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The Infrastructure Success Story in Chattanooga

Some of the fastest broadband speeds in the world come from this Tennessee city's public network. It could be replicated across the country.

BY ANDY BERKE, JONATHAN GRUBER JUNE 17, 2021

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In economic development, the community has made 'Gig City' central to its brand, building an innovation district, starting a Smart Community Collaborative, and emphasizing entrepreneurship.



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There exists a place where a government entity, bolstered by public funds, laid more than 600 miles of fiber-optic cable, connecting to every home and business in its service area. For more than a decade, this network has provided internet, voice, and video services to customers. It's one of the fastest internet service providers in the world, with speeds up to 10 gigabits per second. It has enhanced local economic development, while offering no-cost service to families who need it most.

At this point, you no doubt believe we are talking about some utopia far from our shores, in Korea or Scandinavia. But no, this place exists right here in the United States, in the heart of "red" America: Chattanooga, Tennessee.

And the service Chattanooga developed is incredibly popular. Consumer Reports has rated it the best in the country.

The story of the city's fiber network offers compelling evidence for President Biden's American Jobs Plan and its funding of municipal broadband. It also points the way for a new definition of infrastructure, one that moves beyond traditional roads, bridges, and pipes.

But it also highlights the extraordinary steps incumbent telecom interests will take to prevent the success of public competition. As these and other municipal fiber networks begin and expand, it will take continued legal support from Congress and state legislatures to ensure their goals are met.

IN THE EARLY 20TH CENTURY, much of the Southern United States remained agrarian and underdeveloped, in contrast to the more industrialized North. As President Franklin Delano Roosevelt took office, he pledged to provide the infrastructure necessary for Southern economic development, creating the Tennessee Valley Authority in 1933 to construct dams, reservoirs, transmission lines, and power plants.

Once a public power wholesaler emerged, local retailers were needed to deliver the electricity to customers. In 1935, the city of Chattanooga created the Electric Power Board (EPB) as an independent authority, with directors appointed by the mayor. Today, EPB serves more than 170,000 businesses and homes.

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The case for a public option in
broadband internet is strong.

In the early 2000s, Chattanooga mayor (and future Republican U.S. senator) Bob Corker began a city data

service to lure high-tech firms. MetroNet, as it was called, quickly folded into a new internet division inside EPB, and the seeds of the fiber network were planted.

Later that decade, EPB planned a systemwide expansion, deploying fiber as a necessary component for a smart energy grid. As we have seen from recent storms in Texas, having a power grid fail can devastate a community and its economy. With a smart grid, because the system is constantly communicating what is happening back to the command center, engineers know when and where a problem occurs. No more sending a truck out to look for which of the hundreds of poles may be a problem. The smart grid tells you right away, then gives you the ability to route energy from elsewhere and restore electricity to the user.

Even with that benefit, EPB understood that it could go further to maximize return on the project. Laying fiber for anything, including a smart grid, is like building a 100-lane highway for two cars. One strand of fiber can theoretically carry all the data in the world. So other uses were added to the project, such as phone, video, and internet data. One infrastructure investment, laying fiber into the ground, could enable the smart grid and the data network, bringing an economy of scale to the effort.

As a public electricity provider, EPB already possessed the legal rights to run lines from the public right of way to private buildings—that tricky “last mile” to provide service. Bonds primarily covered the cost, but in an accident of timing, digging was set to commence when Congress passed the American Recovery and Reinvestment Act (ARRA) in 2009. The Department of Energy selected EPB for a \$111 million grant. This allowed a planned ten-year build-out to be accomplished in just two.

EPB launched its fiber-to-the-home program in 2010, making Chattanooga the nation's first gigabit city. In 2015, it re-upped its status as a speed leader by becoming the first provider to offer 10 gigabits per second. (A more thorough discussion of this story can be found in Susan Crawford's excellent book *Fiber*, and *Prospect* executive editor David Dayen's *Monopolized*.)

The system has proven an unqualified success. Over half of the homes and businesses in the service area are signed up with "The Gig." Plus, its price of \$68 per month for a gig connection is lower than any private-sector rival for the same service. The operation is cash-positive, allowing EPB to pay off the bonds 12 years ahead of schedule and lower home utility rates.

