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Broadband in the Mountain State: Connectivity Linked to Local Options

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BROADBAND IN THE MOUNTAIN STATE: CONNECTIVITY LINKED TO LOCAL OPTIONS

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I. INTRODUCTION

In the Digital Age, broadband internet access is interwoven with daily functions of modern life.¹ “Smart” devices, including wrist watches,

¹ Edward Mendelson, *In the Depths of the Digital Age*, N.Y. REV. (June 23, 2016), https://www.nybooks.com/articles/2016/06/23/depths-of-the-digital-age/?lp_txn_id=1044936.

refrigerators, security systems, and vacuums, just to name a few, help make life easier and more efficient for users.² More impactfully, fundamental services that, merely three decades ago, existed only live and in-person—think health care, education, commerce, employment, and socialization—now, in some instances, exist entirely online.³ Unfortunately, the requirement for accessing these vital online services and conveniences of modern life—a steady, reliable internet connection that is capable of supporting connections for computers and other network-equipped devices—is out of reach for more than 300,000 rural West Virginians.⁴

For Americans living in rural and remote areas, the steady transition from in-person life to the Digital Age has been accompanied by what experts call the “Digital Divide,” or the gap in access to quality internet services between people in urban areas versus rural areas.⁵ About 95.6% of the U.S. population has a fixed internet connection in the home.⁶ This average is made up of 98.8% of the country’s urban population, while only 82.7% of people in rural areas enjoy the same access to broadband.⁷ Despite the Digital Divide, many people in rural West Virginia rely on broadband to remain connected to vital services and economic opportunities that are physically located elsewhere. West Virginia is ranked 48th in the country for broadband connectivity, with about two out of every ten households lacking access to broadband at home.⁸

The Digital Divide was both realized and deepened by the ongoing COVID-19 pandemic, which required most in-person activities in the United

² This network of household objects and appliances that are equipped with software enabling the transmission and receipt of data over the internet is described as the “Internet of things.” See, e.g., Ronald J. Hedges & Kevin F. Ryan, *The IoT: What Is It, What Can Happen with It, and What Can Be Done When Something Happens*, 90 N.Y. ST. BAR J. 30, 30–31 (2018); Peter M. Lefkowitz, *Making Sense of the Internet of Things*, 59 BOS. BAR J. 23, 23 (2015).

³ 2018 Broadband Deployment Report, 36 FCC Rcd. 836 (Jan. 19, 2021) (“[H]igh-speed broadband and the digital opportunity it brings are increasingly essential to innovation, economic opportunity, healthcare, and civic engagement in today’s modern society.”) [hereinafter, 2018 Broadband Report].

⁴ W. VA. BROADBAND ENHANCEMENT COUNCIL, WEST VIRGINIA BROADBAND PLAN 2020–2025 11 (2019), https://broadband.wv.gov/wp-content/uploads/2020/01/West_Virginia_State_Broadband_Plan_2020-2025.pdf.

⁵ While the number of new broadband subscribers continues to grow, data indicate that the rate of broadband deployment in urban and high-income areas is outpacing deployment in rural and low-income areas. See Brian Witkowski, *Bridging the Digital Divide: Improving Broadband Access for Rural Americans*, 13 PUB. INT. L. REP. 170, 171 (2008).

⁶ 2018 Broadband Report, *supra* note 3, at 20.

⁷ *Id.*

⁸ *Id.* at 57. West Virginia is one of only five states where the population of those with broadband is decreasing. See Lucas Manfield, *West Virginia Leaders Say Improving Internet Is a Top Priority. The Latest Numbers Show Access in the State Is Just Getting Worse.*, MOUNTAIN STATE SPOTLIGHT (Feb. 16, 2021), <https://mountainstatespotlight.org/2021/02/16/west-virginia-leaders-say-improving-internet-is-a-top-priority-the-latest-numbers-show-access-in-the-state-is-just-getting-worse/>.

States to come to a screeching halt in March of 2020.⁹ In the wake of the pandemic, the need for broadband connectivity across the U.S. became stronger than ever before, with many jobs, schools, and healthcare services moving to virtual environments in order to limit the spread of the highly contagious novel coronavirus.¹⁰ However, access to online employment, education, government services, and healthcare appointments—including those for both testing and vaccination for COVID-19¹¹—was difficult for some people because of their home's lack of a steady internet connection. Schoolchildren in West Virginia especially felt the impact of the Digital Divide, where some estimate that 30–50% of students lack a steady internet connection at home.¹² In addition, nearly 40% of small businesses felt the adverse effects of low connectivity, reporting inadequate internet service during the pandemic that caused losses in income, employment opportunities, and tax revenue.¹³

The exacerbated Digital Divide in West Virginia comes with serious implications to both local economies and the quality of life of residents who are unable to rely on the internet for vital services. However, West Virginia, through various state and federal channels, has sufficient funding available to expand and repair the broadband infrastructure and achieve the goal of complete connectivity laid out in its 2020–2025 broadband development plan.¹⁴ With the pandemic exposing the punishing effects of inadequate internet access in rural areas, some communities have banded together to solve the problem by forming rural broadband cooperative associations and, in turn, business relationships with state governments and private companies.¹⁵ This Note argues that in order to get the most return on investment for the billions of federal dollars distributed for broadband enhancement in the state, West Virginia should allocate funding to

⁹ Bernard Marr, *How the COVID-19 Pandemic Is Fast-Tracking Digital Transformation in Companies*, FORBES (Mar. 17, 2020, 1:40 AM), <https://www.forbes.com/sites/bernardmarr/2020/03/17/how-the-covid-19-pandemic-is-fast-tracking-digital-transformation-in-companies/?sh=21c0763ca8ee>.

¹⁰ *Id.*

¹¹ The lack of reliable internet eliminates any chance of telemedicine services being used during the pandemic, whether related to COVID-19 or not. See Laken Brooks, *Digital Covid-19 Vaccine Sign-Ups Leave Behind People Without Tech Access*, FORBES (Mar. 19, 2021, 8:44 PM), <https://www.forbes.com/sites/lakenbrooks/2021/03/19/digital-covid-19-vaccine-sign-ups-leave-behind-people-without-tech-access/?sh=78383c307bce>.

¹² Kris Maher, *Remote Schooling out of Reach for Many Students in West Virginia Without Internet*, WALL ST. J. (Sept. 13, 2020, 5:30 AM), <https://www.wsj.com/articles/remote-schooling-out-of-reach-for-many-students-in-west-virginia-without-internet-11599989401>.

¹³ Lucas Manfield, *Bankruptcy, Blackouts and Broken Broadband Promises*, MOUNTAIN STATE SPOTLIGHT (Sept. 17, 2020), <https://mountainstatespotlight.org/2020/09/17/bankruptcy-blackouts-and-broken-promises/>.

¹⁴ See W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 4, at 75–89.

¹⁵ Sydney Lake, *Five Va., Md.-Based Electric Coops Form Broadband Association*, VA. BUS. (Jan. 4, 2021), <https://www.virginiabusiness.com/article/five-va-md-based-electric-coops-form-broadband-association/>.

these municipal initiatives, cooperative rural broadband networks, and locally-owned internet service providers (“ISPs”). Investing in local initiatives, instead of continuing to fund the telecommunications giants that have previously failed to meet connectivity goals, is a solution that would benefit both the consumers and the economy of the State.

This Note demonstrates that alternative solutions to West Virginia’s ongoing broadband internet struggles, including rural community cooperatives and municipal broadband initiatives, have been successful in achieving widespread broadband connectivity. Allocating funding for broadband initiatives to organized communities and municipalities—which are most incentivized to address their own connectivity issues—gives the State a better chance of achieving complete connectivity than if it continues to allocate its funding to large, private telecommunications companies. In a time where broadband is of utmost importance and West Virginia is at a turning point in its employment industries, funding community cooperatives and municipal broadband initiatives is an advantageous solution.

Part II of this Note explores the background of broadband, its funding, and its regulation in West Virginia and nationwide. Part III consists of case studies of the successes of rural community and cooperative broadband initiatives. Lastly, Part IV explains why West Virginia’s recent legislation authorizing community cooperatives and municipal broadband initiatives, along with the surge in funding to achieve complete internet connectivity, provides an opportunity for the State to solve its broadband problem with locally owned or operated broadband initiatives.

II. BACKGROUND OF BROADBAND IN WEST VIRGINIA

This section will provide context on the installation and current state of broadband in West Virginia. Section II.A. explains the federal regulators that are responsible for addressing the Digital Divide and provides a brief explanation of broadband infrastructure in rural areas. Section II.B. explains the unique geological and sociological conditions in West Virginia and the resulting challenges that rural West Virginians face in accessing reliable internet. Section II.C. contextualizes the lack of connectivity in West Virginia by explaining the shortfalls and failures of the privatized telecommunications industry. Section II.D. covers the progressive efforts that the state legislature and the federal government have put forth to increase broadband access. Perhaps most importantly, Section II.E. reviews the funding available to the state of West Virginia for allocation to the various local broadband initiatives.

A. Federal Oversight of Rural Broadband Under § 706 of the Telecommunications Act of 1996.

Responsibility for addressing problems with the nation’s broadband infrastructure spans several federal agencies, including the Appalachian Regional Commission (“ARC”) and the National Telecommunications and

Information Administration (“NTIA”), but the largest agency role is that of the Federal Communications Commission (“FCC”).¹⁶ Under Section 706 of the Telecommunications Act of 1996, the Commission is charged with “encourag[ing] the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.”¹⁷ The FCC also assists in broadband deployment by issuing regulatory policies, creating accurate broadband mapping, and distributing funds for expanding the infrastructure and its capabilities.¹⁸ The FCC’s priority over the last several years has been closing the Digital Divide “by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”¹⁹

West Virginia, like many states, follows the FCC’s definition of broadband.²⁰ The FCC defines broadband by the transmission speed of the service. Internet data is transmitted digitally in “bits,” and a higher megabit per second (“Mbps”) measurement produces faster internet service and transmission of information, images, and sound.²¹ The current FCC definition of broadband requires a minimum download speed of 25 megabits per second and an upload speed of 3 Mbps, usually expressed as 25/3 Mbps.²² Anything less than this minimum threshold is not broadband.

