

# Broadband for All: Connecting Everyone, Everywhere to the Digital Economy



**Kelsey Berkowitz**  
Policy Advisor, Economic Program



**Gabe Horwitz**  
Senior Vice President for the Economic Program  
[@HorwitzGabe](https://twitter.com/HorwitzGabe)

## Executive Summary

America used to set ambitious goals and do big things. In the 1930s, we embarked on a massive rural electrification push to connect every American to power. In the 1950s, we built a system of highways to connect communities across the country. Now we need a new and equally ambitious effort to connect every single American to broadband and the digital age.

- Today, an astounding 24 million Americans don't have high-speed broadband available to them, and 28 million low-income families aren't getting the assistance they need to afford it.<sup>1 2</sup>

- This barrier prevents entrepreneurs in rural areas from starting businesses, children from doing homework, job-seekers from applying for jobs online, students from taking online courses, farmers from growing more crops with fewer resources, and rural patients from consulting with their doctors via telemedicine.
- Broadband has failed to reach all Americans for three primary reasons: excessive regulatory roadblocks, a lack of market incentives to reach remote areas, and squandered federal support.
- Broadband for All will ensure that every household in America has access to high-speed broadband within two years. This national effort would be accomplished through two sweeping actions: a **Broadband Construction Surge** and **Automatic Access**.
  - The Broadband Construction Surge will ensure broadband availability through a national “Quick Build” promise to tear down barriers to construction, \$45 billion to support broadband projects in hard-to-serve areas, and freed-up spectrum to connect all Americans through an array of technologies.
  - Automatic Access will ensure broadband affordability. It will automatically enroll low-income families in discounted broadband support and provide them with a one-time voucher to help pay for a low-cost computer.

The internet is a necessity in the digital economy. Having an internet connection at home means entrepreneurs in rural areas can start businesses, job-seekers can apply for jobs online, students can take online courses, farmers can grow

more crops with fewer resources, and rural patients can consult with their doctors via telemedicine. But 24 million Americans don't have high-speed broadband available to them, and millions struggle to afford it even when it is available. Because of that, these Americans lack equal opportunity in the 21st century.

To help all Americans access the opportunity to earn a good life in the digital age, we need a national campaign to link everyone to broadband infrastructure in just two years. As we noted in [A Social Contract for the Digital Age](#), Broadband for All would finally close the digital divide, rejuvenate faith in America, and pave the way for additional infrastructure projects in the years ahead.

## The Problem

Many people reading this report—or doing homework, applying for a business loan, or reviewing medical charts—are doing it online. But for too many Americans, that's not possible. **That's because for 24 million Americans, broadband is not available in their communities.** To give you a sense of how big this problem is, this number is roughly the size of the populations within the city limits of New York City, Los Angeles, Chicago, Houston, Phoenix, Philadelphia, San Antonio and San Diego combined. On top of this, millions of families struggle to afford broadband even when it is available.

Research on the economic effects of broadband has found that gaining access to broadband corresponds to a higher employment rate, with larger effects in rural and remote areas.<sup>3 4</sup> This makes sense given that Americans who lack access to high-speed broadband may not be able to do things like search and apply for jobs, take online courses, and develop digital literacy—all of which could impact their employment prospects. A 2015 Pew survey found that 30% of people without broadband at home felt it would be difficult to fill out a

job application online, compared to 6% of people with broadband at home. Similarly, 27% of people without broadband at home felt it would be difficult to find available jobs in their area online, compared to 7% of people with broadband at home.<sup>5</sup> For people who have lost their job, using the internet to look for a new job can cut down on the time they spend unemployed.<sup>6</sup>

While lack of broadband affects Americans all over the country, four trends help explain who is more greatly affected:

- **Lack of broadband availability is a much bigger problem in rural areas.** According to the Federal Communications Commission (FCC), 31% of Americans in rural areas and 35% of Americans on tribal lands lack broadband availability, compared to only 2% of Americans in urban areas. The more rural and less populated a county is, the less likely it has to have broadband availability. In counties where more of the population is rural, 53% of people have broadband availability, compared to 92% of people in counties where the population is less rural.<sup>7</sup>
- **Low-income areas are less likely to be connected.** In counties with the lowest median household incomes, 58% of people have broadband available to them, compared to 84% in counties with the highest median household incomes.<sup>8</sup> Lower-income households with school-aged children are also less likely to have broadband at home. Among households with school-age children and annual incomes under \$50,000, about 31% lack broadband at home, compared to just 8% of households with school-age children and annual incomes above \$50,000.<sup>9</sup>

- **People of color are less likely to be connected.** African American, Native American, and Hispanic households are less likely to have internet access at home compared to both the national average and their white and Asian peers. Among white households with school-age children, 88% have broadband at home, compared to 72% of African American households and 72% of Hispanic households.<sup>10</sup>
- **Access to broadband also differs based on education.** Households headed by people with less than a high school diploma are less likely to have access to home internet compared to people with at least a college diploma.<sup>11</sup>

Why does this problem exist? Broadband has failed to reach all Americans for three primary reasons: regulatory roadblocks, market incentives, and ineffective federal support.

