



**Next
Century
Cities**



**WHAT COMES NEXT?
A COMMUNITY-CENTERED
APPROACH TO LEGACY
NETWORK RETIREMENT**

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CONNECTING AMERICAN HOMES

Americans have increasingly turned to the Internet to work, learn, care for their mental and physical health, and participate in democracy.¹ Internet infrastructure has transformed since its public debut in 1983, and so have the tools offered through this dynamic technology. From accessing limitless information to connecting directly with the most influential people in the world, the ability to get online is proving itself to be one of the great equalizers — piercing through socioeconomic and geographic barriers — giving people of all backgrounds limitless opportunities.

However, according to the FCC’s 2021 Broadband Deployment Report, 14.5 million Americans still lack wired broadband access.² What’s more, millions of Americans cannot afford to maintain a broadband subscription or lack the requisite skills, knowledge, or computing device to participate in a digital society. The COVID-19 pandemic has underscored the importance of a reliable home broadband connection. Aside from supporting distance learning, remote work, and telehealth capabilities, which became central to American life in 2020, broadband’s utility goes beyond — enabling essential activities and supporting community building, identity development, and cultural understanding.



Internet Service Providers (“ISPs”) constantly maintain and upgrade network infrastructure to ensure that select customers can access the Internet through the latest and most efficient technology. These advancements support innovation and significantly expand a community’s Internet infrastructure bandwidth and capabilities, but only in regions where upgrades are actively undertaken. When communities are passed over for network upgrades or deployment opportunities, they inevitably feel the impact and the most disconnected residents experience significant long-term consequences.

At least 3.35% of people, approximately 11.5 million residents, in the United States are still waiting for broadband network upgrades. Instead, they rely on legacy DSL networks that are often

¹ Mark Beech, *COVID-19 Pushes Up Internet Use 70% And Streaming More Than 12%, First Figures Reveal* (Mar. 25, 2020), <https://www.forbes.com/sites/markbeech/2020/03/25/covid-19-pushes-up-internet-use-70-streaming-more-than-12-first-figures-reveal/?sh=28da7833104e>.

² *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Fourteenth Broadband Deployment Report, 36 FCC Rcd 836 (2021) (*2021 Broadband Deployment Report*).

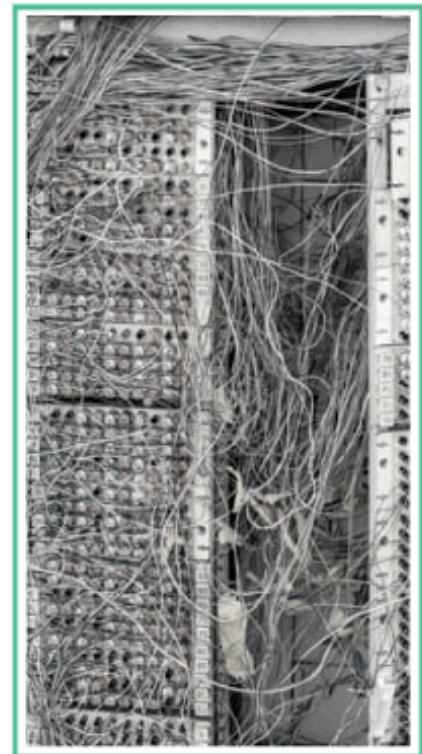
powered by outdated copper wiring.³ These legacy networks endanger customers because they do not provide them with the proper physical safety, consumer protections, and meaningful service that all residents deserve in a modern telecommunications marketplace.

WHAT ARE LEGACY NETWORKS?

Nearing the turn of the 20th century, innovators unveiled the newest technology that would eventually revolutionize how Americans communicate across cities: phone lines. These early lines connected a limited number of homes and businesses that benefitted from the luxury of residing in dense urban centers with well-equipped municipal governments and private companies. The success of this technology among early adopters led to its rapid expansion within cities and created a tangled network of cables flying high above busy streets and crowded neighborhoods.