B. Broadband Installation Technologies

Broadband services are primarily provided by the private sector throughout the United States, using an array of broadband technologies.²³ Both

¹⁶ COLBY LEIGH RACHFAL & ANGELE A. GILROY, BROADBAND INTERNET ACCESS AND THE DIGITAL DIVIDE: FEDERAL ASSISTANCE PROGRAMS 20 (2019), <https://sgp.fas.org/crs/misc/RL30719.pdf>.

¹⁷ 2018 Broadband Report, *supra* note 3, at 2 (quoting 47 U.S.C.A. § 1302(a) (West 2021)).

¹⁸ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 4, at 75–89.

¹⁹ 2018 Broadband Report, *supra* note 3, at 3 (quoting 47 U.S.C.A. § 1302(b) (West 2021)).

²⁰ West Virginia Code section 31G-1-2(1) defines “broadband” or “broadband service” as:

any service providing advanced telecommunications capability with the same downstream data rate and upstream data rate as is specified by the Federal Communications Commission and that does not require the end-user to dial up a connection, that has the capacity to always be on, and for which the transmission speeds are based on regular available bandwidth rates, not sporadic or burstable rates, with latency suitable for real-time applications and services such as voice-over Internet protocol and video conferencing, and with monthly usage capacity reasonably comparable to that of residential terrestrial fixed broadband offerings in urban areas

²¹ W. VA. BROADBAND ENHANCEMENT COUNCIL, WEST VIRGINIA DEVELOPMENT GUIDE 2020: STATE AND FEDERAL RESOURCES AND POLICIES 10 (2020), <https://broadband.wv.gov/wp-content/uploads/2020/03/WV-Broadband-Development-Guide.pdf>.

²² PEW CHARITABLE TRUSTS, HOW STATES ARE EXPANDING BROADBAND ACCESS 2 (2020), https://www.pewtrusts.org/-/media/assets/2020/03/broadband_report0320_final.pdf.

²³ See RACHFAL, *supra* note 16, at ii.

wireless²⁴ and wired systems are used by ISPs to provide broadband services to customers, with technological options varying in terms of price, speed, capacity, latency, reliability, mobility, and other factors.²⁵

Higher transmission speeds are only possible when supported by adequate technology and infrastructure. With rare exceptions, wired broadband is supplied via copper telephone lines (“DSL”) or fiber optic cable (“fiber”).²⁶ Even when telecommunications companies invest in fiber infrastructure, fiber cable is not often used to connect every residence to servicing electronics. That practice, called fiber to the home (“FTTH”), involves no copper wires and is the “gold standard” of broadband service.²⁷ Unlike fiber cable, which can maintain internet speeds over distances of over 20 miles, distance has an increasingly negative effect on the strength of the connection when it is supplied via copper cable.²⁸ In rural areas, instead, the “last mile” of cable that connects a customer’s home to the nearest internet substation is usually DSL.²⁹ Rural broadband is often unreliable or unavailable due to its copper wire infrastructure and the distance between customers and substations, as it is rarely practical to place substations near each customer, especially when there may only be two or fewer customers per mile.

C. FCC Reports on Broadband Connectivity Nationwide

Unsurprisingly, West Virginia is one of the least broadband-connected states in the country, ranking 47th out of 50 as of this publication.³⁰ The FCC reports that almost 18% of the state, or around 326,000 West Virginians, still

²⁴ Satellite internet, although long touted as a way to bridge the country’s digital divide in rural areas, has faced criticism, with reports of low bandwidth limits, high costs, and a power shortage expected in the future. See Lucas Manfield, *Starlink Is Here. Can It Solve West Virginia’s Internet Woes?*, MOUNTAIN STATE SPOTLIGHT (Mar. 4, 2021), <https://mountainstatespotlight.org/2021/03/04/starlink-is-here-can-it-solve-west-virginias-internet-woes/>. Satellite service is also excluded by the FCC in the official estimates of fixed broadband coverage published in the National Broadband Deployment Progress reports. See generally 2018 Broadband Report, *supra* note 3. Thus, this Note does not address satellite internet as a solution to rural broadband issues.

²⁵ STEPHEN V. SMITH, BROADBAND TODAY: RURAL AMERICA’S CRITICAL CONNECTION 26 (2021), <https://www.ntca.org/sites/default/files/documents/2021-02/Rural%20America%27s%20Critical%20Connection%20—%20FRS%20White%20Paper.pdf>.

²⁶ *Id.*

²⁷ *A Complete Guide to Fiber Optic Internet*, OTELCO, <https://www.otelco.com/resources/a-guide-to-fiber-optic-internet/> (last visited Oct. 7, 2021).

²⁸ *Id.*

²⁹ *Id.*

³⁰ See Manfield, *supra* note 8; Tyler Cooper & Julia Tanberk, *Best and Worst States for Internet Coverage, Prices and Speeds, 2021*, BROADBANDNOW RSCH. (Sept. 16, 2021), <https://broadbandnow.com/research/best-states-with-internet-coverage-and-speed>.

lack a fixed broadband connection to their homes.³¹ The amount of the population without broadband is significantly higher in West Virginia than in some of West Virginia's neighboring states: Kentucky reports only 7% of its population without a fixed broadband connection and Pennsylvania reports only 5%.³² In rural areas of West Virginia, some reports show that just 30.8% of West Virginians reported a fixed broadband connection to their homes, with 11 counties reporting that less than 50% of residents had access to high-speed internet.³³ This figure is in direct contrast to the FCC's estimate of 82.8% of the nation's rural population with access to broadband services in 2019.³⁴ Exhibiting the depth of the Digital Divide, the FCC reported that 98.8% of the population in urban areas had access to broadband services in 2019.³⁵

Despite the stark numbers reported by the FCC, many studies have contested FCC findings, claiming that an even greater number of Americans than the agency has reported are without access to reliable internet service. Some studies posit that the FCC's approximation of 21.3 million people without access is a gross underestimation and instead ballpark the number to be over 42 million people without internet access.³⁶ There are two primary contributors to the lack of faith that the FCC's reported data portrays reality: the outdated definition of broadband and the unsavory practices of broadband mapping.

Although fast, reliable internet service is vital,³⁷ the current FCC minimum speed of 25/3 Mbps is often too slow for many households, where multiple people likely use the internet at the same time.³⁸ As a result, many people, including United States Senator for West Virginia, Joe Manchin,³⁹ have called for a federal update to the existing definition of broadband to ensure that

³¹ 2018 Broadband Report, *supra* note 3, at 63.

³² Lucas Manfield, *Frontier Pitched Crucial New Funding for West Virginia Broadband. But the Company's History of Scandals Killed the Proposal*, MOUNTAIN STATE SPOTLIGHT (Sept. 28, 2020), <https://mountainstatespotlight.org/2020/09/28/frontier-pitched-crucial-new-funding-for-west-virginia-broadband-but-the-companys-history-of-scandals-killed-the-proposal/>.

³³ Cooper & Tanberk, *supra* note 30.

³⁴ 2018 Broadband Report, *supra* note 3, at 59.

³⁵ *Id.*

³⁶ John Busby & Julia Tanberk, *FCC Reports Broadband Unavailable to 21.3 Million Americans, BroadbandNow Study Indicates 42 Million Do Not Have Access*, BROADBANDNOW RSCH. (Feb. 3, 2020), <https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent>.

³⁷ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 11.

³⁸ James K. Willcox, *Is Your Internet Fast Enough for Streaming?*, CONSUMER REPS. (Apr. 5, 2019), <https://www.consumerreports.org/broadband/internet-fast-enough-for-streaming-broadband-speed/>.

³⁹ *Manchin Calls on Biden Administration to Create Modern, Unified Federal Broadband Standard*, JOE MANCHIN (Mar. 4, 2021), <https://www.manchin.senate.gov/newsroom/press-releases/manchin-calls-on-biden-administration-to-> (requesting that the Biden Administration set a goal of funding networks that deploy fiber and deliver both download and upload speeds of 100 Mbps).

ISPs financed entirely or partially with federal funds are actually satisfying consumer needs.⁴⁰ Aside from the speeds, the definition is important because it serves as the foundation for funding decisions, as only regions lacking speeds of 25/3 Mbps are eligible for federal “broadband” funding.⁴¹

The FCC’s determination of which regions to fund, through its broadband coverage maps, has also been subject to controversy.⁴² In 2019, the FCC took preliminary steps to address concerns about the maps, which included doubts about the reliability of the maps created by the FCC as they were based on census block coverage information self-reported by ISPs.⁴³ A provider could claim to serve the populations of entire census blocks, even if it provided service to only one household in a block.⁴⁴ This was especially detrimental to rural areas, where census blocks are bigger and houses are further apart.⁴⁵ Providers will soon report coverage areas based on geospatial maps, which ideally will improve the accuracy of identifying which homes are underserved by broadband.

D. *The Cost of Broadband in West Virginia*

Internet service in West Virginia is harder to install, more expensive, and slower in comparison to internet service provided across the United States.⁴⁶ These shortcomings can be attributed, in part, to the lacking quality of both ISPs and technologies available in rural areas versus urban areas and the monopolization of the telecommunications industry in the United States. ISPs’ services are more easily installed and more profitable to sell to the 80% of people in the United States who live clustered together in urban areas, whereas rural communities are often limited to slower, outdated technology.⁴⁷ Privately owned ISPs often cannot justify the cost of deploying the infrastructure to connect sparsely populated rural areas due to the small return on investment.

⁴⁰ *Id.* Broadening the scope of “broadband” would erase years of reported progress, in that millions of areas that are now deemed by the FCC to be covered by broadband would revert to being unserved. See 2018 Broadband Report, *supra* note 3, at 2 (“[T]he rural–urban divide is rapidly closing; the gap between the percentage of urban Americans and the percentage of rural Americans with access to 25/3 Mbps fixed broadband has been nearly halved,” falling from a difference of 30% at the end of 2016 to a difference of 16% at the end of 2019.).

