Good Internet Would be Pretty Cool: A Policy Proposal to Expand Internet Access

by
Matthew Easdale

A THESIS

submitted to

Oregon State University

Honors College

in partial fulfillment of
the requirements for the
degree of

Honors Baccalaureate of Science in Environmental Economics and Policy
Honors Baccalaureate of Fine Arts in Political Science
(Honors Associate)

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Matthew Easdale for the degree of Honors Baccalaureate of Science in Environmental Economics and Policy and of Fine Arts in Political Science presented on May 28, 2020. Title: Good Internet Would be Pretty Cool: A Policy Proposal to Expand Internet Access.

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Fast, reliable internet access is shown to have numerous economic benefits, including contributing to growth, increasing GDP, decreasing unemployment and depopulation of rural areas, and encouraging competition. However, in the United States there are large sections of the population that are left severely underserved – mostly rural, low-income, and minority communities. This paper outlines the benefits of the expansion of internet coverage, the current state of coverage in the U.S., and proposes a potential solution to the distributive issues currently present.

Key Words: Internet, Internet Access, Digital Redlining, Digital Divide

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I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

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Matthew Easdale, Author

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I would like to thank Comcast; whose terrible Internet was the inspiration behind this project.

Introduction

The Internet has become a fixture of 21st Century society in recent decades and access to it has become a crucial piece of daily living for most Americans. Everything from communication to culture has been affected by the dissemination of the Internet into everyday life. It is hard to go through a normal day without checking email, scrolling through social media, or watching content or playing videogames online. The vast quantity of information available online has been vital to the writing of this paper (and the equally vast amount of content has been a major hinderance to it).

The Internet has also had a massive impact on the economy, with access online being tied to many positive indicators, such as decreased unemployment and increased GDP. However, opportunity to access the Internet is not equal for everyone. Rural communities and minority neighborhoods, because of geographic isolation, low-incomes, and racism, have significantly less likely to have access to vast, reliable broadband, severely hindering the areas' ability to reap the benefits access online brings. Therefore, investment into broadband infrastructure in underserved areas is an enormous opportunity to mitigate the digital divide and aid disadvantaged communities. Beginning with a review of the economic benefits of fast, reliable Internet access and the existing disparities in access this paper will then propose that a policy based on the Rural Electrification Act of 1936 be used to invest in the expansion of broadband infrastructure with a focus on community-owned networks to increase coverage and address the digital divide. Through no-interest loans, the FCC would fund local-level broadband networks to provide Internet services. To get a general understanding of the success community-owned broadband can have, this paper takes a brief glimpse at the NextLight municipal broadband system in Longmont, Colorado. To conclude there will be a discussion of some of the limitations and additional considerations of this proposed policy.

Economic Benefits of Internet Access

Besides providing an unlimited number of memes and cat videos, reliable access to Internet has significant, measurable impacts on many macro-level economic indicators and provides tools and opportunities for individuals and families to improve their situations. This section catalogs the benefits resulting from viable internet access, beginning at the macro-level, and working downwards to a smaller scale.

Since the 1990s, the Internet has become an integral component of all parts of the modern economy. The Federal Communication Commission's 2010 National Broadband Plan described access to the Internet as "a foundation for economic growth, job creation, global competitiveness, and a better way of life" (FCC, 2010). The Internet has been a massive driver of economic growth in the previous few decades, with evidence suggesting a strong positive correlation between internet penetration in an economy and growth. Faster communication through email and quick, cheap access to data and information have contributed to growth by building networks, fostering business, improving labor markets, increasing competition, and stimulating innovation (Chu, 2013). Additional research suggests that increased internet access is also associated with higher levels of GDP and lower levels of unemployment, especially with industries that are heavily reliant on computers (Bertschek et al., 2016).

These benefits appear to be present at both national and sub-national levels, and rural counties appear to benefit highly from investment in broadband infrastructure. Research indicates that fast, reliable internet coverage helps make rural areas more competitive relative to urban ones (Bertschek et al., 2016). A study commissioned by the European Union in Bavaria, found that rural areas that received additional broadband investment experienced lower levels of depopulation than those that did not. The study's authors concluded that the results indicated that

increased broadband coverage provides benefits that incentivizes people to stay in the rural county, such as the ability to go to college or telecommute online (Briglauer et al., 2019). These results are corroborated by another study done in France, which found that rural municipalities with greater internet coverage are more attractive to businesses (Habsi, 2020). A cost benefit analysis done in Indiana by Purdue found that the state could possibly receive $12 billion in net benefits over 20 years from significant investment in rural broadband (Grant et al., 2018).