The 20th century would see a push by communities large and small to expand phonenumber capabilities. The ability to connect with neighbors instantly morphed from a convenient luxury to a daily necessity. The New Deal Era brought forward the Communications Act of 1934 bolstered by a commitment to support universal telecommunications service with the full force of the federal government. This action, combined with the various grant, loan, and consumer protection programs, accelerated the process of connecting many U.S. homes with reliable telephony service.⁴

Well-connected residents and well-endowed companies used this momentum to spur further innovation. Within the century, communications methodologies propelled forward. The deployment of Digital Subscriber Lines (“DSL”) drastically improved copper networks’ capabilities. DSL allowed exponentially more information to transmit along single lines between many homes by using new technology attached to pre-existing copper networks. Eventually, the technology provided the bandwidth required for phone calls, video channels, and 512 Kilobytes per second (“Kbps”) download of Internet traffic.⁵



³ Federal Communications Commission, *Fixed Broadband Deployment*, https://broadbandmap.fcc.gov/#/area-summary?version=dec2020&type=nation&geoid=0&tech=acfw&speed=25_3 (last visited 24 Jan. 2022).

⁴ The Rural Broadband Association, *History of Rural Telecommunications*, <https://www.ntca.org/ruraliscool/history-rural-telecommunications> (last visited Jan. 26, 2022).

⁵ Lukas Edwards, *When was broadband invented?*, <https://www.techradar.com/broadband/when-was-broadband-invented> (last visited Feb. 1, 2022).

While ahead of its time when introduced, by 2015, DSL technology no longer met the federal definition of broadband.⁶ Still, the technology remains one of the most widely available broadband solutions for American homes. According to BroadbandNow’s data collection, as of 2021, DSL penetration (including ADSL and VDSL) nationwide was at 89%.⁷

For communities that lack access to broadband technologies, DSL may be the only method for accessing the Internet and remains a necessary lifeline. While this technology can provide minimum broadband speeds in standalone testing environments, actual delivery speeds vary.⁸ Real-world environmental considerations, aging physical infrastructure, and other factors prevent DSL from being a continuing technology for high-speed Internet connectivity.⁹

CHALLENGES



Without robust consumer protections and an active support network, customers will face untimely and ill-managed legacy network disconnections.

In 2015, the FCC introduced a series of consumer protection and reporting mechanisms that would guide the eventual retirement of legacy networks (including copper and DSL). These requirements covered a broad range of considerations, including notification from Internet Service Providers, public outreach, and reasonable alternatives when service was disconnected.¹⁰ However, these orders only protected communities for two years before being repealed. When the *2015 Retirement Order* was repealed in 2017, the action took multiple consumer protections and official lines of communication with it. The combination of public notices, challenge processes, and active communications between industry, consumers, and the government allowed

⁶ In 2015, under the leadership of Chairman Tom Wheeler, the FCC defined “broadband” as Internet service providing a download speed of 25 mbps and an upload speed of 3 mbps.

⁷ Tyler Cooper, *DSL Internet in the USA* (Mar. 23, 2021), <https://broadbandnow.com/DSL>.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Technology Transitions et al.*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015) (2015 Copper Transition Report and Order).

for a balanced approach, spurring innovation while securing reliable broadband for all. Rather than pitting the two goals against each other, it embraced both and used one to benefit the other.

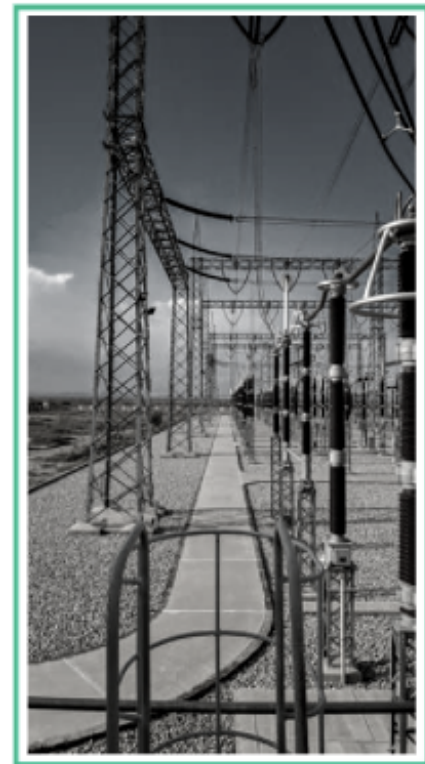
Unless the FCC acts to reinstate the consumer protections contained within the *2015 Retirement Order* and underscore its commitment to striking a balance between innovation and protection, disconnected households will feel the consequences of widening equity gaps. Reinstating the protections will address the challenge of striking a needed balance while also providing adequate time to implement additional connectivity measures to close the digital divide.

