Fast Internet Is Chattanooga's New Locomotive

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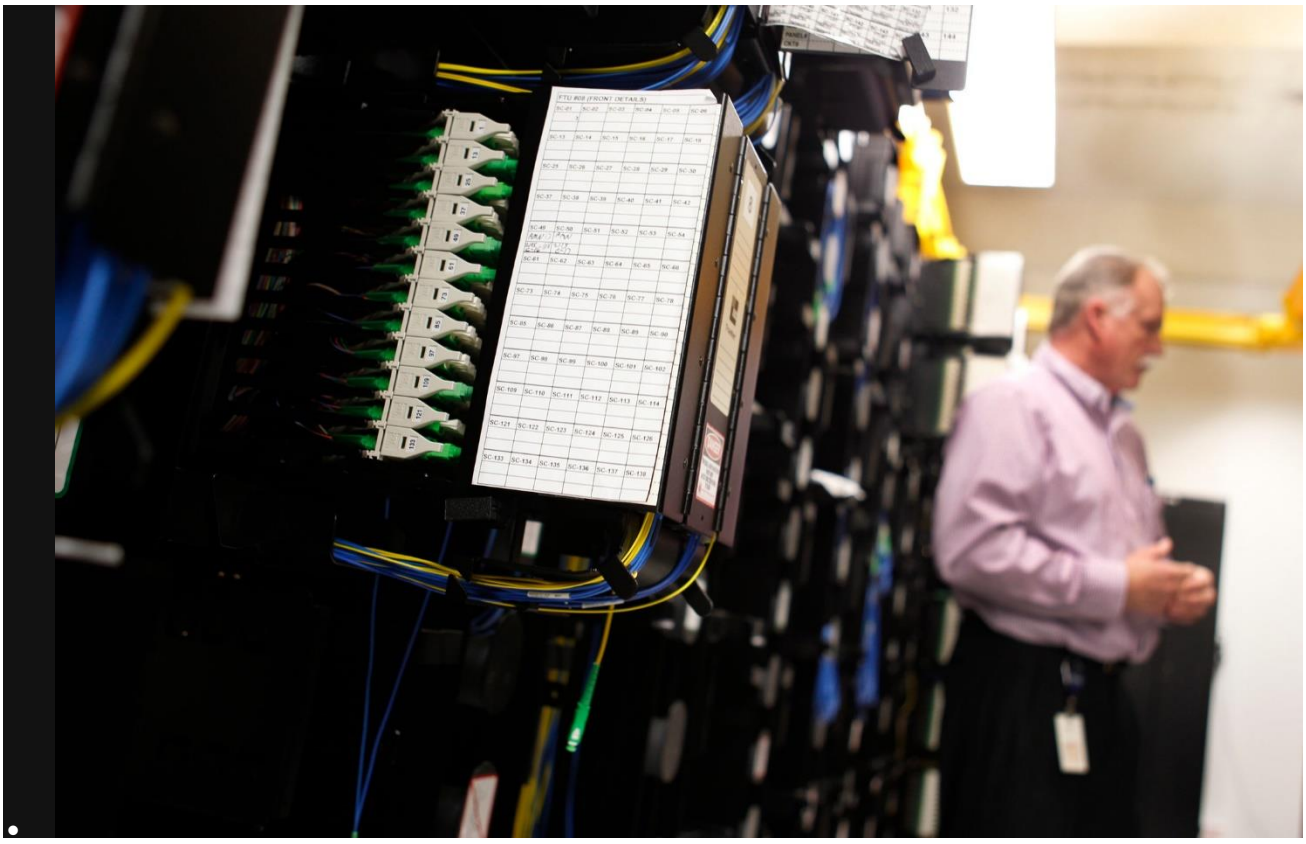
Credit...Tami Chappell for The New York Times