⁴¹ See SMITH, *supra* note 25, at 29.

⁴² *Id.*

⁴³ H. TROSTLE & CHRISTOPHER MITCHELL, PROFILES OF MONOPOLY: BIG CABLE AND TELECOM 2 (2020), https://ilsr.org/wp-content/uploads/2020/08/2020_08_Profiles-of-Monopoly.pdf.

⁴⁴ *Id.* at 3.

⁴⁵ *Id.*

⁴⁶ Claire Park, *The Cost of Connectivity in West Virginia*, NEW AM. (Apr. 1, 2020), <https://www.newamerica.org/oti/reports/cost-connectivity-west-virginia/>.

⁴⁷ *Id.*

Geographically, West Virginia is ranked as the third most rural state by the Census Bureau,⁴⁸ and most of the counties in the state were considered rural in 2010.⁴⁹ West Virginia, known as the “Mountain State,” features terrain that makes it the third most densely forested state in the nation, with trees covering 78% of the state’s 24,038 square miles.⁵⁰ Connecting each house to the internet is logistically more complicated and costly in mountainous and heavily forested areas, where topography makes access to the most rural areas anything but straightforward.

The profit-driven market leads to few ISPs, if any, for rural consumers to choose from, and little competition among the ISPs themselves to develop adequate connectivity to meet the needs of rural citizens. ISPs operating in the State often lack any long-term plans for upgrading or creating a fulsome broadband network there because they are often undergoing corporate reorganizations or expansions in more profitable areas. In West Virginia, 399,000 residents have access to only one wired internet provider, leaving them no other provider to switch to if the service is objectionable.⁵¹ When there is only one company that provides service to a particular market, consumers are left with no real bargaining power. In these situations, it simply “costs what it costs” to be connected to the internet—and ISPs are all but free to charge whatever they please.⁵²

The steep price of internet access is a barrier to accomplishing statewide internet access for the people of West Virginia. No government agency currently regulates or collects data on the price of broadband.⁵³ In rural areas, the combined effect of the lack of consumers, ISPs, and competition causes broadband service to be prohibitively costly for some low-income people. An estimated 278,734 West Virginians lived in poverty in 2019, resulting in a poverty rate that is about 3.7% higher than the national average.⁵⁴ West Virginia’s median household income was an estimated \$48,850 in 2019, which was \$16,862 below the national

⁴⁸ SEAN O’LEARY, RICK WILSON & TED BOETTNER, STATE OF RURAL WEST VIRGINIA 3 (2018), https://d3n8a8pro7vhmx.cloudfront.net/wvcbp/pages/2522/attachments/original/1540309560/State_of_Rural_WV_.pdf?1540309560.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *West Virginia Internet Coverage and Availability*, BROADBAND NOW (Oct. 25, 2021), <https://broadbandnow.com/West-Virginia>.

⁵² Emily Stewart, *America’s Monopoly Problem, Explained by Your Internet Bill*, VOX (Feb. 18, 2020, 7:00 AM), <https://www.vox.com/the-goods/2020/2/18/21126347/antitrust-monopolies-internet-telecommunications-cheerleading>.

⁵³ Park, *supra* note 46.

⁵⁴ Sean O’Leary, *Data Released Today Shows West Virginia Had 6th Highest Poverty Rate in the Country Even Before COVID Hardship, More Relief Needed*, W. VA. CTR. ON BUDGET & POL’Y (Sept. 17, 2020), <https://wvpolicy.org/data-released-today-shows-west-virginia-had-6th-highest-poverty-rate-in-the-country-even-before-covid-hardship-more-relief-needed/>.

average and the second lowest among the 50 states.⁵⁵ Meanwhile, the median monthly cost for a broadband plan in West Virginia is \$84.99,⁵⁶ which is notably higher than the \$66 median price for all U.S. households.⁵⁷ Only 39.3% of West Virginia residents have access to a wired internet plan for under \$60 per month.⁵⁸ Thus, even when telecommunications companies do expand to the most rural areas—and earn FCC subsidies for doing so—those residents may still find internet access out of reach.

The higher price West Virginians are charged for access to broadband internet does not come with better service. Whereas the median download speed advertised for broadband service in the United States is 100 Mbps,⁵⁹ the median download speed across plans in West Virginia is advertised at 25 Mbps.⁶⁰ Where a person lives within the state also dictates pricing, exemplifying the Digital Divide between rural and urban areas. In West Virginia, a private ISP, Suddenlink, advertises that it charges \$54.99 a month for a 100 Mbps plan in rural Buckhannon, but the company offers the same speed plan for only \$34.99 in the more urbanized areas of Charleston and Parkersburg.⁶¹ And again, the steeper price does not correlate to better internet speeds: the average download speed for plans advertised in rural communities within West Virginia is 25.65 Mbps, compared to 186.58 Mbps advertised in urban areas.⁶² The average upload speed offered, meanwhile, was 3.39 Mbps in rural areas, while it was over four times that, at 14.02 Mbps, in urban areas.⁶³

Within the telecommunications market, as it exists, ISPs have little incentive to upgrade aging infrastructure or price services competitively, let alone to ensure comprehensive access to reliable broadband in the most rural areas of Appalachia.

E. Shortfalls of Past Broadband Investments in West Virginia

Since 2015, the FCC has given large, private telecommunications companies over \$1.5 billion in subsidies *each year* through the Connect America Fund (“CAF”) to incentivize private providers to bring high-speed service to

⁵⁵ *Id.*

⁵⁶ Park, *supra* note 46.

⁵⁷ Inti Pacheco & Shalini Ramachandran, *Do You Pay Too Much for Internet Service? See How Your Bill Compares.*, WALL ST. J. (Dec. 24, 2019, 10:00 AM), <https://www.wsj.com/articles/do-you-pay-too-much-for-internet-service-see-how-your-bill-compares-11577199600>.

⁵⁸ *West Virginia Internet Coverage and Availability*, *supra* note 51.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Park, *supra* note 46.

⁶² *Id.*

⁶³ *Id.*

rural communities.⁶⁴ Despite the funding, big companies are reluctant to invest in new technology in rural regions where they lack competition, and past efforts to get private ISPs to invest in rural regions have largely failed.⁶⁵ While it is true that the number and business organization of ISPs varies greatly throughout the states,⁶⁶ the Digital Divide has emerged and persisted because the telecommunications industry has stayed relatively monopolized.⁶⁷ Comcast and Charter, the top two residential ISPs in the United States, “maintain an absolute monopoly over at least 47 million people and millions more only have slower and less reliable DSL as a ‘competitive’ choice.”⁶⁸ Unfortunately, in many parts of West Virginia, and for 55,000 people nationwide, the only broadband option is Frontier.⁶⁹

In 2010, Frontier purchased Verizon’s aged rural copper telephone line network in West Virginia and became one of the largest ISPs in the country.⁷⁰ West Virginia’s state utility regulator, the Public Service Commission (“PSC”), opposed the deal because of its doubts that the company could really provide the services it promised given the outdated infrastructure in the state.⁷¹ Frontier ultimately gained the PSC’s approval by promising to provide internet to 85% of Verizon’s telephone customers and agreeing to comply with extra reporting and investment requirements.⁷² Later that year, West Virginia gave Frontier \$40 million from its allocated federal Broadband Technology Opportunities Program funds to build out a high-speed fiber network.⁷³ However, the company failed to perform the necessary maintenance on the DSL infrastructure; customers’

⁶⁴ TROSTLE & MITCHELL, *supra* note 43, at 1. Even though the FCC does not classify service speeds of less than 25/3 Mbps as broadband, the CAF offers subsidies to ISPs that provide much slower service speeds of 10/1 Mbps in areas that were previously unserved. *Id.*

⁶⁵ *Id.* at 21.

⁶⁶ PEW CHARITABLE TRUSTS, *supra* note 22, at 1.

⁶⁷ For instance, approximately 117 million people in 39 states live in the service area for Comcast, the largest residential ISP in the U.S., and about 22 million people have no other option for internet than Comcast’s Xfinity service. *See* TROSTLE & MITCHELL, *supra* note 43, at 4. This is the trend for the top ISPs in the country. *Id.*

⁶⁸ *Id.* at 21.

⁶⁹ *Id.* at 17.

⁷⁰ Manfield, *supra* note 13.

⁷¹ *Id.*

⁷² *Id.*; Emily Allen, *Phone Company Frontier to Respond to Lengthy Audit by April 20*, W. VA. PUB. BROAD. (Apr. 2, 2020, 8:25 PM), <https://www.wvpublic.org/news/2020-04-02/phone-company-frontier-to-respond-to-lengthy-audit-by-april-20>.