There are distinct parallels in public sentiment about broadband deployment and getting electricity into every household in the U.S.

To better understand the circumstances that have led to an inequitable distribution of network upgrades, researchers need not look back more than 100 years, when more than half of the U.S. lacked access to the nation’s electrical grid.¹¹ Advocates for national electrification argued that every American household deserved access to the newest, most efficient technology.¹² Opponents to government intervention argued that electricity was an unnecessary luxury because costs would be too high to allow for adequate and profitable deployment.¹³

Consequently, electricity infrastructure deployment centered in populous states and major urban centers. That strategy allowed electric companies to provide the most innovative technology and benefit from increasing subscriber bases while avoiding high-cost areas. In effect, business models that focused strictly on profits left many Americans without access to the most revolutionary utility of the day.

The over 50% of Americans who existed outside of areas that promised companies a high return on investment faced a significant challenge to their control—lack of population density. Without sprawling metropolises or booming suburbs,



¹¹ National Park Service, *The Electric Light System* (Feb. 26, 2015), <https://www.nps.gov/edis/learn/kidsyouth/the-electric-light-system-phonograph-motion-pictures.htm>.

¹² National Park Service, *Rural Electrification Act*, <https://www.nps.gov/home/learn/historyculture/ruralelect.htm> (last visited Feb. 1, 2022).

¹³ Cengage, *Rural Electrification Administration 1934-1941*, <https://www.encyclopedia.com/education/news-and-education-magazines/rural-electrification-administration-1934-1941#:~:text=Critics%20of%20the%20private%20power,primary%20obstacle%20to%20rural%20electrification.&text=They%20did%20not%20accept%20the,because%20they%20were%20unreasonably%20high.>

these regions were unable to entice electrical service providers to enter the market. These communities learned that the “luxury” of electricity would remain out of reach until population densities increased.

For the next 15 years, non-urban Americans would largely remain disconnected from the electrical grid. That changed when President Franklin Delano Roosevelt intervened in 1936. In his first term, and amidst the Great Depression, he urged Congress to pass, and he eventually signed, the Rural Electrification Act of 1936. The legislation allocated federal funds to deploy electrical infrastructure. Rather than distributing federal funds to private providers, the government created the Rural Electrification Administration, a grant-making agency tasked to work with power companies to ensure that every American could connect to an electrical grid.¹⁴



The Rural Electrification Administration worked with communities across the nation to develop local solutions that addressed the most significant barriers to electrification. This partnership led to the creation of the nation’s first electric cooperatives, also known as co-ops, for rural and farm communities. Local citizens viewed electricity as necessary and formed cooperatives to provide service in hard-to-reach areas, which laid the groundwork for decades of electrical and telecommunications infrastructure.

Today, virtually every home across the country has reliable access to electricity, but the deployment of telecommunications infrastructure has invoked similar issues for decades.

When historical communications networks were deployed in the mid to late 20th century, they represented the newest and best technology available to consumers. Various funding models and public-private partnerships allowed many households across the U.S. to gain access to telephony and initial Internet access by the early 2000s.¹⁵ These networks met the budding demands of the Internet, including the rise of email and casual web-surfing. Still, they were unable to evolve with the rapidly changing Internet landscape, quickly putting users with slower connections behind those with high-speed connections.

¹⁴ Harold D. Wallace, Jr., *Power from the people: Rural Electrification brought more than lights* (Feb. 12, 2016), <https://americanhistory.si.edu/blog/rural-electrification>.

¹⁵ Pew Internet and American Life Project, *Broadband Adoption At Home In The United States: Growing But Slowing at 7* (2005), https://www.pewtrusts.org/-/media/legacy/uploadedfiles/wwwpewtrustsorg/reports/society_and_the_internet/pipbroadband0905pdf.pdf.