Individuals benefit from the positive macroeconomic impacts of expanded Internet access should also be considered. Lower levels of unemployment mean there are more jobs for individuals and the ability to telecommute or get an online education allows people to work and invest in their human capital under a wider array of personal situations. The increased level of attractiveness to business means that residents in rural areas have increased employment opportunity and access to goods and services. Research also shows that access to public services and voting is significantly increased in areas with reliable Internet access (Donnellan, 2017).

Alongside the economic benefits, there are perhaps the most salient benefits of the Internet – the social and personal. Access to the Internet is often access to friends and family through social media, instant messaging, and video calls. The vast amount of content online also gives people a lot of personal benefit through its consumption, which can involve anything from chuckling at some memes to learning new life skills (Kraut & Burke, 2015).

The COVID-19 pandemic has made the importance of connection to the Internet particularly salient and obvious. For many in our economy, their work was able to be done online allowing them to stay home and flatten the curve of infection. The ability to work from home also shields many workers from losing their jobs entirely during the pandemic (BLS, 2020). Additionally, 53

percent of Americans have reported that Internet access has been vital to during quarantine (Vogels et al., 2020). Students have been able to study from home[1]. Access to friends and family through video conferencing and instant messaging has been a valuable avenue for much-needed social interaction and the vast stores of online content have given people a lot to do while stuck inside. However, there are large disparities in access to the Internet in the United States. These disparities and their consequences will be discussed in the next section.

Distributional Disparities and Market Failure

There are large disparities in who has access to the Internet in the United States. The lines of access are present largely along racial and geographic lines, with rural (Khan et al., 2020) and BIPOC communities having the lowest levels of Internet penetration (Fairlie, 2017). This section will discuss the barriers to the expansion of Internet access in these communities and the consequences of the "digital divide."

Lower access in rural communities has a straightforward explanation. Lower population density and high costs of constructing infrastructure, like towers and cable, provide little incentive for Internet service providers (ISPs) to expand coverage into these areas. It is often more expensive to provide service to isolated populations with much lower returns that are unlikely to cover the costs, so the lack of potential profit dissuades ISPs from providing Internet to rural areas in many cases (Stenberg et al., 2009). Difficult terrain can make this disparity even more pronounced as infrastructure costs increase. Such a case is shown in Appalachian Ohio where steep hills interrupt wireless signals and make cable installation difficult – in this case widespread poverty also works to dissuade telecom investment in the region (Khan et al., 2020).

[1] Most of the process for writing this paper has been online during quarantine.

Minority communities also have more limited access to Internet, with blacks and Latinos having been found to have lower levels of access than white counterparts (Santillana et al., 2020). Much like rural communities, higher poverty rates among black and Latino communities provide less of an incentive for ISPs to commit additional investments into the coverage and infrastructure in these areas – leading to lower access to Internet services (Sen & Tucker, 2020). Low-income, minority communities have been experiencing systematic exclusion by major telecom providers who tend to only deploy sub-standard Internet to these neighborhoods – a phenomenon which has been dubbed "digital redlining." Of the 42 million Americans who do not have access to broadband, 75 percent are people of color, and 30 percent of African Americans and 40 percent of Latinos lack broadband (Hall, 2020). Residents in these areas are found to rely much more heavily on mobile data on cell phones or public Wi-Fi in places like libraries (Fairlie, 2017). Native American reservations are an especially severe case of lacking broadband access as they are face the complications of both the situations detailed above. Native Americans face the highest poverty rates of any ethnic groups in the U.S., and of the 22 percent that live on native lands around half are unemployed. There has also been relatively low Internet penetration onto reservations. Because reservations are often geographically isolated, the lack of Internet infrastructure results in significantly less access to education, jobs, social services, and civic engagement for those living there. Cases such as villages in remote Alaska, where there are no roads, can be especially hampered from a lack of Internet access (Donnellan, 2017).