⁷³ Manfield, *supra* note 32. After the buildout was complete, a Department of Justice investigation found that Frontier had wasted nearly \$5 million of the grant funds and then attempted to cover it up. *Id.* The DOJ ordered West Virginia to return \$4.7 million of the funding.

internet speeds slowed, and some reported being unable to access the internet service at all, as Frontier failed to maintain or upgrade its copper DSL lines.⁷⁴

Over the years, Frontier has continually accepted millions of dollars in government grants to expand and improve its broadband network, but this investment has resulted in little improvement to consumers' actual service. For these reasons, Frontier has long struggled to be a reliable ISP, and complaints against the company have become so prevalent that the PSC has repeatedly commissioned audits of the company's operations.⁷⁵ In one notable illustration, Hampshire County commissioners and emergency dispatchers complained of prolonged phone service so unreliable, despite years of complaints to both Frontier and the PSC, that the county told residents to go directly to the nearest fire station in the case of an emergency, instead of trying to call 911.⁷⁶

One audit, commissioned by the PSC in response to thousands of complaints of unusable phonelines and internet from residents of rural West Virginia communities, definitively found the company had failed to adequately invest and maintain its network of copper telephone lines.⁷⁷ Tests by the state's Broadband Enhancement Council found that Frontier's average download speeds were less than half of what federal regulators currently classify as broadband.⁷⁸ Auditors found that maintenance and capital expenditures, the money Frontier spent to upgrade its network, had fallen by half, even as the number of complaints skyrocketed significantly from 2012 to 2018.⁷⁹ Some customers attempted to take the company to court, forming a putative class action that alleged that Frontier failed to install the equipment necessary to provide its advertised speeds.⁸⁰ The suit was unsuccessful due to the Supreme Court of West

⁷⁴ Allen, *supra* note 72. In 2020, an independent consulting firm retained by the PSC reported that almost 50% of Frontier's West Virginia network is between 37 and 46 years old. Jon Brodtkin, *Frontier Bungles Redaction of Network Audit that It Doesn't Want You to See*, ARS TECHNICA (Apr. 9, 2020, 4:25 PM), <https://arstechnica.com/tech-policy/2020/04/frontier-botches-redaction-reveals-952000-potential-network-problems/>. The audit report also found that "Frontier WV does not have a documented process for performing preventative and corrective maintenance." *Id.*

⁷⁵ See Allen, *supra* note 72.

⁷⁶ See Lucas Manfield, *In This Rural West Virginia Community, a Local Cooperative Is Proving High-Speed Internet Can Work*, MOUNTAIN STATE SPOTLIGHT (Oct. 13, 2020), <https://mountainstatespotlight.org/2020/10/13/where-frontier-stumbles-west-virginias-rural-cooperatives-step-in/>.

⁷⁷ Lucas Manfield, *Frontier's Latest Compromise with W. Va. Regulators: \$200 Million but Lots of Questions*, MOUNTAIN STATE SPOTLIGHT (Dec. 19, 2020), <https://mountainstatespotlight.org/2020/12/19/frontiers-latest-compromise-with-w-va-regulators-200-million-but-lots-of-questions/>.

⁷⁸ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 4, at App. A.

⁷⁹ Manfield, *supra* note 13. Annual revenue from Frontier's Internet division was approximately \$3.8 billion in 2019, and the annual capital expenditure was about \$1.2 billion. TROSTLE & MITCHELL, *supra* note 43, at 16.

⁸⁰ See *Citizens Telecomms. Co. of W. Va. v. Sheridan*, 799 S.E.2d 144, 146 (W. Va. 2017).

Virginia's upholding of Frontier's mandatory arbitration clause, which is incorporated into its terms of service in 2011.⁸¹

In 2013, state Attorney General Patrick Morrisey's office investigated complaints about Frontier's service and discovered that some customers were receiving internet at speeds that were less than a quarter of the already slow speeds advertised by Frontier ("up to 6 Mbps").⁸² In the resulting 2015 settlement, Frontier promised to invest \$150 million in improving its network—the same year, the FCC agreed to give Frontier \$38 million a year through the CAF to establish 10 Mbps service in rural communities across West Virginia.⁸³ Through the CAF alone, Frontier received \$238.4 million each year from 2015 to 2020 to serve about 660,000 homes and businesses—\$1.4 billion total.⁸⁴

Even after all the federal subsidies, while serving nearly 300,000 customers in West Virginia, Frontier filed for Chapter 11 bankruptcy in April of 2020.⁸⁵ The company acknowledged in legal filings that instead of investing in required fiber enhancements in West Virginia, it chose to spend its profits on expanding its networks to California, Texas, and Florida.⁸⁶ The company made a series of devastating strategic mistakes, taking on over \$11.5 billion in new debt in a series of acquisitions and spending heavily on the corresponding interest payments, instead of investing in repairing its existing infrastructure.⁸⁷ In its filings, Frontier presented that the cost of expanding and upgrading its broadband infrastructure to fiber would be "prohibitively expensive."⁸⁸ Frontier exited bankruptcy in 2021,⁸⁹ after 11 states, Frontier, its union, and West Virginia

⁸¹ *Id.* at 154.

⁸² Manfield, *supra* note 13.

⁸³ *Id.*

⁸⁴ See TROSTLE & MITCHELL, *supra* note 43, at 16.

⁸⁵ Hoppy Kercheval, *Can WV Afford to Gamble on Frontier's Broadband Bid?*, W. VA. METRONews (Dec. 22, 2020, 12:34 AM), <https://wvmetronews.com/2020/12/22/can-wv-afford-to-gamble-on-frontiers-broadband-bid/>; Malena Carollo, *Frontier Communications Files for Chapter 11 Bankruptcy*, TAMPA BAY TIMES (Apr. 16, 2020), <https://www.tampabay.com/news/business/2020/04/15/frontier-communications-files-for-chapter-11-bankruptcy/>.

⁸⁶ Lucas Manfield, *Faced with Mounting Evidence of Misconduct, Regulators Mull Frontier's Fate in West Virginia*, MOUNTAIN STATE SPOTLIGHT (Nov. 13, 2020), <https://mountainstatespotlight.org/2020/11/13/faced-with-mounting-evidence-of-misconduct-regulators-mull-frontiers-fate-in-west-virginia/>.

⁸⁷ *Id.*

⁸⁸ Manfield, *supra* note 13. In May of 2020, the company paid out \$38 million in bonuses to its executives. *Id.*

⁸⁹ Peter Cameron, *Sued by Wisconsin and Fresh Off of Bankruptcy, Frontier Asks the State for \$35 Million in Grants*, SUN PRAIRIE STAR (Oct. 27, 2021), https://www.hngnews.com/sun_prairie_star/news/article_fe139fe7-440f-5706-a622-ae5ce20ea5f.html.

regulators signed onto a proposed plan that would eliminate \$10 billion in debt from Frontier's books.⁹⁰

In reaching its agreement with West Virginia regulators, Frontier once again promises to invest \$200 million in the state over the next three years to upgrade its aged DSL network to FTTH.⁹¹ However, these promises all comport with Frontier's long-term business strategy: an integral part of its reorganization plan is securing hundreds of millions of dollars in federal subsidies for rural broadband expansion.⁹² Despite the plan's promise, misdirected funding and initiatives in West Virginia keep broadband access in the state uncertain, as Frontier continues failing to provide the service it has promised to since 2010.

F. West Virginia's Progressive Legislative Efforts

In 2014, West Virginia produced a five-year strategic plan for broadband deployment with funding from the NTIA as part of the State Broadband Initiative ("SBI") that served as the foundation for much of the legislation that followed.⁹³ Expanding from the strategies presented in the plan, which called for a lead agency to coordinate broadband education, implementation, and adoption within the state, the state has in recent years enacted several laws to encourage broadband implementation.⁹⁴ House Bill 3093, signed into law by Governor Jim Justice in 2017, created Chapter 31G of the West Virginia Code, which replaced old sections of code inhibiting broadband services and modernized the treatment of broadband in the state.⁹⁵

The Legislature found that the citizens of the state would benefit from the stimulation of jobs, businesses, and economic growth that broadband provides.⁹⁶ It drew special attention to the potential that broadband has for educational applications, finding:

⁹⁰ Manfield, *supra* note 13.

⁹¹ *Id.*

⁹² Lucas Manfield, *Frontier Has Sucked up Millions Before Without Giving W.Va. Good Broadband. They're About to Get Another Chance*, MOUNTAIN STATE SPOTLIGHT (Dec. 9, 2020), <https://mountainstatespotlight.org/2020/12/09/frontier-has-sucked-up-millions-before-without-giving-w-va-good-broadband-theyre-about-to-get-another-chance/>. In December 2020, the company won nearly \$250 million in subsidies from the FCC to build fiber across much of rural West Virginia, which includes a commitment to bringing high-speed internet to nearly 80,000 homes and businesses across the state over the next decade. Manfield, *supra* note 77.

⁹³ *See generally* W. Va. BROADBAND DEPLOYMENT COUNCIL, STATE OF WEST VIRGINIA BROADBAND STRATEGIC PLAN (2014), https://broadband.wv.gov/assets/files/pdfs/inner-pages/wv-broadband-plan/West_Virginia_Broadband_Plan.pdf.

⁹⁴ *Id.* at 1.

⁹⁵ Max Garland, *Justice Signs Broadband Bill*, CHARLESTON GAZETTE-MAIL (Nov. 21, 2017), https://www.wvgazette.com/business/justice-signs-broadband-bill/article_3ccc8708-4e34-5398-a430-17b58defd878.html.

⁹⁶ H.R.B. 3903 § 31G-1-1(4), 83rd Leg., Reg. Sess. (W. Va. 2017).

That fair and equitable access to twenty-first-century technology is essential to maximize the functionality of educational resources and educational facilities that enable our children to receive the best of future teaching and learning is essential to the future development of this state. A quality educational system of the twenty-first century should have access to the best technology tools and processes. Administrators should have the electronic resources to monitor student performance, to manage data, and to communicate effectively. In the classroom, every teacher in every school should be provided with online access to and the ability to deliver the best available educational technology resources to the students of West Virginia. Schools of the twenty-first century require facilities that accommodate changing technologies.⁹⁷

One of the major endeavors of House Bill 3093 was to reform the West Virginia Broadband Enhancement Council (“Council”), greatly expanding its duties.⁹⁸ The Code sets many directives for the Council, with a primary goal of developing broadband infrastructure in unserved and underserved areas to encourage statewide access to high-speed internet.⁹⁹ To do so, the Council is instructed to “(1) Explore any and all ways to expand access to broadband services, including, but not limited to, middle mile, last mile and wireless applications; [and] (2) Gather data regarding the various speeds provided to consumers in comparison to what is advertised.”¹⁰⁰ The Council’s members include state legislators; broadband users, including businesses and residents; local government officials; and state agencies.¹⁰¹ The Council released an updated five-year plan in 2020, outlining the council’s goals and offering strategies for improving broadband infrastructure and boosting its use.¹⁰² One effort outlined by the Council in the plan is collecting speed-test data submitted by users on its website to use for the mapping of broadband availability in the state, in order to help to ensure that unserved communities are not deemed as being served.¹⁰³

In addition to strengthening the Council, the West Virginia legislature has made significant progress in recent years in terms of broadband deployment policy. In 2018, it passed legislation that allows the Division of Highways to lease access to rights of way to ISPs and created a “Dig Once” policy in which the division notifies utilities, including broadband providers, of upcoming

⁹⁷ *Id.*

⁹⁸ *Id.* at § 31G-1-3.