In recent years, telecommunications providers have announced, started, and some have completed plans to discontinue the use of their legacy networks, many of which utilize copper for data transmission. After years without upgrades or preventative maintenance, these companies have



Unless network operators make the necessary investments and upgrades to their existing assets, residents will be forced to grapple with unreliable – and sometimes failing – broadband and phone service options.

opted to unplug service and abandon the infrastructure. Resulting in higher costs to deploy newer technologies and increased costs for maintenance of outdated networks. This is highly problematic for communities that rely on these networks and have limited prospects for alternative broadband service.

While maintenance is essential to these networks while still in use, companies are increasingly hesitant to invest in costly upgrades for

outdated technologies. Most importantly, signals deteriorate more rapidly on copper networks than on peer technologies due to the physical makeup of copper wiring. This deterioration requires ISPs to invest more in maintaining transmissions, especially to rural residents, where the distance between households increases the cost. The increase in the need for signal boosters and shortening copper loops ultimately leads to greater costs and environmental impacts for communities in need. A transparent, efficient, and accountable system of retirement will ensure that natural environments remain as undisturbed as possible going forward, and consumers will not need to face rising costs to meet maintenance needs.

Copper is also more prone to damage and interference from electrical storms or simultaneous transmission of electricity and information. Further, hung data lines are more susceptible to fire damage and high winds, events that are becoming increasingly prevalent with climate change. As an inferior technology, consumers and providers have left it behind whenever possible in favor of newer technology.¹ From Q1 2018 to Q1 2019, broadband subscriptions powered by copper saw an 8.9% decline in subscribers.² Without a robust and growing subscriber base, copper operators are seeing major declines in revenue and incentives to invest.¹⁶

¹⁶Actiontec, *What is the Future of the Copper Network?*, <https://www.actiontec.com/resources/industry-articles/what-is-the-future-of-the-copper-network/> (last visited Jan. 24, 2022).

Unless network operators make the necessary investments and upgrades to their existing assets, residents will be forced to grapple with unreliable – and sometimes failing – broadband and phone service options. For the 11.5 million Americans who lack access to any other technology, this is not only an issue of convenience. Network failure or the loss of connectivity can also mean losing access to critical emergency services, including 911.

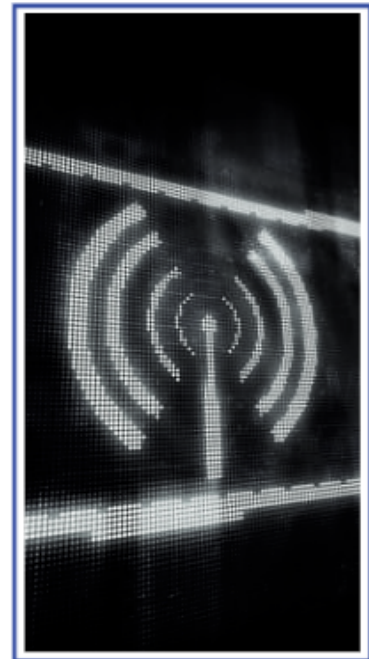
Protecting Networks and Consumers

The *2015 Retirement Order* from the FCC implemented proactive rules that required ISPs and telecommunications companies to protect consumers in upgrading or deactivating legacy networks. The order required that providers take two actions to minimize service interruptions.¹⁷ The first created a process by which companies would inform consumers of pending upgrades or deactivations with enough notice for customers to find a sustainable alternative and not face a communications blackout. This rule ensured that consumers remained aware of activity in their area, enabling them to make informed decisions about their service options.¹⁸

The second requirement ensured that customers would never be left without a reliable service option. Providers were required to offer a “functionally equivalent” service option that customers could take advantage of once their existing network was switched off.¹⁹ Since many customers reside in uncompetitive broadband marketplaces where only one or two providers are available, without functionally equivalent alternatives, customers have no way to maintain baseline connectivity.²⁰

In a system where consumers cannot access telecommunications infrastructure without an established Internet provider, the free market could ultimately obstruct universal access goals.

Notably, the *2015 Retirement Order* also provided customers and their representatives a pathway to file a complaint with the FCC if protections were violated. Customers could use the complaint system if a provider deactivated service without proper notice or failed to offer a “functionally equivalent” option.²¹ Two years later, in a deregulatory effort that provided more flexibility to service providers, the FCC reversed both rules. The *Accelerating*



¹⁷ *2015 Copper Transition Report and Order*

¹⁸ *Id.* at para. 233-241.

