

Kennedy School Review

In This Issue:

- 8 | Understanding the Biden Win from an Aesthetic Perspective
- 85 | A Clash between Classical Liberalism, Public Health, and the Constitution
- 56 | On Race, Womanhood, and Medicine

20 — 20
20 21

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America's Digital Divide

Jeremy Ney

Connecting more American households to the internet will expand opportunity and prosperity in a big way.

The COVID-19 pandemic has shown that without reliable internet access, Americans often cannot work, attend school, or access telehealth support. If you've ever felt the frustration of losing your Wi-Fi or getting caught in a dead zone, you've had a glimpse into the pain that millions of Americans experience every day. The difference is that many families cannot reset the router and carry on with their lives.

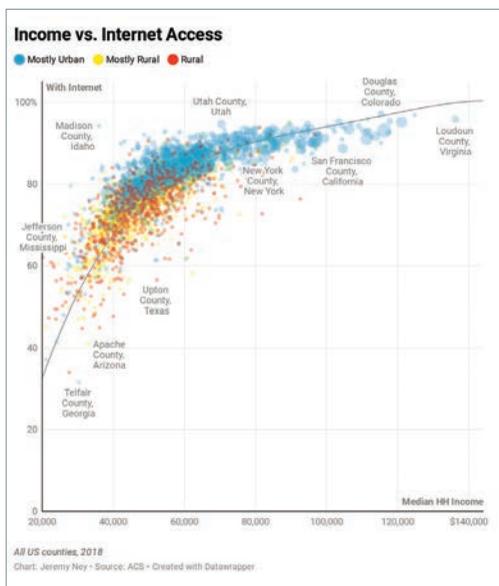
According to the Federal Communications Com-

mission (FCC), 21 million Americans and 10 million school-age children do not have internet access.¹ This means that 15 percent of American children will not have the same education as their peers, will struggle academically, and will have fewer economic opportunities as they grow older. The challenges of the digital divide are growing.

Low-income communities are the least connected in America. New data analysis reveals a 75 percent correlation between median household income and broadband access across all US counties. Many of these counties tend to be rural or tribal regions where there are fewer jobs and less public infrastructure. A

child born into a county with a median income of \$35,000 has a coin-flip chance of having any internet connection.

Douglas County, Colorado, and Telfair County, Georgia, are prime examples of the digital divide, since they are the best and worst connected counties in the country. Douglas has 97 percent connectivity, sits right outside Denver, and has a median income of \$115,314; Telfair has 32 percent connectivity, sits 100 miles from the nearest city, and has a median income of \$30,288. The digital divide maps almost exactly to the country’s economic divide. Loudoun County, Virginia, the richest county in America, just ordered 15,000 Chromebooks for its students in May 2020, while Telfair County has seen no such support.²



The problem is worse than policy makers realize. The FCC has historically underestimated the number of connected households, and even some of the agency’s own commissioners have dismissed FCC reports as “blindly accepting incorrect data.”³ The

“... internet inequality had critical implications for people’s education, health, careers, and access to government services.”

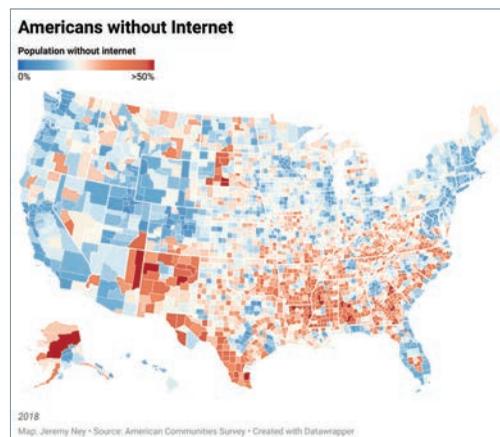
FCC measures connectivity by census block, which means that if an internet service provider (ISP) offers service to at least one household in a census block, the FCC counts the entire census block as covered by that provider. The FCC acknowledges this measurement error and is working with ISPs to fix it.⁴

BroadBandNow, an internet watchdog that conducts digital divide research, instead calculates that 42 million Americans lack internet access, double the official estimate.⁵

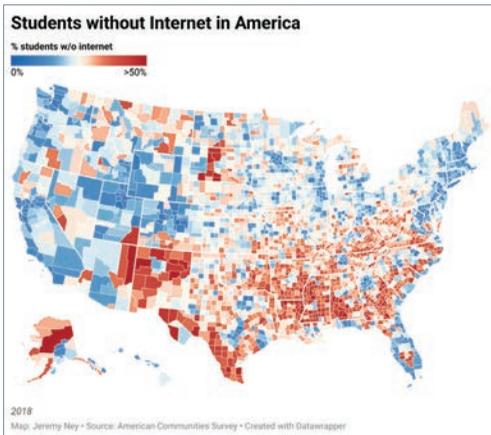
Students, Income Inequality, and the Internet

Students in low-income communities suffer the most. In Robeson County, North Carolina, the median income is \$33,679, putting it in the poorest 5 percent of counties. Students there spend weeks trying to get Wi-Fi hotspots to turn in homework. 43 percent of the county’s 27,000 students have no internet. In November, the *New York Times* interviewed a school superintendent in Robeson who cited unaffordable access and a lack of cell towers: “It’s un-American. I can’t wrap my head around the fact that we live in a place where you have all this technology, yet we have families who can’t access the internet in the comfort of their home.”⁶