In 2015, Pew estimated that roughly five million households with school-age children do not have high-speed internet at home, at a time when 70% of teachers assign homework that requires an internet connection.<sup>12 13</sup>

## **Excessive Regulatory Roadblocks**

Broadband providers face a series of obstacles in building out to new communities. This starts with lengthy wait times for governments to review and approve projects, often delaying construction. For any given broadband project, a broadband provider might need to get approvals and permits from a number of state, local, and/or federal agencies. For example, a broadband provider that wants to dig up public roads or sidewalks to lay fiber would need to get approval from state and local governments to do so. Getting that approval may take months, if not longer. When broadband providers face delays in getting permits and approvals, this creates

uncertainty about the viability of their projects and makes those projects more expensive.

Many broadband providers also face state, local, and federal fees that are excessive or unpredictable, and it is not always clear how government agencies calculated these fees.<sup>14</sup>

Excessive and unpredictable fees can delay broadband projects or stop them altogether, and they ultimately reduce the number of broadband providers that can afford to take on broadband projects.

Building out broadband often requires providers to attach their equipment to utility poles, a cumbersome process that can dramatically slow projects. Until recently, when a new broadband provider wanted to attach wires to a utility pole, every company that already had wires attached to that pole had to individually visit the pole and move their wires to create space for the new provider. Each company had two months to complete this make-ready work, and the new provider could not attach its wires to the pole until all existing providers agreed the pole was ready. Because of the many rules involved in this process, make-ready work that could have been completed in just a day ended up taking much longer, sometimes several months longer.<sup>15</sup>

The FCC has taken initial steps to address this barrier. In August 2018, the FCC approved a proposal to implement a One-Touch-Make-Ready policy in an effort to streamline the make-ready process. Under the new One-Touch-Make-Ready policy, new providers can choose a single contractor to perform make-ready work. This will cut down on the time needed to attach new wires and allow new broadband providers to get their services up and running more quickly. However, while the FCC's new policy is a positive step forward, it does not apply to all utility poles across the country.

## **Delays Everywhere**

Southern Light is a broadband provider based in Mobile, Alabama that serves communities in Florida, Alabama, Louisiana, Georgia, and Mississippi. To lay fiber, Southern Light must seek permits from state and local agencies, and permitting times can vary across and even with agencies. Getting a permit from the Alabama Department of Transportation (ALDOT) took Southern Light an average of 31 days in 2013, but took over 50 days in 2017. Even within ALDOT, getting a permit from the agency's North Region took 114 days compared to 33 days from the Southwest Region.<sup>16</sup>

InterConnect Towers is a wireless infrastructure provider that has been providing wireless broadband on federal land since 1998. The company has 30 applications with the Bureau of Land Management (BLM) to place wireless towers at sites across California, Nevada, and Arizona. These applications have been awaiting BLM approval since 2013.<sup>17</sup>

## **Lack of Market Incentives in Remote Areas**

Even if every permitting process in the country was improved, there are still areas of our country that are so sparsely populated that it would not make business sense for broadband providers to take on projects in those areas. Regions of the country where few people live, and live far away from one another, are the hardest for broadband providers to serve. The large distance from one neighbor to another means that physically constructing broadband infrastructure is more expensive. On top of that, the fact that there are fewer people in the area means fewer potential subscribers who will ultimately pay for internet service and allow the provider to recover those costs. As a result, there are many areas of the country that broadband providers choose not to serve.<sup>18</sup> Rural areas with broadband availability have an average population density of 216 people per square mile,

while rural areas without broadband availability have an average population density of 79 people per square mile.<sup>19</sup>

## **Squandered Federal Support**

Because of the economic imperative of connecting more people, the government has stepped in to encourage providers to deploy broadband in hard-to-serve areas. However, these programs have often failed to actually connect more Americans to broadband, and have squandered funding in the process.

