

North Branch Meets Demand for High-Speed Internet



BY DEBORAH LYNN BLUMBERG

n the City of North Branch, highspeed internet has been available only to residents in the urban core area. But about 70% of residents — those in a 30-square-mile rural area — have struggled with slow internet or no access at all.

Broadband makes it possible for entrepreneurs to run businesses from home, for students to complete their coursework, and for families to enjoy movie nights using streaming services. During the pandemic, broadband became even more of a necessity, so North Branch found a way to increase access in its underserved areas. The city of nearly 11,000 received a League of Minnesota Cities 2021 City of Excellence Award for the initiative.

Pandemic increases need

Dennis Johnson runs his business. Natural Spaces Domes, from his home and office in the woods. Slow internet was making it increasingly difficult to efficiently run and grow his business.

He couldn't upload product videos to his website or send and receive high-resolution photos. His wife, Tess Hill, who runs a global nonprofit, found herself facing the same problems and was also growing frustrated.

"There were a lot of things we couldn't

do because we didn't have the capacity," Johnson says. "We found workarounds, but we were desperate for high speed. As a business owner, you want to keep up with the current tech, and it's high speed you have to have."

Then came COVID-19. More and more residents found themselves shifting to work from home, while others left their jobs entirely to start their own at-home business. At the same time, students in the city's school system switched to remote learning, a difficult pivot to roll with when high-speed internet is lacking.



The city created a giant light switch for the broadband unveiling. Mayor Jim Swenson, left, and City Administrator Renae Fry were excited to "flip the switch" and turn on the new network.

Exacerbating the situation, the local library and businesses with Wi-Fiincluding the local McDonald's — had to close because of the pandemic. Their Wi-Fi shut down, too, and students could no longer connect from the business parking lots.

"There was no place for the kids to do their work," says North Branch Mayor Jim Swenson.

Swenson and City Council members were thrilled when the city received just over \$800,000 in COVID-19 relief funds from the federal CARES Act, and they

> wanted to dedicate it to improving high-speed internet access in North Branch. Their enthusiasm. however, was short-lived. They soon learned the money couldn't be spent on this project.

But Swenson and team persevered, coming up with a creative solution to be able to take advantage of the CARES Act money and also give residents high-speed internet access while still following the rules.

Growing frustrations

North Branch officials first started hearing from more residents in 2017 about their growing frustrations with slow internet and how it was negatively impacting their lives.

One resident shared that she was trying to make a photo book online to commemorate her son who had recently died, but she just couldn't upload the photos. Other residents said their home-based businesses were suffering because of the internet.

Local real estate agents, too, were having trouble selling certain properties. Clients liked homes in more remote areas, but when they learned there was no high-speed internet access available, they quickly soured on the properties.

"It became pretty obvious that the center core of the city had numerous internet options," says North Branch City Administrator Renae Fry, "but once you got outside the center core, people were relying on their cell phones or dial up. The public expects a systemic solution to internet, like gas or water, and it wasn't really there."

Officials knew the need for better infrastructure would be critical for new housing and development outside the city's center core. They identified improving infrastructure and internet access for residents as a strategic priority.



Ideas in Action

PHOTO COURTESY CITY OF NORTH BRANCH

Then COVID-19, Fry says, "was really the one-two punch." More calls from frustrated residents started coming in. One resident called City Hall in a panic because she was at risk of losing her job because she couldn't efficiently work from home.

Initially, after declaring high-speed internet a priority in 2017, officials researched a wireless delivery solution, but it was too expensive. They tried to apply for regional grants, but many were centered around a fiber solution, which wasn't practical for North Branch, given its geography with many miles in between rural homes.

Swenson says that while fiber does indeed remain the gold standard, it's just not feasible for many communities, making a fixed wireless solution like North Branch's an excellent alternative. "Fiber is just not cost-effective," he says, "so you have to find other ways."

A creative solution

When the CARES Act money came in, officials did their research and were concerned this particular high-speed internet project might not meet the spending parameters of the fund. The clock was ticking to spend the money, though. If they didn't spend it, they'd have to return the funds to the state. City leaders were determined to find a solution.

"We knew we had to get creative," Fry says.

Ultimately, after many meetings and brainstorming, they found a way. They'd use the CARES Act money to pay for public safety worker salaries. That, in turn, would free up money in the city's budget that they could put toward a North Branch broadband plan.

With the plan in place, the city acted quickly to find a partner to create a wireless transmission system. Officials chose to work with a local provider, Genesis Wireless, to install and run the high-speed internet network, and the city ended up spending \$487,000 total for the project.