¹⁹ *Id.* at para. 80.

²⁰ Federal Communications Commission, *Fixed Broadband Deployment*, https://broadbandmap.fcc.gov/#/area-summary?version=dec2020&type=nation&geoid=0&tech=acfw&speed=25_3 (last visited Jan. 24, 2022).

²¹ *2015 Copper Transition Report and Order*, para. 50.

Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment Order was part of a larger effort to remove perceived barriers to rapid infrastructure deployment by ISPs, but left consumers with little support when facing disconnection.²²

Bringing Our Safeguards into the Present

The FCC's 2015 safeguards provided critical consumer protections while supporting innovation. A reimagined approach to legacy network upgrades could spur more significant innovation while accelerating reliable deployment for consumers. This approach should take advantage of previously tested and successful public outreach and transparency methods while also sparking a renewed wave of investment for new broadband technologies. Companies that partner with local and regional officials during network upgrades and deployment should be rewarded for their success.

The recent increase in public support of broadband programs should be used to re-introduce incentives and timely rules that protect the public. The FCC can accomplish this by reinstating the *2015 Retirement Order* while also activating an effective public outreach campaign to areas affected by the coming network retirements.

The COVID-19 pandemic has underscored the need for fast, affordable, and reliable broadband infrastructure across the country. Households reliant on legacy networks have struggled to keep up with their well-connected peer communities, especially considering new demands from telework and distance learning. While the challenges they faced during the pandemic are not new, the unprecedented shift in public perception of broadband access has helped center access and adoption as a priority for communities of all sizes. Failing to upgrade their network infrastructure will create wider gaps between connected and disconnected households.

The Internet and its uses have changed enormously since 2015. Federal, state, and local guidance must follow. Historically, federal policymaking decisions rarely include local perspectives. Municipal leaders are at the forefront of idea generation and collecting feedback from their constituents; they are essential ideation partners in developing both national and state broadband strategies. Centering their stories would improve prospects for under-connected communities to expand broadband connectivity for generations to come.

How is the retirement of legacy networks directly impacting local governments?

²² *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling, Order on Reconsideration, and Order, 35 FCC Rcd 11750 (2020) (2020 Accelerating Deployment Declaratory Ruling, Order on Reconsideration, and Order).

Failing legacy networks exist due to decades of missed maintenance and incumbent provider apathy. As residents facing legacy network retirement struggle to connect to the telecommunications and Internet services they need, they frequently turn to their local officials for answers. Accordingly, many local leaders have a robust understanding of community needs. However, local officials often lack the necessary support and authority to drive marketplace changes independently. Municipal officials cannot implement standalone and sustainable safeguards for their constituents without active and engaged support from state and federal leaders. Without safeguards, they cannot serve as the first line of accountability for aging networks. As a natural first point of contact for people directly impacted by network failures, local governments could play a meaningful role if equipped with federal and state support.

Under the *2015 Retirement Order*, local governments could partner with their constituents and state officials to help ensure that providers remained transparent and communicative in their practices. In the months after the *2015 Retirement Order* took place, local officials in Maryland partnered with state leaders and local communities to highlight deceptive practices by incumbent Internet Service Providers. Their complaints outlined how the provider incorrectly distributed “untimely, contradictory, and defective copper retirement notices to residential customers.” Local and state actions activated federal resources to protect consumers.²³ Now, with those powers repealed, retirement or disconnection decisions can be made without addressing the concerns of those served, leaving local governments with limited accountability tools.



Municipal officials cannot implement standalone and sustainable safeguards for their constituents without active and engaged support from state and federal leaders. Without safeguards, they cannot serve as the first line of accountability on aging networks.

Charting a Path Forward

Legacy network retirement policies must center the need to increase connectivity, especially in underserved communities. Without a community-centered approach, federal and state policy will overlook the human impact of updating technology. Importantly, when the FCC fully adopted consumer safeguards in 2016, Public

²³ Comments of Communications Workers of America, WC Docket No. 17-84 at 13 (June 15, 2017) (CWA Comments).