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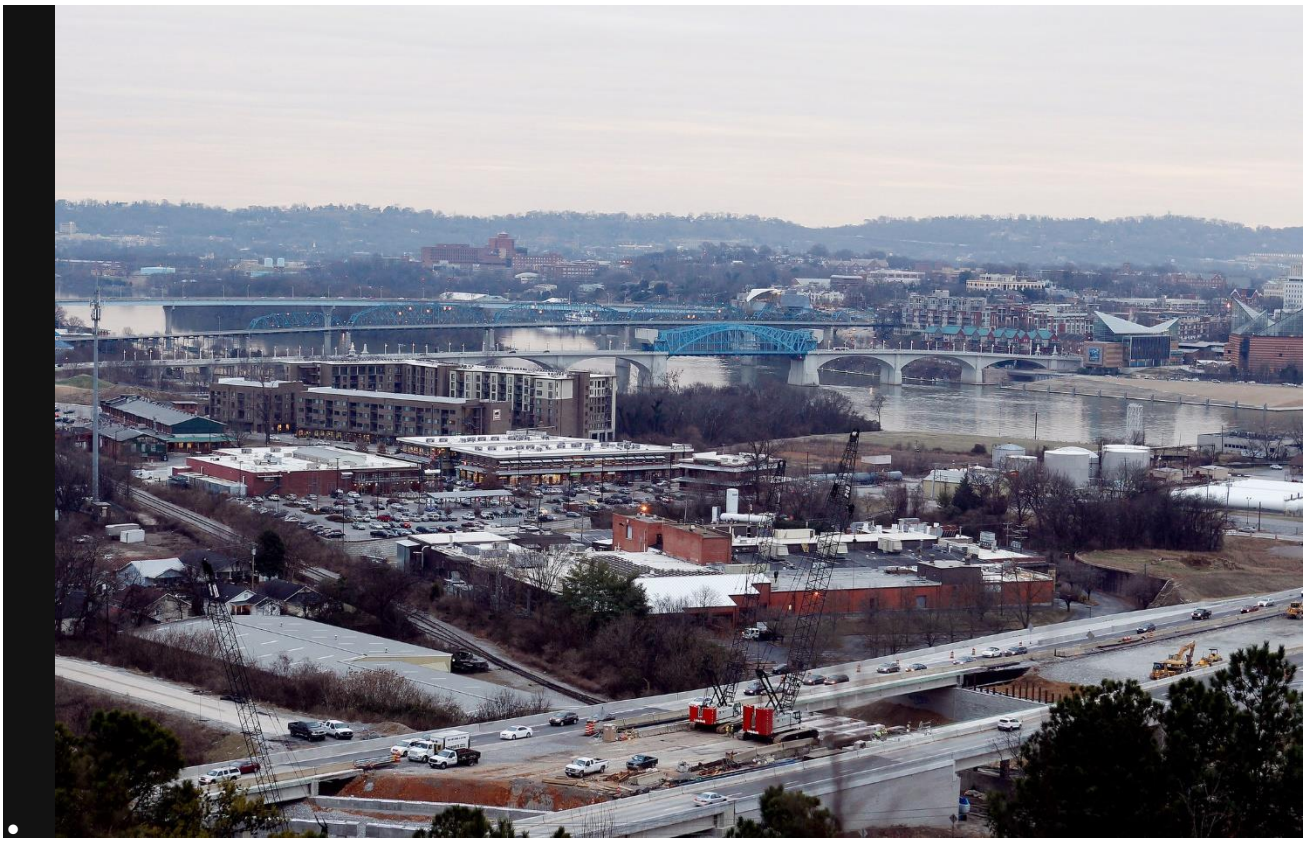

Since the fiber-optic network switched on four years ago, the signs of growth in Chattanooga are unmistakable, with former factory buildings on Main Street and Warehouse Row on Market Street having been converted to loft apartments, open-space offices, restaurants and shops.
Credit...Tami Chappell for The New York Times

“It created a catalytic moment here,” said Sheldon Grizzle, right, the founder of the Company Lab, which helps start-ups refine their ideas and bring their products to market. He was with Mike Bradshaw of Co.Lab. “The Gig,” as the taxpayer-owned network is known, “allowed us to attract capital and talent into this community that never would have been here otherwise.”
Credit...Tami Chappell for The New York Times

Ustin Zarubin of Campus Bellhops, a start-up at the Lamp Post Group, which works with entrepreneurs from the planning stages to reality through financial investment and business guidance.
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Video encoders at a facility for the high-speed network in the city. It takes 33 seconds to download a two-hour, high-definition movie in Chattanooga, compared with 25 minutes for those with an average high-speed broadband connection in the rest of the country.
Credit...Tami Chappell for The New York Times