Beyond the numbers, though, the community has used the fiber network as infrastructure upon which to build. In economic development, the community has made "Gig City" central to its brand, building an innovation district, starting a Smart Community Collaborative, and emphasizing entrepreneurship. Schools utilize the gig in the classroom, enabling students to view a 4K microscope at the University of Southern California in real time. And telehealth continues to grow. The first customer to order EPB's groundbreaking 10 gig service was a radiologist looking to work with large diagnostic images at home. With the COVID crisis accelerating the adoption of telehealth, both Chattanooga patients and the broader medical community are poised to reap the benefits.

These efforts have borne fruit. A recent study documented more than \$2.69 billion in economic benefits to the region during the network's first ten years. At the beginning of 2020, *Forbes* magazine predicted Chattanooga would be the number one city for new jobs, and even after the pandemic hit, *Time Out*

magazine called it the best place in the country to work remotely. The expansion has been widespread, with the city seeing one of the highest income growths in the country.



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The fiber network has served another important infrastructure purpose: equity. While the connection exists across the community, not every home or business possesses the resources to turn it on or the knowledge of how to use the web. Over the years, Chattanooga has pioneered initiatives to teach digital literacy skills, from signing up for an email address to using Google Docs. Affordable internet was also a priority, especially for families in need.

In the wake of the pandemic, when good internet access was needed more than ever, those efforts accelerated. A partnership of government, philanthropy, and EPB made Chattanooga the first community in the country to offer high-speed broadband to every family with a child who receives free or reduced lunch, at no cost. Twenty-eight thousand children (and the family members who live with them) are on track to receive 100-plus megabits per second at zero cost to them.

CHATTANOOGA IS NOT THE ONLY PLACE in America with a local internet success story. Indeed, about 220 municipalities around the U.S. offer municipal broadband. But unfortunately, the story contains a healthy caveat. Incumbent providers and political forces

have combined to limit the reach of the municipal model in Chattanooga, sometimes successfully.

When EPB announced its plans to deploy fiber, there was little controversy about the new smart grid, or even the phone service. One piece, however, came under immediate attack: the new internet service.

In 2008, Comcast sued EPB to stop the build-out, alleging that ratepayer dollars were illegally subsidizing the project. (In fact, the project ended up turning a profit, subsequently subsidizing the electricity service.) But while EPB won the lawsuit, and Comcast was eventually forced to upgrade its offerings, the struggles continued. Comcast and AT&T got Tennessee to prevent the delivery of utility-level broadband beyond its electricity service area. Rural and suburban neighbors, some of whom make do with dial-up internet speeds, cannot get gigabit service, even if they want it. Every year, EPB attempts to remove this restriction; every year, incumbent providers and their allies in the legislature resist; and every year, the effort fails.

Attempting to break the logjam, Andy (while mayor of the city of Chattanooga) met with Federal Communications Commission chair Tom Wheeler to discuss removing barriers to community broadband, in 2014. EPB filed a petition with the FCC, which it granted, to expand the offering to neighboring counties. The state of Tennessee then sued the FCC to stop the ruling, in effect arguing that its own citizens should not receive the benefits of the faster internet service. In court, the state won, and the residents of rural Tennessee lost.

Tennessee is not alone. Eighteen states have passed laws that make establishing community broadband “prohibitively difficult,” and five other states have incorporated roadblocks that make establishing

municipal broadband “more difficult than it needs to be.”

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For example, Alabama allows municipal broadband, but then imposes a host of restrictions that make it effectively impossible, including barring the use of local funds or taxes to cover initial investments; requiring municipal broadband to be self-sustaining, thereby disallowing the common industry practice of bundling of voice and data services with broadband; and preventing municipalities from providing broadband beyond their jurisdiction. In Florida, state laws impose taxes on municipal broadband networks that are not imposed on other public utilities or services sold to the public. In Minnesota, a supermajority (65 percent) of voters must approve of municipal telecommunications for projects to proceed. And Nebraska simply bars public entities from providing retail or wholesale broadband products.

While Chattanooga is a dramatic success story, it is unfortunately quite rare. Wilson, North Carolina, followed a similar path, with a broadband network in place since 2008 that was so successful that neighboring communities such as Pinetops requested an extension of its service. As in Chattanooga, the FCC in 2015 attempted to overrule state laws that blocked expansion; and as in Chattanooga, that effort failed. But in this case, the North Carolina legislature went further, passing a law that would require municipal systems to shut down if a

private company entered the market. When a private company did enter, Wilson was forced to shutter its gigabit fiber service.