Take, for example, the US Department of Agriculture's Rural Utilities Service (RUS) which administers broadband grant and loan programs that are intended to close the rural broadband gap. Between 2003 and 2005, 31% of communities served by RUS loans already had broadband.<sup>20</sup>

In 2009, RUS received \$3 billion to fund the Broadband Initiatives Program (BIP) to incentivize broadband providers to take on projects in rural areas. By September 2010, RUS had awarded loans and grants to 320 projects that were supposed to connect 847,000 Americans to new or upgraded broadband. And yet, over the next six years, the RUS oversaw dozens of project terminations, awardees' financial problems, and massive construction delays. The result was a fraction of initial estimates: broadband (or upgraded existing broadband) for 213,000 households. However, RUS did not collect information from awardees on whether those 213,000 households were in areas that were unserved or already had broadband, so there is no way to know if the stimulus dollars provided to the BIP actually had an impact on the rural broadband gap.<sup>21 22</sup>

## **The Solution: Broadband for All**

Broadband for All will ensure that everyone, everywhere has access to high-speed broadband within two years. This national effort would be accomplished through two sweeping actions: a **Broadband Construction Surge** and **Automatic Access**.



# Broadband Construction Surge

The Broadband Construction Surge will ensure broadband availability. To accomplish this:

**First, a national “Quick Build” promise will tear down barriers to construction that currently exist at all levels of government.** To reduce permitting delays at the federal level, Congress should require federal agencies to approve broadband applications within a certain time frame, known as a shot clock. If an agency fails to meet this time frame then the application should be automatically approved. Federal agencies should also be required to publish fees on their websites with explanations for how those fees were calculated—and those fees should be used to hire the staff needed to cut down on application review times.

Structural changes also need to be made at the state level to build broadband more quickly and efficiently. States and localities should be encouraged to develop ways to streamline their permitting processes and approve applications faster. This should include shot clocks for reviewing applications and requirements for state and local agencies to publish fees on their websites with explanations for how those fees were calculated. In cases where states and localities refuse to streamline their permitting processes to deploy broadband faster, the federal government should withhold highway funding until they do.

**Second, \$45 billion in federal funding will be provided to support broadband projects in hard-to-serve areas.** Because it is far more difficult for providers to recoup costs to build out to remote communities, the federal government needs to step in and realign market incentives to these areas. This figure is based on estimates of how much federal capital is needed to close the broadband gap, which range from \$10 billion to \$80 billion, but new data could give us a better sense of how much funding this effort will ultimately require.<sup>23 24</sup> For now, what is clear is that a sizable investment will be needed to get the job done once and for all. And to ensure this funding is deployed efficiently,

subsidies should be awarded through a reverse auction, an efficient and fast way to deploy federal capital.

In a reverse auction, the government accepts bids from broadband providers and awards subsidies to those providers that commit to serve the greatest number of unserved communities for the lowest subsidy per household. A reverse auction would be a faster and more efficient way of distributing federal broadband subsidies than a traditional grant process, allowing us to get all Americans connected to broadband in a short time-frame while still distributing those subsidies responsibly.

The FCC, which already has experience administering reverse auctions, is the most appropriate federal agency to take on the role of administering the Broadband for All reverse auction. The auction should not discriminate between different providers or technologies—everyone and everything that could potentially serve communities lacking broadband should be able to participate. And to get the most out of these federal dollars, they should be awarded to broadband providers that will connect the most unserved homes for the lowest subsidy.

## **Auction vs. Grant Process**

A traditional grant process can be both slow and subjective as the federal agency has to spend time reviewing complex grant applications that are difficult to evaluate and compare. A reverse auction is simpler because, after the federal agency establishes auction rules and bid criteria, it would be able to evaluate bids based on the size of the subsidies bidders say they need to build out broadband in a certain area. The structure of a reverse auction also means that each entity awarded a subsidy would not receive more subsidy dollars than they really need to complete their project.

**Third, spectrum will be freed up to allow broadband providers to connect all Americans to the internet through an array of technologies.** One of the keys to delivering more broadband to more places lies in spectrum—electromagnetic waves that can be used to transmit voice, text, and video.<sup>25</sup> Fixed wireless networks, satellites, and TV white spaces can all play a role in delivering broadband to areas that currently lack service, and all rely on the use of spectrum.

In fixed wireless networks, wireless towers use spectrum to send a radio signal to homes and businesses that have a receiving antenna on their roofs. For satellite broadband, a satellite orbiting the earth uses spectrum to connect broadband providers to homes that have satellite dishes on their roofs. Providers can also deliver broadband by using the spectrum in between TV channels, otherwise known as TV white spaces.