⁹⁹ *Id.* at § 31G-1-4.

¹⁰⁰ *Id.* at §§ 31G-1-4(a)(1) to -4(a)(2).

¹⁰¹ *Id.* at § 31G-1-3.

¹⁰² W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 4.

¹⁰³ *Id.* at 4.

roadwork projects so that it can install vacant broadband conduit during highway construction projects.¹⁰⁴ Interested ISPs apply to the Council for approval to use the conduit, which is leased at cost-based rates.¹⁰⁵ Instituting a “dig once” policy encourages telecommunications carriers to coordinate the installation of broadband conduits to minimize costs to the carriers and to minimize disruption and inconvenience to the traveling public. Broadband legislation passed during the 2019 Legislative Session amended the Dig Once Policy.¹⁰⁶ Legislation also established the ability of fiber network builders to utilize micro-trenching, an innovative lower-cost, lower-impact technique for installing underground fiber facilities while minimizing disruption to street traffic.¹⁰⁷ The legislation requires the installation of vacant conduit when a provider is performing micro-trenching operations.¹⁰⁸

In 2019, the West Virginia legislature enacted the “Wireless Technology Business Property Valuation Act” and the “Small Wireless Facilities Deployment Act.”¹⁰⁹ This legislation empowers the State’s electric utilities to develop plans for the construction and operation of middle-mile broadband infrastructure expansion projects to provide access to unserved areas.¹¹⁰ Because electric companies already provide electricity to many rural areas, telecom companies can install the fiber optic cable on existing power poles in those areas, as long as the cooperatives are compensated for the use of their poles. Senate Bill 3 provided for the implementation of One-Touch Make-Ready rules for utility pole attachments, premised primarily on the FCC’s rules around this process.¹¹¹

Innovative legislation continues to be proposed in 2021 with HB 2002, which would make it faster and cheaper for telecommunications companies to install fiber by allowing them to use the poles and trenches of other utilities.¹¹² This bill, which has bipartisan support and will soon be debated on the House floor, lays the groundwork for greater state and local control over West

¹⁰⁴ W. VA. BROADBAND ENHANCEMENT COUNCIL, *West Virginia Division of Highways Guidance on Implementing the Dig Once Policy*, (Oct. 4, 2018) <https://broadband.wv.gov/assets/files/pdfs/news/Dig-Once-Policy-Guide-October-2018.pdf>.

¹⁰⁵ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 41.

¹⁰⁶ S. 270, 84th Leg., Reg. Sess. (W. Va. 2019), http://www.wvlegislature.gov/Bill_Status/bills_text.cfm?billdoc=SB270%20SUB1%20ENR.htm&yr=2019&sesstype=RS&i=270.

¹⁰⁷ W. VA. CODE ANN. §§ 31G-3-1 to -4 (West 2021).

¹⁰⁸ H.B. 3903 § 31G-3-2(c), 83rd Leg., Reg. Sess. (W. Va. 2017).

¹⁰⁹ S.B. 3, 84th Leg., Reg. Sess. (W. Va. 2019) (codified as W. VA CODE ANN. §31G-4-5 (West 2021)).

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² The bill also provides protections for broadband customers under the state’s consumer protection laws by including provisions that would allow subscribers to file complaints with the Consumer Protection Division of the West Virginia Attorney General’s Office. H.B. 2002, 86th Leg., Reg. Sess. (W. Va. 2021).

Virginia's network infrastructure and defines the role of the state Department of Commerce's new Office of Broadband, which will be charged with mapping the state's unserved and underserved regions.¹¹³ West Virginia's legislation over the past decade signifies a shift from reliance on large telecom companies to achieve connectivity, opening the door for new and innovative solutions for combatting the lack of broadband access in the most rural parts of the state.

G. *Developments in Recent Federal and State Broadband Funding*

A major development in broadband funding for 2020 was the FCC's announcement in December of the winning bidders in phase one of its Rural Digital Opportunity Fund ("RDOF"), which directs up to \$20.4 billion to expand broadband in unserved rural areas.¹¹⁴ The COVID-19 pandemic, in addition to exacerbating issues of rural connectivity, has also revealed how "[p]oor management of the Universal Service Fund. . . has meant some companies get the money without delivering on the promised numbers of households served or service quality."¹¹⁵ There are concerns, however, that funding rules as currently drafted could preclude many communities from receiving assistance because it excludes those communities that have already received federal or state subsidies.¹¹⁶ Underserved and unserved communities still need support to build out faster networks and better infrastructure, and such a restriction on additional federal funding could severely limit the ability of rural communities to improve broadband access.

Additionally, the FCC's allocation of its funding could serve to be problematic if viewed through the lens of history. Although it recently allocated the \$362 million of its RDOF to West Virginia, over \$250 million will go to Frontier, to the surprise and disappointment of many West Virginians who are worried they could continue to receive subpar service.¹¹⁷ In response to the auction, United States Senator for West Virginia Shelley Moore Capito wrote to the FCC voicing her concerns about the ability of Frontier Communications to

¹¹³ Steven Allen Adams, *Broadband Expansion Bill Finds Bipartisan Support in West Virginia House*, PARKERSBURG NEWS & SENTINEL (Mar. 4, 2021) <https://www.newsandsentinel.com/news/business/2021/03/broadband-expansion-bill-finds-bipartisan-support-in-west-virginia-house/>.

¹¹⁴ Tina Pelkey, *FCC Launches \$20 Billion Rural Digital Opportunity Fund to Expand Rural Broadband Deployment*, FCC NEWS (Jan. 30, 2020), <https://docs.fcc.gov/public/attachments/DOC-362190A1.pdf>.

¹¹⁵ Shira Ovide, *Why Rural America's Digital Divide Persists*, N.Y. TIMES (June 1, 2021), <https://www.nytimes.com/2020/05/05/technology/rural-america-digital-divide-coronavirus.html>.

¹¹⁶ Shiva Stella, *Last-Minute Change to FCC Rural Broadband Fund May Ban Grants for Millions of Unconnected Americans*, PUB. KNOWLEDGE (Jan. 30, 2020), <https://www.publicknowledge.org/press-release/last-minute-change-to-fcc-rural-broadband-fund-may-ban-grants-for-millions-of-unconnected-americans/>.

¹¹⁷ Manfield, *supra* note 92.

meet RDOF obligations.¹¹⁸ Capito said Frontier “way underbid” for the RDOF projects and cited Frontier’s previous mismanagement of government funds as an additional reason it should not be allowed to reap the results of the auction.¹¹⁹

Focusing on broadband’s economic development potential has allowed the Council to use federal funding sources that support economic and community development efforts for broadband. These include the Community Development Block Grant (“CDBG”) program, ARC’s Partnerships for Opportunity and Workforce and Economic Revitalization, and the Abandoned Mine Land grant program operated by the Office of Surface Mining Reclamation and Enforcement, which funds economic development projects in places that have been affected by the decline of the coal industry.¹²⁰

The CDBG program is administered by the state in the West Virginia Development Office (“WVDO”), under the guidelines of the U.S. Department of Housing and Urban Development (“HUD”).¹²¹ Though the state has historically used most of its CDBG funds for water and sewer projects, it decided in 2016 to allocate a portion to broadband planning and infrastructure.¹²² The state development office has drawn on its expertise with sewer and water projects and structured its broadband efforts similarly. HUD has directed states to evaluate the availability of broadband among low- to moderate-income citizens and to expand broadband access. Recognizing that broadband connectivity is essential for economic success, WVDO has partnered with the Council to develop the CDBG broadband program with a primary emphasis on the extension of broadband to unserved and underserved communities.¹²³ These areas align with CDBG priorities for low- to moderate-income residents.

In 2018, Governor Jim Justice announced the approval of \$1.5 million in CDBG funding for broadband development projects in West Virginia.¹²⁴

¹¹⁸ *Capito Cautions FCC on RDOF Funding for Frontier*, SHELLEY MOORE CAPITO (Dec. 10, 2020), <https://www.capito.senate.gov/news/press-releases/capito-cautions-fcc-on-rdof-funding-for-frontier>.

If, during the review of Frontier’s long-form application for the West Virginia locations there are any questions or concerns about their ability to deliver on the commitment made in their short form application, I urge the FCC to reject their long-form application. The stakes are simply too high to provide nearly \$250 million to a company that does not have the capability to deliver on the commitments made to the FCC. West Virginia cannot afford to be let down, yet again, by the failure of Frontier to deliver on promises made to federal partners.

Id.

¹¹⁹ Jeff Jenkins, *Capito Wants FCC to Reject Frontier’s Bid for Broadband Expansion*, W. VA. METRONews (Dec. 21, 2020), <https://wvmetronews.com/2020/12/21/capito-wants-fcc-to-reject-frontiers-bids-for-broadband-expansion/>.

¹²⁰ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 31.

¹²¹ *Id.* at 32.

¹²² PEW CHARITABLE TRUSTS, *supra* note 22, at 21.

¹²³ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 32.

¹²⁴ 2018 Broadband Deployment Report, *supra* note 4, at 3.