A library patron in Chattanooga using the city's high-speed Internet. For all the optimism of the Gig, many boosters are aware there are limits. "We don't need to be the next Silicon Valley," Mayor Andy Berke said. "That's not who we're going to be, and we shouldn't try to be that. But we are making our own place in the innovation economy."
Credit...Tami Chappell for The New York Times

By Edward Wyatt

- Feb. 3, 2014

CHATTANOOGA, Tenn. — For thousands of years, Native Americans used the river banks here to cross a gap in the Appalachian Mountains, and trains sped through during the Civil War to connect the eastern and western parts of the Confederacy. In the 21st century, it is the Internet that passes through Chattanooga, and at lightning speed.

"Gig City," as Chattanooga is sometimes called, has what city officials and analysts say was the first and fastest — and now one of the least expensive — high-speed Internet services in the United States. For less than $70 a month, consumers enjoy an ultrahigh-speed fiber-optic connection that transfers data at one gigabit per second. That is 50 times the average speed for homes in the rest of the country, and just as rapid as service in Hong Kong, which has the fastest Internet in the world.

It takes 33 seconds to download a two-hour, high-definition movie in Chattanooga, compared with 25 minutes for those with an average high-speed broadband connection in the rest of the country. Movie downloading, however, may be the network's least important benefit.

"It created a catalytic moment here," said Sheldon Grizzle, the founder of the Company Lab, which helps start-ups refine their ideas and bring their products to market. "The Gig," as the taxpayer-owned, fiber-optic network is known, "allowed us to attract capital and talent into this community that never would have been here otherwise."

Since the fiber-optic network switched on four years ago, the signs of growth in Chattanooga are unmistakable. Former factory buildings on Main Street and Warehouse Row on Market Street have been converted to loft apartments, open-space offices, restaurants and shops. The city has welcomed a new population of computer programmers, entrepreneurs and investors. Lengthy sideburns and scruffy hipster beards — not the norm in eastern Tennessee — are de rigueur for the under-30 set.

"This is a small city that I had never heard of," said Toni Gemayel, a Florida native who moved his software start-up, Banyan, from Tampa to Chattanooga because of the Internet speed. "It beat Seattle, New York, San Francisco in building the Gig. People here are thinking big."

But so far, it is unclear statistically how much the superfast network has contributed to economic activity in Chattanooga over all. Although city officials said the Gig created about 1,000 jobs in the last three years, the Department of Labor reported that Chattanooga still had a net loss of 3,000 jobs in that period, mostly in government, construction and finance.

EPB, the city-owned utility formerly named Electric Power Board of Chattanooga, said that only about 3,640 residences, or 7.5 percent of its Internet-service subscribers, are signed up for the Gigabit service offered over the fiber-optic network. Roughly 55 businesses also subscribe. The rest of EPB's customers subscribe to a (relatively) slower service offered on the network of 100 megabits per second, which is still faster than many other places in the country.

Some specialists say the low subscriber and employment numbers are not surprising or significant, at least in the short term. "The search for statistical validation of these projects is not going to turn up anything meaningful," said Blair Levin, executive director of Gig.U, a high-speed Internet project that includes more than three dozen American research universities. Mr. Levin cited "Solow's paradox," the 1987 observation by Robert M. Solow, a recipient of the Nobel in economic science who wrote that "you can see the computer age everywhere but in the productivity statistics."

Such is the case with many new technologies, Mr. Levin said. No one is going to design products that can run only on a one-gigabit-per-second network if no such networks

exist, he said. But put a few in place, he added, and soon the supply of applications will drive a growing demand for the faster connections.

Chattanooga's path to Gig City is part of a transformation that began long before most Americans knew the Internet existed. Named America's most-polluted city in 1969 because of largely unregulated base of heavy manufacturing, Chattanooga has in the last two decades cleaned its air, rebuilt its waterfront, added an aquarium and become a hub for the arts in eastern Tennessee. In more recent years, an aggressive high-tech economic development plan and an upgrade of the power grid by EPB moved Chattanooga toward the one-gigabit connection.