Broadband for All would direct the FCC and National Telecommunications and Information Administration (NTIA) to make more spectrum available and promote innovation. This can be done by opening up currently unused bands, transitioning bands from federal use to commercial use where possible, and allowing commercial users to share spectrum bands with federal agencies when reassignment is not feasible. The agencies should free up spectrum in a thoughtful, responsible way, providing government agencies with sufficient spectrum for their purposes and reimbursing or relocating current spectrum users fairly and in a timely manner. The FCC should also work to ensure that there is enough spectrum available for both licensed and unlicensed use.

## **Automatic Access**

Automatic Access will ensure broadband affordability through the following steps:

**First, low-income households eligible for the FCC's Lifeline program will be automatically enrolled in it.** The FCC's Lifeline program promotes broadband adoption by providing

discounts to eligible low-income households for wired or wireless phone service, and in 2016 the FCC expanded the program to include broadband. The Lifeline discount for eligible subscribers is currently \$9.25 per month per household. In 2017, Lifeline provided \$1.3 billion in subsidies to 11 million households.<sup>26 27</sup> To be eligible for the Lifeline program a household's income must be at or below 135% of the federal poverty level (\$33,885 for a family of four) or participate in programs such as Medicaid and the Supplemental Nutrition Assistance Program (SNAP).<sup>28</sup>

The Lifeline program is critical, but it is not serving near enough families. In 2017, an estimated 39 million households were eligible for Lifeline, but only 11 million households actually participated—a 28% participation rate.<sup>29</sup>

Lifeline needs to be expanded so that all 39 million households eligible for support are automatically enrolled to boost participation. To accomplish that, when people apply for low-income assistance programs such as SNAP or Medicaid, they should be automatically provided with a Lifeline discount for broadband service. Tying Lifeline enrollment more closely to enrollment in qualifying programs like SNAP and Medicaid can help cut down on the number of households receiving Lifeline benefits when they are not eligible. Still, it will be crucial to have effective eligibility verification systems in place to ensure only eligible households receive Lifeline benefits. If all households that were eligible for Lifeline participated in the program, Lifeline subsidies would increase by roughly \$3.1 billion, to \$4.4 billion per year.<sup>30</sup> And the FCC should be prevented from raiding this funding for low-income families in favor of build out or other initiatives.

**Second, all low-income households eligible for Lifeline will receive help getting a low-cost computer to finally erase the digital divide.** Congress should provide a one-time infusion of \$6 billion into the Lifeline program to give each Lifeline-eligible household a one-time \$150-voucher to help pay for a basic computer. In 2016, 96% of households with incomes of

\$150,000 or higher had a desktop or laptop computer and 96% had a broadband Internet subscription. By contrast, 51% of households earning less than \$25,000 had a desktop or laptop computer and 58% had a broadband internet subscription. Fifty-five percent of households earning less than \$25,000 had a smartphone, but smartphones were not built for activities like writing a resume or cover letter.<sup>31</sup> Policymakers should use Lifeline as a vehicle to get low-income Americans connected to not only broadband but also to the devices that will allow them to take advantage of broadband.

## **Cost and Financing**

Altogether, Broadband for All would likely cost around \$82 billion over a ten-year period. This can be financed in part through spectrum auction proceeds. While many of the funds generated from previous spectrum auctions have often gone toward deficit reduction, at least a portion of the proceeds from upcoming spectrum auctions should also go toward federal broadband subsidies that will encourage broadband providers to serve sparsely populated areas. Broadband for All can also be financed by broadening the base of our tax code and eliminating tax provisions that are tilted toward special interests, such as the expanded estate tax deduction.

## **Conclusion**

Access to high-speed broadband is no longer a luxury—it's a necessity if all Americans are going to be able to participate in the 21st century economy. By removing barriers, making federal subsidies available, freeing up spectrum, and ensuring that low-income households can afford broadband, we can get all Americans connected to broadband in two years and give everyone a fair shot at the economic opportunities that come with broadband.

### **ENDNOTES**

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In this paper we use the FCC’s commonly-used standard for assessing whether someone has broadband availability in his or her community. We consider someone to have broadband availability if fixed broadband service is available in his or her community with download speeds of at least 25 megabits per second and upload speeds of at least 3 megabits per second. We focus on fixed broadband instead of mobile because, from an economic opportunity standpoint, having fixed broadband makes it easier to do things like search and apply for jobs online.

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Also note: Some of these households may have broadband available for purchase in their areas but may choose not to do so because of cost.

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