Through 2019, approximately \$4 million in CDBG funding has been dedicated to 16 broadband planning and six infrastructure projects, with more than half of West Virginia's 55 counties actively pursuing broadband development.¹²⁵ In addition to funding infrastructure, CDBG grants provide localities with necessary resources to prepare projects for funding opportunities, including the USDA's ReConnect program.¹²⁶ In 2018, the Council and the WVDO coordinated the release of a request for proposals for projects to be funded by an available \$3.2 million in ARC funding as part of the agency's broadband initiative.¹²⁷

In October of 2021, Governor Justice unveiled a billion-dollar strategy to expand broadband availability, which will combine funding from federal, state, and local governments, along with matching investments from private-sector partners, to accelerate the expansion of high-speed internet to underserved areas of the state.¹²⁸ The Governor's strategy will add a \$236 million state broadband program to \$362 million in Federal Communications Commission funding and \$120 million from other state and federal sources, for a total of \$718 million in government funding expected to be allocated by fall 2022.¹²⁹ President Biden's plan for rural America also includes a \$20 billion investment into building out rural broadband access and would encourage cities and towns to create their own municipal broadband networks.¹³⁰ There is clearly no shortage of funding available to achieve the goal of complete connectivity to quality broadband; the issue lies in which companies receive the funds.

III. CASE STUDIES OF THE LOCAL OPTION'S SUCCESS

Broadband is a critical part of the infrastructure needed for rural communities to thrive. Recognizing that they could not count on incumbent telecommunication companies to provide the service, more than 750 small towns and communities across the country have already banded their communities together and used rural creativity to successfully build their own broadband

¹²⁵ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 32.

¹²⁶ PEW CHARITABLE TRUSTS, *supra* note 22. Through its ReConnect program, the USDA invested \$1.3 billion in funding to promote broadband growth in rural areas throughout the United States. Many of the projects funded are still under construction. *See generally* WEST VIRGINIA BROADBAND ENHANCEMENT COUNCIL, 2018 LEGISLATIVE REPORT (Dec. 31, 2018), https://broadband.wv.gov/assets/files/news/B19_CY_2018_14230.pdf.

¹²⁷ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 35.

¹²⁸ Jordan Damron, *Gov. Justice Announces Billion-Dollar Broadband Strategy*, OFF. OF THE GOVERNOR (Oct. 15, 2021), <https://governor.wv.gov/News/press-releases/2021/Pages/Gov.-Justice-announces-Billion-Dollar-Broadband-Strategy.aspx>.

¹²⁹ *Id.*

¹³⁰ *The Biden-Harris Plan to Build Back Better in Rural America*, BIDEN HARRIS, <https://joebiden.com/rural-plan/> (last visited Oct. 7, 2021).

networks.¹³¹ Studies have shown that service offered by community ISPs tends to be significantly cheaper than broadband service provided by privately-owned companies.¹³² Additionally, community options tend to offer prices that are more upfront with the end user and less reliant on misleading promos or hidden fees.¹³³ These advantages are in large part because community ISPs are owned and operated by community members, people who have an active, vested interest in, and direct accountability to, the communities they operate in. Success stories from communities like these can be a roadmap for other small towns looking to modernize their infrastructure. Each community has different circumstances, but sharing lessons learned will help state governments make informed decisions.

This section will briefly examine three small towns across America that have used rural connectivity to build their own local broadband networks. First, this section will discuss Ammon, Idaho, where the city government operates the Internet as a municipal utility. Second, this section will turn to Springfield, Missouri, where the city announced a public-private partnership with CityLink, an ISP, to build a community network. Finally, this section will focus on Wardensville, West Virginia, where Hardy Telecommunications provides the citizens with FTTH.

A. Ammon, Idaho

The City Council of Ammon, Idaho, population 16,500, realized around 2011 that private broadband providers alone were not meeting residents' needs.¹³⁴ It began constructing its municipal fiber broadband network in 2011 and by 2019, it served around 900 households with "the most sophisticated fiber network" in the country.¹³⁵ The City operates the internet infrastructure not as a business, but as a municipal utility—an essential public service, just like roads, water, and sewer.¹³⁶ "There is an evolution of the internet that will happen over the next decade or two," says Ammon's technology director. "We're trying to accommodate what we see as the future of the internet."¹³⁷

¹³¹ Benny Becker, *Rural Communities Take Broadband into Their Own Hands*, NPR (Mar. 3, 2018), <https://www.npr.org/2018/03/03/590546371/rural-communities-take-broadband-into-their-own-hands>.

¹³² See generally DAVID TALBOT, KIRA HESSEKIEL, & DANIELLE KEHL, *COMMUNITY-OWNED FIBER NETWORKS: VALUE LEADERS IN AMERICA* (2017), <https://dash.harvard.edu/handle/1/34623859>.

¹³³ *Id.*

¹³⁴ Jay Woodruff, *The City with The Best Fiber-Optic Network in America Might Surprise You*, FAST CO. (Oct. 21, 2019), <https://www.fastcompany.com/90416863/the-city-with-the-best-fiber-optic-network-in-america-might-surprise-you>.

¹³⁵ *Id.*

¹³⁶ Bruce Patterson, *What Is the "Ammon Model?"*, BROADBAND CMTYS. (May 2018), <https://www.bbcmag.com/community-broadband/what-is-the-ammon-model>.

¹³⁷ Woodruff, *supra* note 134.

National recognition that the internet is just as critical as other utility services “would be a huge step forward” according to the technology director.¹³⁸ His thinking is understandable; Ammon’s network has taken the cost for a one Gbps internet connection from \$99 a month—with service provided by a large ISP and a minimum three-year contract—to \$9.99 a month with no contract.¹³⁹ As an “open access model,” Ammon allows multiple providers to offer services on the network, creating competition among ISPs.¹⁴⁰ As a true utility, Ammon’s network has no goal of generating a profit; operational expenses are paid to the City as an additional line item on residents’ monthly utility bills.¹⁴¹ Ammon also offers residents and businesses the option to own their own fiber, either paying upfront (about \$3,200) or \$20 per month for 20 years.¹⁴²

Participants in the Ammon network are linked to software that provides access to utilities, public safety, and a variety of other city services—a far cry from Hampshire County, West Virginia, where services could be too unreliable to sustain a 911 call.¹⁴³ The Ammon open access network illustrates how communities can form successful partnerships between their city government and ISPs in order to provide people with inexpensive and dependable high-speed internet.

B. Springfield, Missouri

The City of Springfield, Missouri, is currently building its own fiberoptic network, which uses light signals to provide faster internet speeds than standard copper wire networks, which is a significant step up in the broadband quality available to many residents.¹⁴⁴ Last year, the city announced a public-private partnership to expand broadband access with an ISP, CenturyLink.¹⁴⁵ After the fiberoptic network is complete, CenturyLink will lease bandwidth on the network and take over the day-to-day business of selling high-speed internet to residents.¹⁴⁶

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ Jon Brodtkin, *Municipal Fiber Network Will Let Customers Switch ISPs in Seconds*, ARS TECHNICA (June 16, 2016, 8:00 AM), <https://arstechnica.com/information-technology/2016/06/what-if-switching-fiber-isps-was-as-easy-as-clicking-a-mouse/>.

¹⁴¹ See Patterson, *supra* note 136.

¹⁴² See Woodruff, *supra* note 134.

¹⁴³ *Id.*

¹⁴⁴ Gregory J. Holman, *City Utilities Building \$120 Million Network to Bring “True” Broadband to Springfield*, SPRINGFIELD NEWS-LEADER (Feb. 23, 2020, 10:30 PM), <https://www.news-leader.com/story/news/local/ozarks/2020/02/24/city-utilities-adds-fiber-optic-broadband-network-springfield-homes/4823694002/>.

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

Notably, before the partnership, CenturyLink, which has lobbied against municipal broadband networks, had no plans to expand to Springfield, likely because providing service in Springfield would have required a risky infrastructure investment in a market with established competitors.¹⁴⁷ Now, because of its community broadband initiative, residents of Springfield do not have to wait for the private company to decide whether it would be profitable for them to have internet; they simply have internet. Because of the funding available, the city was able to build the network as a public service, and then induce an ISP to come run it. Springfield is an example of why cities and communities should be given broad local authority and guide state lawmakers about effective or harmful policies. As more state governments consider improving statewide Internet access, cities and local governments need to speak out where state law plays a role in local telecommunications.

C. *Wardensville, West Virginia*

Wardensville, a town near the state's Virginia border, is home to around 260 residents and one of the first broadband cooperatives in the state.¹⁴⁸ Founded in 1957, today Hardy Telecommunications supplies much of Hardy County with FTTH, reaching 3,600 homes and businesses.¹⁴⁹ The partnership between the county and its telecommunications cooperative has gained national recognition,¹⁵⁰ and the idea has spread throughout the state. Spruce Knob Seneca Rocks Telephone, a similar cooperative, operates in rural Pendleton and Pocahontas Counties.¹⁵¹ The co-op obtained a \$7.7 million loan from the USDA and added 57 subscribers to their system, upgraded all of their equipment, and began providing FTTH.¹⁵² An electricity cooperative in Harrison County recently won \$19 million to build over 400 miles of fiber.¹⁵³ Another new nonprofit promises to build 11 miles of fiber around Huntington, West Virginia,

¹⁴⁷ Allan Holmes, *How Big Telecom Smothers City-Run Broadband*, PUB. INTEGRITY (Feb. 13, 2015, 9:32 PM), <https://publicintegrity.org/inequality-poverty-opportunity/how-big-telecom-smothers-city-run-broadband/>.

¹⁴⁸ Lucas Manfield, *In This Rural West Virginia Community, a Local Cooperative Is Proving High-Speed Internet Can Work*, MOUNTAIN STATE SPOTLIGHT (Oct. 13, 2020), <https://mountainstatespotlight.org/2020/10/13/where-frontier-stumbles-west-virginias-rural-cooperatives-step-in/>.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ Hannah Trostle, *West Virginia Coop Expands Rural Internet Access*, CMTY. NETWORKS (Nov. 3, 2015), <https://muninetworks.org/content/west-virginia-coop-expands-rural-internet-access>.