The United States Internet market is a natural monopoly because of these cost structures and the perverse incentives they create. The high cost of installing the necessary infrastructure to provide Internet access makes it inefficient for more than one provider to establish networks in an area, resulting in a heavily consolidated local market. A similar phenomenon can be seen in the power

grid, where monopolies are tolerated, though regulated, so a single provider can cover an area without the effects of inflated prices due to a monopolist seeking to maximize profit (Null, 2013). A report by the Institute for Local Self-Reliance updated in 2020, finds that 47 million American only have Internet access through either Comcast or Charter, with another 33 million having only a substandard DSL provider as an alternative. The monopolistic structure of the Internet structure in the United States, results in higher prices than other comparable developed economies and exacerbates underinvestment in Internet access as monopolies have less of an incentive to expand into underserved areas than more competitive market structures. (Trostle et al., 2020).

The main consequence of these disparities in Internet access is that areas deprived of broadband services cannot take advantage of the economic benefits described in the previous section. The digital divide causes areas with large investments in Internet infrastructure have a significant economic advantage over those who do not (Chu, 2013). Rural and minority communities, by being denied access to the Internet, miss out of the economic stimulus reliable broadband provides (Bertschek et al., 2016). They are also relegated to significantly less access to social services, employment and educational opportunities, and voting (Donnellan, 2017). There is also research suggesting that the current digital divide will contribute to even larger disparities in the future (Hall, 2020). Because of the enormous consequences of these disparities in access to something as vital as the Internet, significant effort should be put towards shrinking the digital divide.

Policy Proposal

This paper's proposed solution is based loosely on the Rural Electrification Act of 1936. This paper argues that many of the factors limiting the expansion of electrification faced similar

barriers as Internet today, so a similar policy structure can be used. This paper, however, suggests that this is one possible solution and does not claim to be the only viable approach to the expansion of Internet coverage. The following section summarized the Rural Electrification Act and how it can be applied to broadband expansion on a national level.

President Franklin Roosevelt created the Rural Electrification Administration through Executive Order 7037 with the objective of expanding electric coverage in rural areas, which were severely underserved. Only around 10 percent of farms had access to electricity in 1930, as service was concentrated in larger towns and cities. In 1936, Congress endorsed the administration's establishment with the passage of the Rural Electrification Act which provided low-interest, federal loans for the construction of electric infrastructure to serve rural areas, via cooperative, local power companies – many of which still exist today (Kitchens & Fishback, 2015).

The Rural Electrification Act typically involved a $230,000 (3.6 million in 2010 USD) 25-year loan at around 6 percent interest pegged to U.S. treasury bonds. This standard loan could construct around 250 miles of distribution lines and serve around 800 customers (Kitchens & Fishback, 2015). The model used by the Rural Electrification Administration was extremely effective, as by 1960 nearly one hundred percent of farms had electricity (Lewis and Severnini, 2020). This was partly due to direct investments by the Rural Electrification Administration and partly due to the competition stimulated by the federal government's investment, which encouraged private firms to protect their exclusive territories through additional investment of their own (Kitchens & Fishback, 2015).

In rural areas, the expansion of Internet access today and continued proliferation of electricity in the 1930s faced similar obstacles. Both share the same core issue blocking expanded coverage in rural areas, where there are large upfront capital investment requirements and low possible

returns due to the sparse and often relatively poor population. In both cases, rural communities become caught in the middle as they often could not afford coverage on their own, but their lack of access exacerbates their poverty. The framework of the Rural Electrification Act is applicable to both situations as it overcomes the hurdles of the large upfront capital costs for poorer communities as well as providing incentives for other providers to increase their investment and competitiveness. It also provides the benefit of a decentralized, but regulated, broadband system (Oakland, 2020).

Bridging the digital divide has been a stated goal for the FCC under both the Obama and Trump administrations (FCC, 2020), indicating bipartisan awareness of the shortcomings of Internet infrastructure in the United States. There are already numerous federal funding opportunities for broadband infrastructure, so this sort of localized investment approach is already available in limited contexts. Opportunities for such funding exist across most federal agencies including the Departments of Education, Transportation, Housing and Urban Development, and Agriculture; the Economic Development Administration; the National Science Foundation; Institute of Museum and Library Services; and the Appalachian Regional Commission, just to name a few. (U.S. Dept. of Commerce, 2021) The FCC also has made investments into broadband infrastructure improvement, such as the recent rollout of the Rural Digital Opportunity Fund – which aims to distribute around $10 billion for funding expansions in broadband access in rural areas through auctions (FCC, 2021). Additionally, during the COVID-19 pandemic, relief funding has been utilized by local governments to build or upgrade broadband infrastructure. An example of this was seen in the Navajo Nation in 2020, when CARES Act money was used to fund upgrades to the reservation's broadband infrastructure (KNAU, 2020).