In January and February of 2021, technicians battled Mother Nature to get footings in the ground to support new broadband towers. They installed three new 120-foot towers, and they put repeaters on two existing city water towers and a Minnesota Department of Transportation tower to transmit the wireless signal to homes. Genesis Wireless worked with pilot customers, including Johnson and Hill, to fine-tune the system. Johnson, who was also a member of the city's high-speed internet task force, builds domed homes for clients across the globe.

Johnson was able to have video calls with clients, but he wanted to record some calls and didn't have the bandwidth for that. He was also unable to upload videos to the com-

pany website. Instead, his employee, who has high-speed internet at home, had to take care of that. Johnson was spending too much time coming up with workarounds.

Spreading the word

Technicians spent hours on Johnson's 50-acre former Christmas tree farm experimenting with a variety of antennas to get a signal to his office. In the end, they were able to get a signal from a nearby electric pole and also buried a fiber line to his office. In April, installation of the system throughout the city was complete.

"It's unbelievable," Johnson says. "It's made a world of difference, it changed everything." Now, Johnson can livestream dome tours and share his screen, showing clients plans and pictures. His wife can easily upload images to the website of the nonprofit she runs. They've both

ON THE WEB

this North Branch

Watch a video about

project at **www.lmc.** org/north-branch.

reclaimed lost time spent waiting for the internet.

The city hosted an unveiling of the new system on Johnson's property in April. It was attended by U.S. Rep. Pete Stauber, State Sen.

Mark Koran, and State Rep. Anne Neu. Swenson says the high-speed internet project was remarkable because officials from both political parties came together to help solve the problem.



This is one of three towers that serve the new broadband network.

At the unveiling event, Johnson showed on a 27-inch screen how his download speed was now a rapid 500 megabits per second (Mbps) and his upload speed was 660 Mbps. "You saw jaws drop," he says. Now, with more people on the network, his speed has dropped to around 150 to 190 Mbps for downloads and 180 to 200 Mbps for uploads.

But "that's still phenomenal," he says. "Those that are signed up absolutely love the system."

Residents can pick from three internet speeds and price structures, ranging from \$45 a month to \$100 a month, fees that are less than both satellite and cellular.

For city officials, the current challenge is spreading the word about the new system, and they're working with Genesis on a marketing plan. One idea

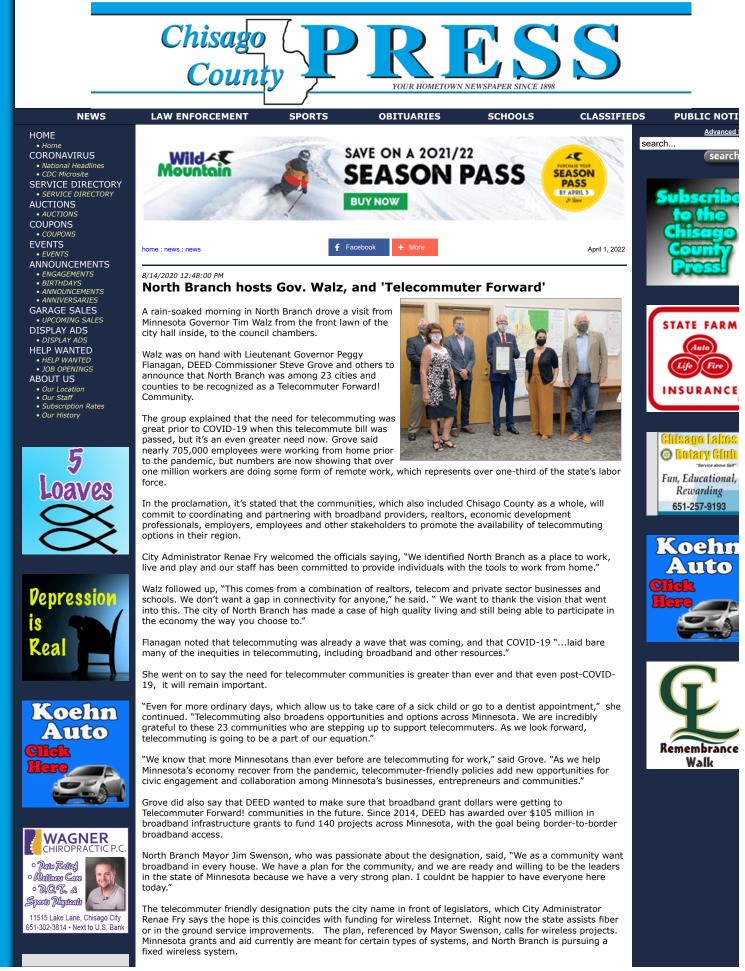
> is to include flyers on the high-speed internet service along with residents' water or gas bills.

> "Broadband was a luxury a few years ago, but now it's turned into a neces-

sity," Swenson says. "Everybody needs it. ... I'm extremely proud of what we've accomplished."

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