Knowledge outlined the need for a balanced transition.²⁴ Network upgrades that have taken place since – and those that have yet to occur – are necessary as “customers have a right to enjoy the benefits of the upgrade, but no one has a right to keep our basic communications infrastructure frozen forever.”²⁵

There will be a continual need for network upgrades when some telecommunications grids are approaching a century of service. However, doing so without proper guidance and consumer-focused regulations is not only bad policy, but it plants the seeds for new digital inequities. Instead, federal leaders should create and support an environment that centers the needs of consumers in decision-making. Federal guidance will mean that customers can feel confident in consistent service, and companies can complete their upgrades without fear they will violate any rules.

The *2015 Retirement Order* was a set of people-centered, effective policies that created an informed consumer who would be prepared when the time came for network adjustments or retirement. The regulations ensured that “everyone in the community [understood] that the change is coming and what it will mean for them.” An adequate solution must take steps at the macro level to preserve the market while protecting individuals at the micro level by providing them time and space to prepare.²⁶

Additionally, multiple state governments and agencies agreed with public interest advocates on the importance of reinstating the safeguards from the 2015 order, including timely notifications, public outreach, and functional equivalency tests. Following the issuing of the Notice of Proposed Rule Making by the FCC, the Massachusetts Department of Telecommunications and Cable (MDTC) argued, “[t]he MDTC is concerned with the preservation of the fundamental principles of competition, consumer



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²⁴ Harold Feld, *FCC Sets the Ground Rules for Shutting Down the Phone System, Sets the Stage for Universal Broadband* (July 14, 2016), <https://publicknowledge.org/fcc-sets-the-ground-rules-for-shutting-down-the-phone-system-sets-the-stage-for-universal-broadband/>.

²⁵ *Id.*

²⁶ *Id.*

protection, universal service, and public safety during the technological transitions.”²⁷ These four concerns were echoed by other states, including New York and Pennsylvania, supporting their residents and seeking to prevent any loss of connectivity for households.²⁸

Promoting Competition

Federal regulators must take steps to promote competition in communities that rely exclusively on legacy copper or cable networks facing retirement. Studies show that competition leads to lower prices for consumers, higher quality of customer service, and an often more reliable and frequently upgraded network.²⁹ In recent years, the hundreds of thousands of customers that still subscribe to copper-supported broadband plans do so due to affordability or lack of access to alternatives.³⁰ As incumbent providers decide to phase out investment in copper networks, many of those households will only have one or two alternatives at best. Some will have no other option.

These same communities, where copper remains the primary lifeline for connectivity, are often in markets where Internet Service Providers have refused to invest. The FCC and Congress must take steps to ensure that regulatory guidance and statutory law promote robust competition. When the FCC issued its original Notice of Proposed Rule Making in 2015, multiple state agencies expressed their need to protect competition. The MDTC also proposed safeguards that would require network operators to not only inform customers of the impacts of copper retirement but educate them around changes to service offerings, including new offerings post-retirement.

Currently, about 88.3 million Americans have no choice in their broadband provider.³¹ Working together, federal, state, and local leaders must take steps to promote innovation and create a competitive environment while ensuring that essential technological transitions do not leave residents entirely disconnected. These steps would guarantee options for consumers following a network deactivation and could entice Internet Service Providers to invest in better, updated networks that attract sustainable subscriber bases. Ultimately this will benefit providers and consumers.

²⁷ Massachusetts Department of Telecommunications and Cable Comments, PS Docket No. 14-174, GN Docket 13-5, and WC Docket No. 05-25, at 6 (Mar. 9, 2015). (MDTC Comments).

²⁸ *Id.* at 2.

²⁹ New America, *The Cost of Connectivity 2020: Focus on the United States*, <https://www.newamerica.org/oti/reports/cost-connectivity-2020/focus-on-the-united-states/> (last visited Jan. 24, 2022).

³⁰ United States Census Bureau, *2019: ACS 1-Year Estimate Subject Tables: Types of Computers and Internet Subscriptions*, <https://data.census.gov/cedsci/table?q=&t=Telephone,%20Computer,%20and%20Internet%20Access&tid=ACST1Y2019.S2801> (last visited Jan. 24, 2022).

³¹ Federal Communications Commission, *Fixed Broadband Deployment*, https://broadbandmap.fcc.gov/#/area-summary?version=dec2020&type=nation&geoid=0&tech=acfw&speed=25_3 (last visited Jan. 24, 2022).