¹⁵² *Id.*

¹⁵³ Manfield, *supra* note 148.

and was awarded \$2.3 million in CARES Act funding by Governor Jim Justice to do so.¹⁵⁴

Anyone in the Hardy Telecommunications' service territory, which covers over 90% of the county, can request service and have cable installed directly to their home.¹⁵⁵ In 2010, it was awarded a \$22 million grant to build out a fiber network.¹⁵⁶ Recently, it was awarded another \$3 million from the USDA to extend its network north into Hampshire County.¹⁵⁷ Because the company is owned by its customers, the company returns any new profits made as a credit on its customers' bills.¹⁵⁸

Hardy Telecommunications, despite being authorized to bid in the FCC's Rural Digital Opportunity Fund ("RDOF") auction, discussed in Section I.E., ended up winning no money because the census blocks near the co-op's current territory were underbid by Frontier.¹⁵⁹ Frontier clearly would not have won on other fronts; Hardy Telecommunications' business in West Virginia resulted in job growth, new businesses, and new residents relocating to the city, in addition to existing residents having better access to online employment, healthcare, education, and government services.

IV. THE COMMUNITY OPTION'S APPLICATION IN WEST VIRGINIA

Recent history shows that the Digital Divide in West Virginia will never be bridged if the state and federal governments continue to distribute subsidies predominantly to incumbent telecommunications companies who take advantage of their monopoly and cut costs by using outdated technology and ignoring low profit potential areas. The State can learn from both the lessons of past programs that fell short of their goals and the triumphs of communities across the nation that have successfully implemented local broadband networks using a variety of funding methods. When comparing local options with traditional options, the fundamental difference in successful municipal broadband initiatives is a commitment to provide a critical service to their communities, far above any commitment to shareholders to provide profit. When strategic business choices, instead of being made by executives who will never set foot in the state or meet their customers, are instead decided on by collaborating closely with residents in the community, rural residents' interests are served. Instead of relying on corporations to provide subpar service in rural areas, communities in the state must take action and the state itself must empower them to do so.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ Manfield, *supra* note 92.

Section IV.A. discusses how the current legislative framework can enable rural communities to come together, in the same way as others have nationwide, to form cooperatives that can finally bring broadband to their communities. It explores step-by-step how broadband cooperatives can form under the applicable statutes. Section IV.B. explains why the current attitude towards accessibility to broadband, in light of the COVID-19 pandemic, makes now a favorable time to classify broadband as a public utility so that local broadband initiatives may reap the benefits of categorization. Section IV.C. argues that the socioeconomic status of many of West Virginia's most rural people coupled with the detrimental effects of being disconnected, laid bare by the COVID-19 pandemic, makes local broadband initiatives the best option for universal connectivity in the Mountain State. Finally, Section IV.D argues that local options meet the needs of West Virginia communities and the post-covid economy more effectively than sole reliance on established ISPs.

A. The Legal Framework of Broadband in West Virginia Better Lends Itself to Local Options

Recognizing the population areas unserved or underserved by broadband in the predominately rural state, the West Virginia Legislature acknowledged in the West Virginia Code that the “lack of affordable, accessible broadband service . . . necessitates consideration of alternative means and methods of providing [those] services.”¹⁶⁰ West Virginia's statutory scheme lends itself to the local option for achieving complete broadband connectivity in a number of ways. In terms of general broadband legislation, many states include laws that make entry into the broadband market burdensome for publicly regulated utilities. While there are currently 18 states that place restrictions on communities' ability to provide and oversee broadband services, exemplifying the telecom lobby's influence over the legislature, West Virginia is not one of them.¹⁶¹ In furtherance of its same mission of achieving complete broadband connectivity, West Virginia has enacted a statutory mechanism for residents, businesses, and political subdivisions to create Broadband Cooperative Associations (“co-ops”).¹⁶²

¹⁶⁰ See W. VA. CODE ANN. § 31G-2-3(a)(2) (West 2021).

¹⁶¹ Tyler Cooper, *Municipal Broadband Is Restricted in 18 States*, BROADBAND NOW (Oct. 21, 2021), <https://broadbandnow.com/report/municipal-broadband-roadblocks/>. Five additional states (Iowa, Arkansas, Colorado, Oregon, and Wyoming) have other types of roadblocks in place that make establishing networks more difficult. *Id.* A further five states (Arkansas, Idaho, Tennessee, Washington, and Montana) have introduced bills to remove municipal broadband restrictions so far this year—at least one has passed. *Id.*

¹⁶² W. VA. CODE ANN. §§ 31G-2-1 to -27 (West 2021).

The Speaker of the West Virginia House of Delegates and the sponsor of House Bill 3093, Roger Hanshaw, stated that one of the greatest features of the law is the opportunity it provides for rural communities to establish co-ops to promote the statewide development of broadband.¹⁶³ The West Virginia Broadband Enhancement Council has itself encouraged the formation of co-ops, which allow municipalities and communities themselves to fill the widening digital gap with their own, locally organized, broadband infrastructures.¹⁶⁴ These co-ops are authorized to establish a provider focused on their communities, bond or finance the building of infrastructure, and engage in other related activities. This allows communities to come together to create and establish the infrastructure for broadband, which incentivizes commercial providers to extend their service areas to those communities.¹⁶⁵

West Virginia's cooperative-friendly statutory scheme permits underserved areas to begin the process of forming a broadband co-op simply through organizing. Only 20 qualified persons who want to purchase internet services from a co-op are required for formation under the statute.¹⁶⁶ "Qualified persons" must be engaged in the use of internet services, either in an individual capacity or as a political subdivision.¹⁶⁷ Community leaders, businesses leaders, and private citizens who want access to better Internet in their area can collect a list of customers who wish to incorporate a cooperative. Under the statute, a co-op is managed by a board of not less than three directors, elected by the members.¹⁶⁸ The directors then elect from their number a president and one or more vice presidents, in addition to a secretary and a treasurer who need not be directors of the co-op.¹⁶⁹

B. The Formation of a Broadband Co-Op

The formation of a broadband co-op requires the filing of Articles of Incorporation for a Cooperative Association with the West Virginia Secretary of State's Office and registering with other appropriate government agencies.¹⁷⁰ The Articles of Incorporation must set forth such things as the name of the BCA, the purpose for which it is formed, the place where the business will be transacted, the number of incorporators and directors, rules as to capital stock or

¹⁶³ Brad McElhinny, *Broadband Bill Would Empower Rural WV Communities*, *Delegate Says*, W. VA. METRONews (Mar. 16, 2017, 1:46 PM), <https://wvmetronews.com/2017/03/16/broadband-bill-would-empower-rural-wv-communities-delegate-says/>.

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ W. VA. CODE ANN. § 31G-2-2 (West 2021).

¹⁶⁷ § 31G-2-1(4).

¹⁶⁸ § 31G-2-10(a).

¹⁶⁹ § 31G-2-11.

¹⁷⁰ § 31G-2-6.

property rights and interests of members, and stock classes.¹⁷¹ Each co-op must, within 30 days after its incorporation, adopt a code of bylaws for its government and management.¹⁷² The co-op designs and develops its terms of membership according to its own by-laws.¹⁷³

A co-op may only admit as members, or issue common stock to, persons engaged in the use of Internet services either as individuals or as business entities.¹⁷⁴ However, it has the power to issue different classes of stock, and different stock may have full or limited voting powers, depending upon how such rights are expressed in the articles of incorporation.¹⁷⁵ One association may become a member or stockholder of any other association or associations organized under West Virginia law or similar laws of any state.¹⁷⁶ Upon resolution adopted by its board of directors, a co-op can enter into all necessary and proper contracts and agreements with any other cooperative corporation or associations, formed in any other state, for any other reason.¹⁷⁷

As a business entity, a co-op has many powers to do all things necessary, suitable, or proper to accomplish its purpose of providing Internet services to a community.¹⁷⁸ In the pursuit of those goals, a co-op may: engage in using or providing any Internet service; or in any activity in connection with the purchase, providing or use by its members of Internet services; or in the financing, directly, through the association of any qualified activities.¹⁷⁹ In addition, the co-op may conduct business in much the same form as any other business entity in the state such as borrow money, make payments to members, execute promissory notes, become a surety or guarantor, purchase and own stock and capital interests, borrow money and any other form of obligation, establish reserves and invest in ownership of real or personal property, and exercise privileges granted by the laws of this state to ordinary corporations.¹⁸⁰ A co-op may also make and execute marketing contracts.¹⁸¹

Such projects cost far more than they will recoup in customer subscription revenue. As a result, they are dependent on government subsidies to make the economic math work. As explained in Section I.E., broadband planning grants offered by the West Virginia Development Office through the Community Development Block Grant (“CDBG”) program are designed to enable local

¹⁷¹ *Id.*

¹⁷² § 31G-2-8.

¹⁷³ § 31G-2-5.

¹⁷⁴ § 31G-2-5(a).

¹⁷⁵ § 31G-2-4(a)(4).

¹⁷⁶ § 31G-2-5(c).

¹⁷⁷ § 31G-2-22.

¹⁷⁸ § 31G-2-4(a)(8).

¹⁷⁹ § 31G-2-4(a)(1).

¹⁸⁰ § 31G-2-4(a)(2).

¹⁸¹ § 31G-2-16.

governments to conduct the assessments needed to develop effective strategies for the construction of broadband infrastructure. Other grant funding sources include the Community Connect Program through the USDA, the ARC, and the U.S. Economic Development Administration (EDA). By providing resources to encourage locally driven solutions, West Virginia can empower its rural communities to effectively address the challenges they see on the ground.

West Virginia can continue to provide tools to help communities with planning efforts and identifying private sector partners, thus improving their capacity to take advantage of opportunities for connectivity and implement successful projects. Communities that do this would no longer be at Frontier's mercy, waiting for the company to expand to their areas and then begging for basic maintenance when it does. This would replace Frontier's hold on the State's rural internet network with a patchwork of competitors, including West Virginia businesses and local governments. A blended market and local ownership would ensure that the State's communications network is improved and sustainable into the future. The State has an opportunity to invest in local broadband networks by funding local governments and allowing communities to fill the widening digital gap created by telecommunications giants.