The funding provided by these numerous initiatives have expanded much needed access in many areas and this proposal does not wish to supersede or replace any of these programs. However, this patchwork system could be made much more effective if there was a large central policy – in this case a Rural Electrification Act for the Internet – to do a bulk of the broad, nation-wide investing into community level broadband infrastructure. This program would then be paired with the more context-specific funding listed above to provide a more comprehensive investment approach.

This paper proposes that the FCC establish an office and is given funding to provide no-interest loans to local governments to establish (or expand) and run small-scale broadband networks as utilities. The office established within the FCC would also have capacity to aid localities who receive such loans in finding technical support for the establishment and maintenance of the established networks. The goal of providing these loans would be to mitigate inequalities in access to broadband and the expansion of coverage in underserved areas. To ensure these goals are being met, the FCC would be tasked with reporting on the efficacy of the policy and proposing changes that could aid in achieving the policy's goals. The new data collection method, made necessary by the Broadband Deployment Accuracy and Technological Availability Act (2020), should help the office in targeting areas with greater needs more accurately than the current Form 477 Data. Additionally, if it becomes necessary, additional resources should be made available to support broadband networks established through this policy in the case of unlikely circumstances, such as a worldwide pandemic, to support the investment already made into the networks. These additional investments would be especially useful in extreme circumstances where having access to Internet is a necessity, like a pandemic.

The FCC's Office of Civil Rights should also be tasked with ensuring that the allocation of funds and the policy in general is adhering to antiracist principles.

The local-level ISPs that would be funded by this model would most likely be modeled after the many examples of municipal broadband networks that have been established by cities across the country. The specific factors significant in each locality are incredibly disparate, but in general there are three models that have been used in the establishment of municipal broadband networks. The first is the purely private model, which is most common. Under this model local government has little involvement in the network, which is built and run by private ISPs. Local government's involvement is limited, such as providing the right to construct infrastructure. This model is clearly attractive due to its minimal investment by the local government, however, the downsides discussed earlier come along with the private sector's incentives. The next model is a purely public option, where local government owns and operates the network as a utility. Many municipal broadband success stories utilize this option, where the city uses its goodwill and existing resources to attract subscribers and increase competition and coverage. This option has a much higher cost however as it requires investment into the construction of the infrastructure as well as the day-to-day operation of the business. The final model is a public-private partnership, which is a compromise between the two. In general, this involves the local government constructing the infrastructure then leasing access to private ISPs at wholesale rates. The city then operates the infrastructure while the ISPs leasing the network handle the more fine-grain operations, like billing and customer support. This option is attractive as local government does not have to bother with running a telecom business, but it should be prepared for hard negotiations when creating lease agreements with private ISPs, as they will not be thrilled about losing monopoly control and working to maximize their profits (Null, 2013). This is where the

policy proposal diverges from electrification slightly. Rather than regulating a single provider in a market, a municipality establishing a broadband network is meant to stimulate competition, either by entering the market itself (via the purely public model) or by encouraging entrance to or expanded coverage through providing the infrastructure (via the public-private partnership model).

Selecting a business model that matches the specific situation of a locality is of paramount importance. Given the disparate considerations of different localities, success or failure of a given network is determined on a case-by-case basis, which is surely one of the main challenges of this proposed policy. Therefore, flexible considerations should be made in aiding the establishment of local networks and investment should be made with considerations to the specific situation of the locality. For example, the public-private partnership option would most likely be ideal for smaller communities, which may not have the administrative capability to run a broadband network. In this case, it would make more sense to lease the infrastructure and let private ISPs handle the day-to-day tasks. To aid this process, the FCC should undertake a preliminary analysis of municipal broadband networks to gain insight into what models work best in what situations and the common barriers and facilitators of success. The utmost care should be taken in the consideration and planning for these networks as they are risky endeavors. It should also be noted that this sort of federal investment into local infrastructure is not outside the realm of precedent. One example is the afore mentioned Rural Electrification Act, but a more recent one is federal grants for municipal water treatment systems via the Environmental Protection Agency (EPA). The Clean Water State Revolving Fund (CWSRF) invests in water quality protection projects, wastewater treatment, pollution control, and watershed/estuary management via low-interest loans which states can customize to meet the specific needs of low-

income, rural communities – which is very similar to the policy proposed by this paper. A similar policy targeting drinking water systems called the Drinking Water State Revolving Fund (DWSRF) is also available, as well as programs targeting tribal communities and communities on the U.S.-Mexico border (EPA, 2020). These are just a couple of the numerous programs that use a similar paradigm to the policy proposed in this paper, so a Rural Electrification Act for the Internet would be using similar policy mechanisms that are common among federal agencies.

