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## In New York, Bringing Broadband to Everyone by 2018

By NICK CORASANITI MARCH 20, 2017

HALCOTT, N.Y. — It's about 15 miles from here to a dairy testing facility in Roxbury, or about one hour and 20 minutes round trip if you know these dusty mountain back roads like Chris DiBenedetto, a dairy farmer. He has been going back and forth for years, ferrying a sample of fresh milk for a federally mandated drug test before he can start processing each batch.

But what stressed him the most were the valuable daylight farming hours lost to the journey, while he was stuck in his car or waiting for the results.

Now, Mr. DiBenedetto gives a sample to a driver heading that way to do the drop-off, letting the new fiber wiring hanging over his old route do the simple document delivery for him via email.

The dairy farmer in this speck of a town about 140 miles north of New York City was one of the first beneficiaries of an ambitious initiative to extend broadband to every household in the state by 2018 - nomatter how rural or far-flung the address — which would make New York the first state to reach that highspeed internet milestone.

For years, this town was like many isolated spots in New York and across the country, left sitting on the shoulders of the digital highway unable to access the broadband speeds that so many businesses and households count on. But now under a state-led program, towns like Halcott, with fewer than 300 residents, are getting wired, giving residents faster access to the internet and opening new opportunities for businesses.

Two Stones Farm, a small goat farm here, has created an online store to offer more products, including artisanal cheese. "I look at it this way: It's very much like electricity was at one time," said Alan White, 54, who owns Two Stones Farm with his wife. "Electricity would have never come to our valley if it was based strictly on population. It's not a luxury. It's a necessity that we need to operate."

For those used to having broadband at their disposal, it is hard to imagine not being able to Skype for a job interview, send messages on LinkedIn or Facebook, download an eTextbook, upload a homework project or binge-watch on Netflix. But about 12.6 million American households lack access to broadband, according to a study last year by the Federal Communications Commission, which has classified broadband as a type of utility, similar to telephones.

The problem is worse in poorer and rural areas: At least 30 percent of people in Mississippi and Arkansas do not have access to broadband, and sparsely populated states like Montana have similar access rates.

While President Trump's pledge to rebuild the nation's infrastructure has focused largely on roads, bridges and airports, the need to expand the broadband network is just as dire. The United States ranks 15th in broadband connectivity, behind countries such as South Korea and Canada, according to a 2011 study from the Organisation for Economic Co-operation and Development.

The challenge in the United States is that it has vast tracts of sparsely populated regions where the cost of laying new fiber and cable wiring for broadband significantly outweighs the profits — 39 percent of Americans living in rural areas lack broadband access, compared with 4 percent of those living in cities, according to the F.C.C.

Under Gov. Andrew M. Cuomo's "Broadband for All" initiative, New York's program is one of the most aggressive broadband expansions in the country, and is designed to help stem any losses a private company incurs through what is known as a reverse auction process.

Using data from the Federal Communications Commission to identify both unserved and underserved areas, the program divides the state into census blocks. The state then auctions off grant money for each census block, awarding the financing to the private company that seeks the lowest state subsidy.

The system has attracted different providers, including major telecommunication companies like Fairpoint and Frontier, as well as smaller utilities like Middleburgh Telephone Company, known as Midtel, and Margaretville Telephone Company.

Along the two-lane roads winding through Delaware County in the Catskills, Midtel trucks are following a path similar to one they took years ago, threading fiber optic cables for broadband across the valley.

"All the served, underserved and unserved areas don't end up in a nice row," said Jim Becker, the president of the company, which has existed for more than a century and is still overseen by his 94-year-old grandmother, Marge Becker. "Sometimes you have to build through somewhat of a served area to get to an unserved, and vice versa."

Turning on broadband can transform lives in rural places.

Here in Halcott, a hamlet in the Catskills, the broadband has allowed Mr. DiBenedetto to broaden his business online — a yogurt company in Brooklyn recently contacted him about a single source contract. His daughter, Elena, was able to help out on the farm while getting a master's degree online.

"In today's technology-driven world, access to high-speed internet is essential to building strong communities, growing the economy and supporting our everyday lives," Governor Cuomo said. "New York is leading the nation with the largest state broadband investment program in history — ensuring high-speed internet access for all residents, especially those in rural areas, and empowering students, entrepreneurs and businesses to thrive in our global economy."

So far, the state's partnerships with private companies have worked relatively well and have enabled the program to make steady progress. But that has not always been the case when local governments have relied on private companies to upgrade internet networks. Though it was not a part of Mr. Cuomo's plan, Mayor

Bill de Blasio was forced to sue Verizon this month after the company failed to build out its promised fiberoptic network to every home in New York City.

And while widening the broadband infrastructure is an essential step toward bridging the digital divide, simply ensuring access does not address the issue of affordability, especially since the F.C.C. is considering slashing parts of a federal program, known as Lifeline, that is meant to help provide affordable broadband to low-income residents.

Under New York's program, providers must offer 100 mbps speed — fast enough to download a movie in high definition in 90 seconds — for \$60 a month. "That's pretty amazing," said Gigi Sohn, a former senior adviser at the F.C.C., acknowledging that it was a reasonable price given that prices elsewhere could be much higher. "But if you're really poor, can you afford it? I don't know. If you are a poor rural person living in Appalachia, that's a big bite out of your budget."

But many rural businesses in New York have jumped at the chance for faster internet.

About an hour from Halcott lies the Beaverkill Valley Inn, a historic hotel sitting on the banks of the Beaver Kill river, a world-famous fly-fishing spot in Lew Beach, N.Y. There's no cellphone service, so for years the inn and its guests shared a satellite internet connection.

"We were competing with our guests' need and our own need to do business," said Kathy Bryant, one of the inn's managers. She noted that despite a sprawling property well suited for corporate retreats and meetings, the inn was unable to attract such business because of its limited internet.

After years of pleading with local officials and telecommunications providers for a broadband connection, the inn was connected to high-speed internet by the Margaretville Telephone Company last August. Today, flush with retreats, weddings and guests spending an extra day or so "working from home," the inn just had the most successful year in its 120-year history.

"Now, we just reassure them that they can still unplug while they're up here," Ms. Bryant said with a laugh.

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