C. *Classifying Broadband as a Utility*

In the wake of the COVID-19 pandemic, there was a strong political push for recognizing broadband internet as a public utility. Senator Joe Manchin of West Virginia stated, "until we treat access to broadband like the need for electricity was treated in the 1930s, our students will fall behind."¹⁸² There have been national calls¹⁸³ to the same effect: some would like to see an effort on the scale of the Rural Electrification Act ("REA"), passed in 1936 in response to the "electricity divide" between the 90% of urban residents in the United States that had access to electric power and the 90% in rural areas who did not have access.¹⁸⁴ Under the REA, President Roosevelt established the Rural Electrification Administration, in addition to other New Deal policies that invested in rural nonprofit, member-owned, electric cooperatives, as a way of expanding electric infrastructure in areas that had been neglected by private power companies.¹⁸⁵ Within 17 years of its passage, the number of small-town

¹⁸² Maher, *supra* note 12.

¹⁸³ Matt Dunne, *How COVID-19 Is Proving the Urgency of Delivering Universal Broadband*, HILL (Mar. 30, 2020, 1:30 PM), <https://thehill.com/opinion/technology/490151-how-covid-19-is-proving-the-urgency-of-delivering-universal>.

¹⁸⁴ Jamie A. Greig, *Stimulating Innovation: Statutory Influence on Electric Cooperative Telecommunications Innovation*, 10 J. INFO. POL'Y 210, 210–11 (2020), <https://www.jstor.org/stable/10.5325/jinfopoli.10.2020.0210>.

¹⁸⁵ *Id.* at 211–12.

residents with electricity skyrocketed from around 10% to an estimated 90%.¹⁸⁶ Cooperatives played an important role—much of the expansion of electricity could be attributed to the creation of thousands of small electric cooperatives using federal funds.¹⁸⁷

Today, electric cooperatives still deliver 12% of America's power, and their power covers 56% of the nation's landmass, totaling around 20 million businesses, homes, schools and farms in 48 states.¹⁸⁸ In 2017, electric cooperatives supported 611,600 American jobs.¹⁸⁹ Many electric cooperatives have already gotten into the internet business, investing in fiber optic cable because of the infrastructure already in place. As with broadband cooperatives, some electric cooperatives have started their own internet companies, while others have collaborated with existing ISPs to provide broadband. Locally owned private networks tend to invest in longer-term, next-generation services that go beyond the minimum definition of broadband.¹⁹⁰ As explained, large telecommunications corporations appear to invest in modern networks only in areas where they face competition, while providing bare minimum, subsidized service in other areas. When a local ISP runs high-speed lines, it forces the bigger ISPs to step up and supercharges competition.

West Virginia's 11 Regional Planning and Development Councils ("RPDCs"), primarily used for utilities, play a critical role in determining where and how public funds can be utilized for broadband development. The RPDCs assist communities in the identification of numerous funding sources and provide project administration services.¹⁹¹ To assist the formation of community co-ops, the team could include a knowledgeable business planner, lawyer, and accountant who are available to provide advice as needed. The RPDCs could expand their guidance to include assistance with developing a business plan, incorporating, and making plans operating the co-op. The RPDCs can also facilitate and provide guidance for potential public-private partnerships with private ISPs. West Virginia has other, existing infrastructure assets, including county-owned towers, public buildings, public infrastructure assets, and other vertical assets that may be leveraged as part of a plan to improve broadband deployment.¹⁹²

With the reality that investment by large ISPs appears to be correlated to competition, rather than regulatory intervention, leveraging electric utilities'

¹⁸⁶ Chris Dobbs, *Rural Electrification Act*, NEW GA. ENCYC. (Jan. 6, 2021), <https://www.georgiaencyclopedia.org/articles/business-economy/rural-electrification-act>.

¹⁸⁷ Greig, *supra* note 184, at 211–12.

¹⁸⁸ *Electric Co-op Facts & Figures*, NRECA (July 19, 2021), <https://www.electric.coop/electric-cooperative-fact-sheet>.

¹⁸⁹ Anthony Webb, *Electric Cooperatives Explained*, MCR SAFETY (Aug. 6, 2020), <https://www.mcrcsafety.com/blog/electric-cooperative>.

¹⁹⁰ See TROSTLE & MITCHELL, *supra* note 43, at 2.

¹⁹¹ W. VA. BROADBAND ENHANCEMENT COUNCIL, *supra* note 21, at 20.

¹⁹² *Id.* at 30.

infrastructure, services, and classification to facilitate state-funded, local broadband networks, could reinvigorate the market for broadband services in rural areas.

D. Local Options Meet the Needs of WV Communities and Post-COVID Economy More Effectively

If there was ever a time for West Virginia to embrace a new and innovative approach to democratizing rural broadband, the time is now, with the COVID-19 pandemic putting the consequences of the Digital Divide on display and drastically increasing stress on local economies. Public investment in broadband plays a significant and direct role in the number of major employers in both cities and rural areas; in this way, more reliable broadband internet will also strengthen the economies of West Virginia communities.¹⁹³ With the COVID-19 pandemic exposing that many high tax-paying jobs are able to be done from home, many professionals may be looking to relocate to a better quality of life.¹⁹⁴ If it chooses to invest its funds into innovative broadband options, West Virginia can provide everything they need, including reliable internet. New professionals in the economy would help generate state revenue that could be used to fund public services, like infrastructure, public schools and universities, and medical care. This investment would pay dividends for localities, which, in a post-COVID-19 economy, would benefit from the job creation and economy boost that new businesses and residents who could depend on the broadband would provide.

Access to broadband internet is essential for economic growth, education, health care, and quality of life. There is a growing social need to be connected to technology in today's world and, impactfully, a growing public expectation that one is connected at home with internet, reliable mobile phone service, and email access.¹⁹⁵ Because of inaccessibility to the internet, many people feel socially isolated, as they are cut off from current events, societal patterns, and even close friends and relatives.¹⁹⁶ Providers of reliable broadband

¹⁹³ Broadband access leads to more new industries in rural areas, and high levels of broadband adoption among rural populations is linked to higher median household incomes and lower unemployment rates. *See id.*

¹⁹⁴ There has been anecdotal evidence of urban Americans relocating to rural areas from major cities and metropolitan areas. Remote work, popularized during the pandemic, may become a preferred work style for both employers and workers even after the crisis has passed. There are various considerations in the decision to relocate, but access to broadband is key for anyone considering relocating to a rural area. *See* Jeff Rose, *Time to Move? Data Suggests Americans May Flee to Rural Areas Post-COVID*, FORBES (Aug. 6, 2020, 12:14 PM), <https://www.forbes.com/sites/jrose/2020/08/06/time-to-move-data-suggests-americans-may-flee-to-rural-areas-post-covid/?sh=cacc1ce71612>.

¹⁹⁵ Esteban Ortiz-Ospina & Max Roser, *Loneliness and Social Connections*, OUR WORLD IN DATA (Feb. 2020), <https://ourworldindata.org/social-connections-and-loneliness>.

¹⁹⁶ *Id.*

internet can help rural communities use the unique capabilities of telecommunications to connect to each other and to the world, overcoming the effects of remoteness and low population density.

Co-ops have been a useful solution to the struggles relating to rural broadband because they use the unique power of local markets to satisfy the limited needs of a local community. Smaller, rural communities know their residents' needs best and are best poised to formulate local solutions.¹⁹⁷ Larger companies, in addition to having fiscally and fundamentally different goals than ensuring complete internet access in rural areas, do not have the same understanding of the communities they serve. For instance, West Virginia was widely lauded for having one of the highest rates of vaccination for COVID-19 in the world.¹⁹⁸ This success was in part due to Gov. Justice's decision to forego the federal government's partnership with giant pharmaceutical networks, CVS and Walgreens, and instead depend on the State's strong network of local, independent pharmacies to manage distribution.¹⁹⁹ Local pharmacies had the benefit of being operated by people who grew up in the community, knew their customers well, and had existing relationships with the public, which fostered trust in communications about the vaccine.²⁰⁰ In its broadband deployment, as with its vaccine deployment, West Virginia should trust its localities to get the job done.

V. CONCLUSION

Rural community ISPs have been a documented, successful solution for areas out of reach of quality broadband options. West Virginia has an opportunity to fill the widening Digital Divide by investing in community broadband networks through the allocation of available funding to communities instead of telecom giants, like Frontier, that have fiscally and fundamentally different goals than ensuring comprehensive rural internet access. The COVID-19 pandemic, a seemingly novel problem, has crystalized the repercussions of the Digital Divide, as demand for internet service—and need for a helpful, resolute community—only rises. During the pandemic, it was community broadband cooperatives, like Hardy Telecommunications, that donated time and thousands of dollars to ensure

¹⁹⁷ People in remote regions have a greater stake in their communities. Residents of rural areas, in addition to being more likely to vote than those in urban areas, are also more willing to volunteer, trade favors with neighbors, and collaborate with their communities to solve local issues. See Brian Whitacre, *Broadband Internet Can Help Rural Communities Connect—If They Use It*, CONVERSATION (Feb. 22, 2017, 9:01 PM), <https://theconversation.com/broadband-internet-can-help-rural-communities-connect-if-they-use-it-72941>.

¹⁹⁸ Drew Massey, *A West Virginia Pharmacist on How the State Became a Vaccine Success Story*, VOX (Mar. 4, 2021, 2:40 PM), <https://www.vox.com/first-person/2021/3/4/22313540/covid-19-vaccine-west-virginia>.

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

students had access to internet in West Virginia, not Frontier.²⁰¹ A representative for the company said, “We looked at it as a vital community service.”²⁰²

Community-run broadband networks are not the panacea for the broadband problem in all markets throughout West Virginia, but the community option can provide service to rural markets that have been neglected by incumbents like Frontier and Comcast. Through funding nonprofit, locally owned ISPs, West Virginia can empower its communities to meet this challenge and finally provide a reliable internet connection to every person in the Mountain State.

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²⁰¹ Manfield, *supra* note 148.

²⁰² *Id.*

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