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To help illustrate the success community-owned broadband networks can achieve, the city of Longmont, Colorado, a municipality on the North end of the Denver metro area, should be looked at as a case study. Longmont's broadband network, NextLight, has been one of the key success stories in municipal broadband. In 2018, NextLight was rated the fastest ISP in the nation by PCMag and in 2019 the network was serving almost 60 percent of Longmont denizens after five years of service (NextLight, 2021). This milestone surpassed its 2014 projection of serving 37 percent of residents in five years, and the increased demand has put the project four years ahead of schedule to pay off its bond (Converse, 2017). Through community donations, NextLight also offers free 25 Mbps connections to qualifying low-income families in Longmont (City of Longmont, 2021).

NextLight is also an example of local government superseding state law to establish a broadband network. What is now NextLight began in 1999, when the Platte River Power Authority funded the construction of a small fiber optic network to support its local substations, which had extra capacity to potentially be used to expand coverage in the future. In response to this potential private ISP's, such as Comcast, lobbied the Colorado state legislature to pass restrictive measures banning municipalities from providing telecom services (SB 152). In 2011, however,

Longmont residents passed a ballot measure exempting the city from the restrictions of the state law allowing the city to establish its broadband network. This inspired numerous other cities, including Fort Collins and Aurora, to establish their own broadband networks as well (Park, 2020).

To get a bit better of an idea of the effects of the establishment of NextLight in Longmont, we will compare it to Boulder, a city right next door. Both cities are in Boulder County, just North of Denver. They both have around 100,000 residents, with around 90 percent of residents being white. Longmont is a slightly more affluent town with median household income around $5,000 more than Boulder. Boulder is the more educated city however, with 76 percent of residents having a bachelor's degree and 96 percent having graduated high school. Of Longmont's citizens, 90 percent have graduated high school and 43 percent have bachelor's degrees. Part of the reason for this is Boulder is the home of a major branch of the University of Colorado – the city's main employer. Boulder other major employers include major aerospace and IT companies, such as Lockheed Martin, Google, and IBM (Boulder Economic Council, 2021). Longmont's main employers are the city government and regional school district, as well as the city's two hospitals, the Federal Aviation Administration, and several private sector companies, including Crocs (Visit Longmont, 2021).

	Boulder	*Longmont*
Population (2019 est.)	105,673	97,261
White population (2019 est.)	87.40%	89.30%
Median Household Income (2019 est.)	$69,520	$74,242
Has a Bachelor's Degree (2019 est.)	76.00%	42.90%
Has a High School Degree (2019 est.)	96.90%	90.20%

Census Bureau ACS Estimates

Boulder does not have a municipal broadband network currently, but it is currently in the process of breaking ground on one. The city hopes to have the backbone of its planned fiber optic

network completed by the end of 2022 (City of Boulder, 2021). Currently in Boulder, CenturyLink is the only provider with fiber connections. Their fiber Internet is only available with their gigabit plan, which costs $65 per month for 940 Mbps with symmetrical download and upload speeds and no data cap. A cheaper DSL plan is available at $49 monthly for 20 Mbps download and 2 Mbps upload and a 1000 GB data cap (BroadbandNow, 2020). It should be noted that DSL Internet connections are much slower than fiber ones because DSL uses copper wire instead of fiber optic cable, which is a relatively newer innovation (BroadbandNow, 2021). CenturyLink provides the same plans in Longmont (CenturyLink, 2021). In Longmont, NextLight's prices are lower for similar Internet plans. NextLight's symmetrical 1000 Mbps plan is $69.95 per month, which drops $10 monthly for customers subscribed for 12 consecutive months. There is also a cheaper plan for $39.95 per month for a symmetrical 1000 Mbps plan (NextLight, 2021). It should be noted that these plans are for residential Internet subscriptions. Unfortunately, there is not much good data yet (that this paper has had access too) regarding the economic effects of NextLight, but some inferences can be made in the meanwhile. It can be inferred that the rush of customers to NextLight during the process of the network launching, its cheaper prices when compared to its competitors, and initiatives like Sharing the NextLight aimed at increasing access to low-income families has expanded Internet access in the community – both in terms of those who previously could not afford Internet being able to and those who can upgrade to faster plans. Additionally, the rush of other Colorado cities to follow in Longmont's footsteps implies the solid results of municipal broadband entering the market. It can be surmised then from this evidence, that Longmont has benefitted greatly from the establishment of the NextLight system. Further research into the NextLight case – perhaps compared to its very similar neighbor, Boulder – could yield insight into the factors precluding

