to do everything from watch an entire [television](#) series online to program their home's thermostat while they are on vacation. Cars and homes have evolved into mobile centers with which

consumers interact by using any number of mobile apps and devices.

But before the apps could even be created, the network had to be improved to support the technology, wireless executives said.

Many mobile phone companies also have been clamoring to have more spectrum, the government-controlled airwaves used to transmit wireless signals. Because companies can improve their networks in other ways, the pressure for the government to set aside more spectrum isn't as critical, but analysts say it still needs to happen within a couple of years.

"Technology has improved, so we're going to be able to send more (information) with the same network that we have today," analyst Kagan said. "But it's not going to solve the problem long term."

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