Public Safety

Government officials must ensure that 911, telehealth, and other critical public safety infrastructure remain uninterrupted throughout and after network upgrades. Under the original copper network design, systems were self-powered. Copper technology could transmit telecommunications information alongside electricity, meaning that a consumer's connection was not reliant on an external power source. Although copper technology was treated as a convenience for most consumers, those who experience occasional power outages, natural disasters, and other emergencies need functionality that will not fail.

Personally, growing up in Virginia Beach, Virginia, I experienced the need for fail-safe telecommunications networks. While my family integrated modern Internet technology throughout our home in the 2000s, my father also maintained a landline phone in the garage, known as our “hurricane phone.” Fortunately, we could still rely on our hurricane phone when our municipality preemptively shut off power during Hurricane Isabel in 2003. My neighbors and other households facing increasing threats from hurricanes, tornadoes, earthquakes, wildfires, and storms may also rely on landline phones for their safety and well-being. Residents who do not have reliable connectivity or alternatives could face devastating consequences.



Although copper technology was treated as a convenience for most consumers who experienced occasional power outages, consumers facing natural disasters and other emergencies need functionality that does not fail.

The increasing rate of climate change directly impacts consumer needs and network performance. According to the Environmental Protection Agency, “extreme weather events such as heatwaves and large storms are likely to become more frequent or more intense with human-induced climate change.”³² As a result, events that affect increasingly vulnerable power grids have the potential to leave customers without the ability to contact 911 or other emergency services. Advocates for swift copper removal may argue that cellular service or VoIP are adequate replacements, even during a natural disaster. However, this may not be entirely true.³³ The 2017 repeal of copper

³² Environmental Protection Agency, *Climate Change Indicators: Weather and Climate*, <https://www.epa.gov/climate-indicators/weather-climate> (last visited Jan. 24, 2022).

³³ Chris Teale, *Federal Regulators Want to Bolster Network Resiliency During Natural Disasters. Hurricane Ida Offers Some Lessons on Where to Begin* (Oct. 26, 2021), <https://morningconsult.com/2021/10/28/network-resiliency-natural-disasters-polling/>.

transition guidance means that customers who rely on copper networks could have essential services deactivated without warning. Only when disaster strikes will they learn they are disconnected.

Protecting Consumers

Consumer-focused policies encourage network upgrades in a timely manner, implement strong consumer feedback pipelines, and support education and outreach between public and private partners.

Perhaps the most vulnerable stakeholder in the retirement process for copper and legacy networks are the consumers who still exclusively rely on their service. While innovative technologies such as Fiber-to-the-Home (“FTTH”) and 5G service are increasingly available in the U.S., many residents, primarily rural and low-income consumers, are unable to reap the benefits.



The U.S. ranks low in fiber penetration and adoption compared to the remainder of the world.³⁴ Without increased investments for innovative technologies that support more equitable deployment to underserved and unserved communities, consumers could lose service without adequate warning or an alternative. While multiple technologies are needed to close the digital divide permanently, a growing amount of the nation’s telecommunications infrastructure is supported by robust and maintained fiber optic networks.

Any solution that protects consumers, especially those lacking alternatives to legacy infrastructure, must include increased investments in fiber. Various challenges stand in the way of universal fiber-to-the-premises (“FTTP”), but fiber to every community is a must. Geographic and financial constraints can make fiber deployment to the most rural parts of our country difficult. However, federal and state deployment programs should support fiber wherever possible. An aggressive campaign to lay fiber will create a resilient and future-proof network from coast to coast. From there, local leaders can build partnerships with existing legacy providers, as well as innovative and new providers, to develop and implement creative solutions

³⁴ Jon Brodtkin, *50% of US homes still won’t have fiber broadband by 2025, study says*, (Sept. 18, 2019), <https://arstechnica.com/tech-policy/2019/09/50-of-us-homes-still-wont-have-fiber-broadband-by-2025-study-says/>.

that utilize all available communications technologies. There is no single solution to closing the digital divide, but all local communities must be given the framework for success.