In 2009, a $111 million federal stimulus grant offered the opportunity to expedite construction of a long-planned fiber-optic network, said David Wade, chief operating officer for the power company. (EPB also had to borrow $219 million of the network's $330 million cost.) Mr. Wade said it quickly became apparent that customers would be willing to pay for the one-gigabit connection offered over the network.

Chattanooga has been joined in recent years by a handful of other American cities that have experimented with municipally owned fiber-optic networks that offer the fastest Internet connections. Lafayette, La., and Bristol, Va., have also built gigabit networks. Google is building privately owned fiber systems in Kansas City, Kan.; Kansas City, Mo.; and Austin, Tex., and it recently bought a dormant fiber network in Provo, Utah.

The systems are the leading edge of a push for ever-faster Internet and telecommunications infrastructure in a country that badly lags much of the world in the speed and costs of Web connections. Telecommunications specialists say that if the United States does not keep its networks advancing with those in the rest of the world, innovation, business, education and a host of other pursuits could suffer.

Even so, few people, including many who support the systems, argue that everyone in the country now needs a one-gigabit home connection. Much of the public seems to agree. According to Federal Communications Commission statistics, of the households where service of at least 100 megabits per second was available (one-tenth as fast as a gigabit), only 0.12 percent subscribed at the end of 2012. In Chattanooga, one-third of the households and businesses that get electric power from EPB also subscribe to Internet service of at least 100 megabits.

But just as few people a decade ago thought there would be any need for one terabyte of data storage on a desktop computer (more than 200 million pages of text, or more than 200 movies), even the most prescient technology gurus have often underestimated the hunger for computer speed and memory.

Fiber-optic networks carry another benefit, which is the unlikelihood that a potentially faster network will come along soon. Fiber optics can transmit data at close to the speed of light, and EPB officials say the technology exists for their network to carry up to 80 connections of 10 gigabits per second at once.

Those who use Chattanooga's one-gigabit connection are enthusiastic. Mr. Gemayel, the Florida native who moved Banyan here from Tampa, first passed through Chattanooga in 2012, when he heard about an entrepreneurial contest sponsored by The Company Lab with a $100,000 prize. Banyan, which was working on a way to share real-time editing in huge data files quickly among far-flung researchers, won the contest. Mr. Gemayel returned to Tampa with his check.

But once there he discovered that his low-bandwidth Internet connection was hampering the development of his business. By the beginning of 2013, he had moved to Chattanooga.

Other companies have become Gig-related successes. Quickcue, a company that developed a tablet-based guest-management system for restaurants, began here in 2011 and over the next two years attracted about $3 million in investments. In December, OpenTable, the online restaurant reservations pioneer, bought Quickcue for $11.5 million.

Big technology dreams do not always pan out, of course, and Chattanooga is familiar with failed experiments. The city spent millions of dollars in the last five years to build a citywide Wi-Fi network, known as the "wireless mesh," intended for use by residents and city agencies. It sits largely unused, and its utility has largely been usurped by 4G wireless service.

Few people here would say that the Gig has even begun to be used to its fullest. "The potential will only be capped by our selfishness," said Miller Welborn, a partner at the Lamp Post Group, the business incubator where Banyan shares office space with a dozen other start-ups. "The Gig is not fully useful to Chattanooga unless a hundred other cities are doing the same thing. To date, the best thing it's done for us is it put us on the map."

For all the optimism, many boosters are aware there are limits to how far the Gig can take the city, particularly as it waits for the rest of the country to catch up.

"We don't need to be the next Silicon Valley," Mayor Andy Berke said. "That's not who we're going to be, and we shouldn't try to be that. But we are making our own place in the innovation economy."

Correction: *Feb. 7, 2014*

An article on Tuesday about the high-speed broadband Internet service available in Chattanooga, Tenn., misspelled, in some editions, the surname of the co-founder of Banyan, a software start-up that moved there to take advantage of the fast connection. He is Toni Gemayel, not Gemeyal.

A version of this article appears in print on Feb. 4, 2014, Section B, Page 1 of the New York edition with the headline: A City Wired for Growth. Order Reprints | Today's Paper | Subscribe