There are concerted efforts in many states to loosen restrictions on municipal broadband, with some successes. This year, Arkansas lifted many of its barriers to establishing muni networks. But most other efforts have failed or stalled.

These skirmishes, even when unsuccessful, deter leaders from starting up their own systems. In a world of limited time and resources, elected officials and local administrators know their efforts are likely to be met with new state legislation and lawsuits. So they admit defeat before they begin.

AN IMPORTANT FACET OF THE EPB fiber network is its status as just one choice in the marketplace for broadband. Although it is operated by a governmental authority, no consumer is compelled to use it. Other providers continue to compete—Comcast entered with its own high-speed offering in 2017—but every home and business has access to EPB if they choose it.

In their book *The Public Option*, Ganesh Sitaraman and Anne Alstott describe the importance of government programs that guarantee access to important services at a controlled price while existing alongside similar services in the private sector. There are many classic examples, of course, including public schools, the Postal Service, and Social Security. Each is run by the government; each is utilized by wide swaths of the public; and each supplements or competes with nongovernmental entities like private schools, FedEx, and retirement plans.

The case for a public option in broadband internet is strong. In much of the country, public utilities have

already been charged with reliable delivery of electricity and phone services. Doing so requires a major investment in laying fiber cable to every household. Adding broadband services is a natural addition that takes advantage of the economies of scale provided by existing infrastructure.

Critics of public provision of broadband argue that it will lead to a lack of responsiveness to consumer demand and ultimately higher prices because of lack of competition. But muni networks *are* the competition, for private broadband services that are often the only option in a community. If the public broadband plans do not meet consumer needs or are priced too high, private competitors will take their business, and vice versa.

This is the competitive model that conservatives claim to admire. Different providers, with different strengths, competing to provide a good valued by consumers. So why block a natural competitor from entering the market?

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Reliable, fast internet is a necessary service in 2021. It is hard to imagine an individual business or an entire sector thriving without it. In a post-COVID world, we know that remote work has increased, making broadband an even more essential component. And with industry needing computer-savvy workforces, a high-

speed connection for students and families serves a long-term purpose.

Broadband also benefits individuals, making it easier for them to find and apply for jobs as well as have the skills necessary for higher wages. Those who are isolated socially can find connection and supports. And telehealth will continue to grow as a percentage of how Americans access health services.

As a result, politicians across the political spectrum have pledged their desire to include broadband as infrastructure. Former President Donald Trump, for example, campaigned on rural broadband expansion and included it in his infrastructure proposal. Democrats have for years been preaching about the need for more Americans to have access to a high-speed internet connection. Several of the bipartisan proposals being negotiated include some funds for broadband deployment.

Yet for all the speeches, America for the most part treats broadband as a luxury. If broadband is a public good, it is the most unfairly distributed infrastructure in our country. If you live in a relatively dense, middle-class setting, you almost certainly have a provider, albeit perhaps not many choices. On the other hand, if you live in a rural community, or a public-housing complex, you are much more limited. Only 60 percent of Black Americans have a home internet connection, compared to 72 percent of white Americans. Eighty-four percent of earners above \$75,000 possess a connection at home versus 54 percent of those earning less than \$50,000.

America is at a turning point, one where we can start treating high-speed broadband as the infrastructure it is. In the American Jobs Plan, President Biden has proposed spending \$100 billion to get people across the

country connected. As part of the rollout, the White House has emphasized competition and municipal networks, understanding that this kind of investment can reduce cost, heighten equity, and increase transparency.

The recognition that a public option will improve infrastructure for all Americans is the best choice for our country. The proposal ensures that more people have access to a baseline connection. As it has in Chattanooga, it will improve price and quality, the two most critical factors in ensuring wider adoption.

We should all recognize that there will continue to be legal roadblocks to this adoption, with recalcitrant legislators pushing back and litigation funded by special interests. Nevertheless, we now have the opportunity to make good on our rhetoric. Broadband is infrastructure. Like a highway, it's a basic building block, a foundation for economic growth and quality of life. It's time we start treating it that way.

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