Returning to consumer protection as the country leaves behind legacy copper networks invokes the words of former FCC Chairman Wheeler:

The point is not to hamper copper retirement. To the contrary, we want to facilitate the transition to fiber- and IP-based networks, which is why, consistent with longstanding policy, our new rules would NOT require FCC approval before carriers retire copper networks, as long as no service is discontinued, reduced or impaired.³⁵

Retirement of legacy networks that do not leave consumers disconnected from a terrestrial broadband connection should be prioritized. This can expedite innovation while minimizing the impact on users. The COVID-19 pandemic has underscored that losing access to a 25/3 Mbps

connection can severely hamper a community's success. The damage caused by losing all connectivity at any speed is immeasurable.



Equipping Local Leaders with the Support They Need

Local leaders, public interest advocates, and industry leaders agree that America's digital divide must be closed by providing residents with affordable and reliable broadband connections. As ISPs continue to retire networks or forgo regular maintenance, the FCC must offer local leaders ample opportunities to elevate concerns and develop remedies for displaced consumers. The FCC should use existing offices and resources while also re-activating dormant offices to collect local feedback.

For instance, the FCC utilizes the Intergovernmental Advisory Committee to “provide aid to the Commission on the many telecommunications issues affecting local, state and Tribal governments that are within the

³⁵ Press Release, Chairman Tom Wheeler, Statement of Chairman Tom Wheeler Re: Technology Transitions et al., (Aug. 7, 2015), <https://docs.fcc.gov/public/attachments/FCC-15-97A2.pdf>.

jurisdiction of the FCC.”³⁶ However, this committee is restricted in membership and does not adequately represent the challenges of communities with widely varying needs. The Commission could and should re-activate the Office of Intergovernmental Affairs, an office staffed by career FCC employees who have a strict mission to hear the voices of local and state officials to manage feedback and complaints.

Additionally, the FCC must engage local partners to inform and educate the public about the need for network retirements and upgrades in a way that is not dismissive. Local communities will be considering many legitimate and sizeable concerns, including being entirely disconnected from the Internet’s essential services. A revised version of the 2015 rules should include additional requirements for local consultation on outreach campaigns and a mechanism for municipalities or regional governments to verify the success of the outreach.

The communities facing disconnection due to network retirement are among those that face the highest barriers to broadband deployment and adoption. Policymakers must prioritize consumer and resident protections from now on to ensure that the most vulnerable members of our digital world are not disconnected. Taking active steps to re-institute previous protections and empower local and regional leaders to perform accountability functions during network retirements will ensure a support system is in place as the industry moves forward.

Conclusion

Since the 1990s, the infrastructure supporting the nation’s Internet has transformed dramatically to serve the increasing connectivity demands of households, businesses, and residents. With these expansions came network upgrades and new technologies that increased bandwidth and speed capabilities. However, upgrades repeatedly remain out of reach for historically overlooked communities.



Legacy networks are long past their expiration date. Internet service providers must handle network retirement in a thoughtful, planned, and guarded method that paves the way for next-generation networks while continuing to support increased connectivity for everyone.

If ISPs, government leaders, and community advocates do not center the households with the most pressing connectivity needs, the digital divide will only continue to grow. The FCC should act to reinstate the *2015 Retirement of Copper Loops Order* with adjustments made to reflect the increased reliance on high-speed Internet and Internet-enabled devices in the post-COVID-19 world. Enforcing these rules will allow private ISPs and network operators to move forward with their retirement and upgrade plans while ensuring a continuity of service to support public safety, protect consumers from unfair and unsafe practices, and encourage the highest level of competition

³⁶ Federal Communications Commission, *Intergovernmental Advisory Committee*, <https://www.fcc.gov/about-fcc/advisory-committees/general/intergovernmental-advisory-committee> (last visited Jan. 24, 2022).

in every region of the country. Taking these steps will also help to ensure that well-intentioned plans aimed at growth and infrastructure deployment do not inadvertently displace residents from their only reliable connectivity option.

There is widespread agreement among industry leaders, advocates, and government officials that residents should benefit from more technological innovation, enabling them to enjoy healthier, safer, and more prosperous lives. Increased investments in modern broadband solutions will provide critical alternatives in markets with limited competition. Legacy networks are long past their expiration date. Internet Service Providers must handle network retirement in a thoughtful, planned, and guarded method that paves the way for next-generation networks while continuing to support increased connectivity for everyone.