While the digital divide is often seen as a rural challenge, students in cities feel the pain too. In August 2020, a photo went viral after two girls in Los Angeles were seen studying on the ground in a Taco Bell parking lot to use the nearby Wi-Fi.⁷ These



children were just two of the 268,000 students in Los Angeles County without internet. James Steyer, CEO of Common Sense Media, summarized the internet-inequality dilemma, saying, “The tragedy is this is not a Democratic or Republican problem. It is simply not fair that a poor family in a rural area or a low-income urban area does not have the resources to send their kids to school in this pandemic.”⁸



Income inequality is increasing in America, which widens the digital divide. When income inequality grows, fewer families can afford broadband plans or purchase connected devices, fewer ISPs compete in low-income areas, and more people move into poorly connected affordable housing.^{9,10} But increasing internet access can actually reduce inequality. One Brookings study in the United States showed that increasing internet penetration by 1 percent can increase employment by 0.3 percent, creating jobs for 405,000 people.¹¹ In this study, families used this newfound access to search for jobs, health care, training, and government support.

This study confirms the findings of a 2010 Gates Foundation study of 77 million people who could not access the internet at home and thus relied on the internet at public libraries. The study found that 32 million people (42 percent of visitors) sought out educational help on the library computers, 37 percent of whom used these computers to do homework for a class. Meanwhile, 30 million people (40 percent of visitors) used the internet to apply for jobs, with

“Just as Thomas Edison put electricity in every home, so too can America achieve universal internet access.”

75 percent searching online for a job and 51 percent submitting a resume. Additionally, 28 million people (37 percent of visitors) used library computers for health issues: 82 percent of these respondents logged on to learn about a disease, illness, or medical condition, and 33 percent searched for doctors or health care providers.¹² Overall, even before the pandemic pushed everyone online, internet inequality had critical implications for people’s education, health, careers, and access to government services.

The Landscape of Solutions

Three different tactics have been deployed to address the digital divide: public, private, and nonprofit. These three domains will have to work in tandem to address the highly correlated challenge of income inequality and internet inequality. The best solutions are to provide hotspots to students, to subsidize the cost of connecting low-income communities, and to increase competition in broadband markets to drive down prices.

Public-Sector Solutions

In June 2020, Representative Jim Clyburn introduced a \$100 billion bill (H.R. 7302), which would authorize the construction of high-speed internet in rural communities.¹³ This bill is the largest ever Congressional effort to address internet inequality, with \$80 billion in broadband infrastructure spending and the rest of the money going toward more affordable and accessible options. Congress is not the only government entity acting to solve this challenge. The Department of Agriculture has created a Rural Utilities Service and Broadband ReConnect Program; the Department of Commerce has deployed billions through its Broadband Technologies Opportunity Program and State Broadband Initiative; and the FCC similarly has helped ISPs set up networks through its Universal Service Fund and Connect America Fund as well

as assisting families through its E-Rate program and \$9.95/month subsidy through Lifeline.

Private-Sector Solutions

ISPs like Verizon, AT&T, and Comcast have created various programs to increase coverage and close the digital divide. Comcast's Internet Essentials program offers low-cost 25 Mbps internet for \$9.95/month to households that can show they've used public assistance programs like housing assistance or food stamps. ISPs typically rely on government support to connect rural areas since this can be costly, just like it was when America first started electrifying rural areas.¹⁴ While fiber has the potential to provide cheaper and faster internet, it has not yet shown promising results, and the cost of laying fiberoptic cables can run \$50–\$500 per foot.¹⁵

Nonprofit Solutions

US nonprofits have focused on both short-term and long-term solutions. In the short-term, nonprofits like Mobile Citizen, Mobile Beacon, and No One Left Offline have helped deploy Wi-Fi hotspots and affordable internet plans to families in need. They have also helped schools put Wi-Fi networks on school buses so children can park nearby to complete homework. Nonprofits have also assisted cities and towns in creating their own municipal networks by setting up towers and negotiating contracts. These municipal networks often increase competition, thereby lowering prices.¹⁶ Some of these efforts have recently run into setbacks. 22 states actually ban municipal broadband, meaning that private companies have to be the ones to provide internet.

The Path Forward

When Thomas Edison helped electrify the country, he revolutionized the way that Americans work. Electric dishwashers and washing machines gave hours back to people every day. People worked longer hours under the shine of light bulbs, and a new industry of public utilities emerged. While it was expensive to run electrical cables to rural areas

or low-income neighborhoods that struggled with high prices, electricity radically improved daily life.

The public, private, and nonprofit sectors can work together again to bring internet connectivity to millions. Just as Thomas Edison put electricity in every home, so too can America achieve universal internet access with congressional funding, ISP infrastructure, and nonprofit community engagement. Now, the focus must be on students, as programs that invest in children have the highest returns.¹⁷ This is particularly true of programs that target regions with both the highest number of children without internet and the lowest internet penetration. While low-income families and students suffer the most from lack of internet access, solutions to increase connectivity have the potential to bridge America's digital divide.

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