the success of a municipal broadband network and would be incredibly valuable. With the new FCC data and 2020 Census Data (that is currently in the process of being published) such research should be aided.

Policy Limitations and Additional Considerations

It should be noted, however, that this proposal is not meant to be a silver bullet. This policy is meant to be part of a larger set of policies aimed at alleviating disparities in access to the Internet, and ideally resources in general. While this policy is extensive, it is still just a first step towards equitable access to the Internet. There are several hurdles and additional policy considerations that should be kept in mind when implementing the suggestions in this paper. The main thing that should be kept in mind is that even if the infrastructure is there, people may not be able to afford it, and therefore still not able to reap the benefits of Internet access. Taking from the Longmont case study, NextLight's cheaper Internet plan is still $40 monthly, which can be financially unviable for many families. In addition to investing in the necessary infrastructure, considerations should be made to make the provided infrastructure readily available to those in the community. Some options could be something like a Section 8 Housing Voucher, which can be redeemed for home Internet access. Additionally, Longmont's NextLight offers several options for low-income people to access their network, which could be integrated into other networks and subsidized. Along the same lines, there can also be a lack of devices that can connect to the Internet and the necessary knowledge on the part of consumers to do so and navigate effectively. Electricity is also a necessity for Internet access that is not readily available everywhere in the U.S. These could also be opportunities to provide aid and resources to help people get online effectively.

Another factor that should be noted is state laws limiting municipalities from providing broadband. An example is Colorado's SB 152, which bans municipalities from providing telecoms services. In the case of this law, municipalities have the option to exclude themselves from the restrictions via ballot initiative, which has allowed many cities, including Longmont, to establish municipal broadband networks (Park, 2020). One of the this that should be accounted for in this policy is the relationship between state laws, such as SB 152, and federal statutes. This issue arose in the case of the FCC attempting to override state restrictions on municipal broadband in North Carolina and Tennessee in 2015. The FCC claimed the restrictions were anticompetitive, but the state laws were upheld by the Sixth Circuit Court, though it has been argued that this decision is flawed and should be revisited (Cobb, 2018). Another option would be for the FCC to try and incentivize states to overturn such restrictions themselves rather than attempting to supersede them.

This paper also relies highly on FCC Form 477 data, where ISPs self-report their level of coverage for different areas. This data is flawed however, as it consistently overestimates the availability of Internet, especially in underserved areas. This is because if one house or apartment on a block has access to Internet the whole block is considered to have access. Additionally, what is considered "covered" on these maps is based on 25 Mbps Internet connections that are no longer powerful enough for reliable use (Tibken, 2021). Therefore, it is with great reluctance that Form 477 data is used, but there is no other dataset of the sort. In 2020, Congress ordered the FCC to reform how they record this data to make it more accurate, with the Broadband Deployment Accuracy and Technological Availability Act. Flawed data has skewed the appearance of coverage and need, which negatively effects the effective deployment of

resources. Hopefully, the new data will more accurately portray the need of Internet access nationwide, facilitating the effective deployment of resources.

Conclusion

A Rural Electrification Act for the Internet would be an investment in the American economy and historically neglected communities. Not only would this proposal be an investment into the economy, like building a road or dam, but it would be a powerful gesture to the historically neglected and disenfranchised of the country's commitment to reducing the disparities in Internet coverage and to equality in opportunity. Access to the Internet has been shown to be one of the main drivers of economic growth in the past couple of decades and disparities in access can have harsh effects on those without. While investment into broadband infrastructure would be an economic step forward, but this proposed policy should be rolled out with additional measures to be most effective.

Additional Material

For a video presentation of this paper, please visit this link:

https://www.youtube.com/watch?v=dQw4w9WgXcQ

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