



2022

WEST VIRGINIA OFFICE OF BROADBAND
West Virginia Broadband Enhancement Council
Annual Report



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1. Executive Summary

The West Virginia Department of Economic Development, Office of Broadband, and the West Virginia Broadband Enhancement Council jointly submit this 2022 Annual Report to the West Virginia Legislature, in compliance with W. Va. Code §31-G-1A-2(8). The agencies work collaboratively with a shared mission: to expand and improve broadband connectivity in West Virginia.

2021, Governor Justice launched West Virginia's Billion Dollar Broadband Strategy. The Governor announced the State's bold broadband initiative on Friday, October 15, 2021. Learn more about the Governor's announcement here: [Gov.-Justice-announces-Billion-Dollar-Broadband-Strategy](#).

Following the Governor's announcement, the West Virginia Legislature passed House Bill 339 on October 20, 2021. Through this legislation, the Legislature created the West Virginia Broadband Development Fund and allocated \$90 million of State and Local Fiscal Recovery Funds (SLFRF) funds, under the American Rescue Plan Act (ARPA), and \$10 million in General Revenue funds to broadband development.

To carry out the Governor's Billion Dollar Broadband Strategy, the West Virginia Department of Economic Development (WVDED), Office of Broadband, in coordination with the West Virginia Broadband Enhancement Council, developed and launched the West Virginia Broadband Investment Plan (WVBIP). The WVBIP is designed to:

- Leverage Private Investment
- Involve Local Governments
- Encourage Public-Private Partnerships
- Connect the Unconnected

The WVBIP includes four separate programs, each designed to meet West Virginia's broadband development needs through efficient utilization of state and federal funding streams. Briefly, the WVBIP programs include:

- a. Line Extension, Advancement and Development (LEAD): Expansions of existing fiber and cable networks,
- b. GigReady: A state incentive for local governments and organizations to pool local ARPA allocations or other local funding,
- c. Major Broadband Project Strategies (MPBS): Significant new networks or major expansions of existing networks, and
- d. Wireless Internet Networks (WIN): Expansions or upgrades of existing fixed wireless networks.

Project announcements began in 2022, and by the close of 2022, the first West Virginians are being connected to new broadband infrastructure. Additional connections will continue throughout 2022 as this comprehensive strategy is implemented.

1.1 West Virginia’s Billion-Dollar Broadband Strategy: In the News

CHARLESTON, WV – On October 15, 2021, Gov. Jim Justice unveiled a billion-dollar strategy to bring broadband availability to 200,000 more West Virginia homes and businesses. The plan 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. The plan represents by far the largest investment in broadband in the state’s history.

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. The funds will be allocated through competitive programs that draw matching funds from private-sector and local government partners, generating more than \$1 billion in total broadband investment.

“This is surely a landmark day for West Virginia,” Gov. Justice said. “We’ve been talking for years about how to fix the rural broadband problem. Now we’re finally going to do it.

“West Virginia students deserve to be able to do their homework,” Gov. Justice continued. “Our seniors deserve access to telehealth. Our businesses deserve to be able to reach their customers and suppliers. And all our residents deserve to be able to interact with their government, stay informed as citizens, and do all the hundreds of things that take high-speed internet. Starting today, we’re going to make that possible.

“This couldn’t have been done without the hard work and commitment of our Legislature,” Gov. Justice added. “The state’s legislative leaders, including President Blair and Speaker Hanshaw, along with all their members, deserve tremendous credit for their dedication to extending broadband to all West Virginians. It’s an honor to work with them on this issue.”

Governor Justice’s broadband strategy focuses on coordinating a diverse set of federal, state, local, and private funding sources to maximize broadband expansion. The state has spent more than two years comprehensively mapping broadband access around the state, resulting in a detailed inventory of underserved locations that will allow pinpoint funding allocation.

The primary programs involved in the billion-dollar initiative are as follows:

(1) Rural Digital Opportunity Fund: The Federal Communications Commission’s (FCC) Rural Digital Opportunity Fund (RDOF) offers internet service providers (ISPs) funding to extend service to underserved areas. The program centers on a reverse auction in which ISPs compete for grants to connect underserved census tracts, with each tract awarded to the ISP that can connect it with the least amount of federal subsidization.

Each participating ISP must provide the FCC a letter of credit for a portion of its grant award to ensure that its work is completed. This financial requirement creates a major hurdle for smaller ISPs. In September 2020, however, Gov. Justice issued an executive order, EO 66-20, under which the state provides a financial backstop for ISPs that win RDOF awards, opening the door to vastly expanded RDOF participation in West Virginia.

Thanks to Gov. Justice's financial commitment, West Virginia now has the highest per-capita rate of RDOF funding in the country at \$202 per person, for a total of \$362 million. This RDOF funding will be complemented by private investment from participating ISPs to create a minimum expected RDOF impact of \$500 million. The program is expected to provide broadband availability to approximately 119,000 homes and businesses over five years.

(2) West Virginia State Broadband Initiative: The strategy's second major component will be operated by the state Office of Broadband and Broadband Council, using American Rescue Plan Act (ARPA) and state-budget funding. ARPA's Capital Projects Fund includes \$136 million for broadband in West Virginia. And – earlier today – Governor Justice placed on the Legislature's special session call an additional \$90 million appropriation of ARPA State Fiscal Recovery funds for broadband projects, along with a \$10 million appropriation of state general revenue funds for wireless broadband projects. These sources will provide \$236 million in combined funding for the state's own competitive broadband projects initiative.

Developed by the state Office of Broadband and Broadband Council in concert with leading national broadband experts, the state initiative comprises four award programs, each of which will allocate funds through a competitive application process:

Line Extension Advancement and Development (LEAD): The LEAD program will award competitive grants to ISPs to expand existing fiber and cable networks.

GigReady: Local governments in West Virginia have been allocated more than \$500 million from the ARPA Local Fiscal Recovery Fund, and many of them intend to invest that money in local broadband expansion. The GigReady Initiative will provide matching state funds for local governments that develop projects to pool their broadband investments.

Major Broadband Project Strategies (MBPS): The MBPS program will focus on large-scale multicounty projects that require additional resources to achieve rapid implementation.

Wireless Internet Networks (WIN): The WIN program will use \$10 million in state general revenue funds to expand and improve existing wireless internet networks. Wireless networks are a specialized solution useful in remote or sparsely populated areas that are difficult to reach with fiber optic cable.

All four components of the state-based program will competitively score applications from prospective funding recipients and will award funds based on evaluations by independent national broadband experts. Evaluation criteria include matching-fund contributions, speed to market, technical feasibility, and digital equality (providing service to underserved areas and populations).

Participating ISPs will be required to include a low-price service tier that is affordable for lower-income West Virginians.

The program's matching-funds requirement is expected to generate at least \$150 million in investment beyond the \$236 million state contribution, for a total state-based program impact of at least \$386 million.

(3) Other federal and state funding sources: Other existing funding sources, primarily federal, are expected to contribute at least \$120 million to broadband development in West Virginia over the next five years.

These include the Federal Communications Commission, the United States Department of Agriculture, the Appalachian Regional Commission, and the National Telecommunications and Information Administration. The state Office of Broadband and Broadband Council will coordinate with those programs to ensure that state funds are allocated efficiently, and maximum broadband coverage is obtained.

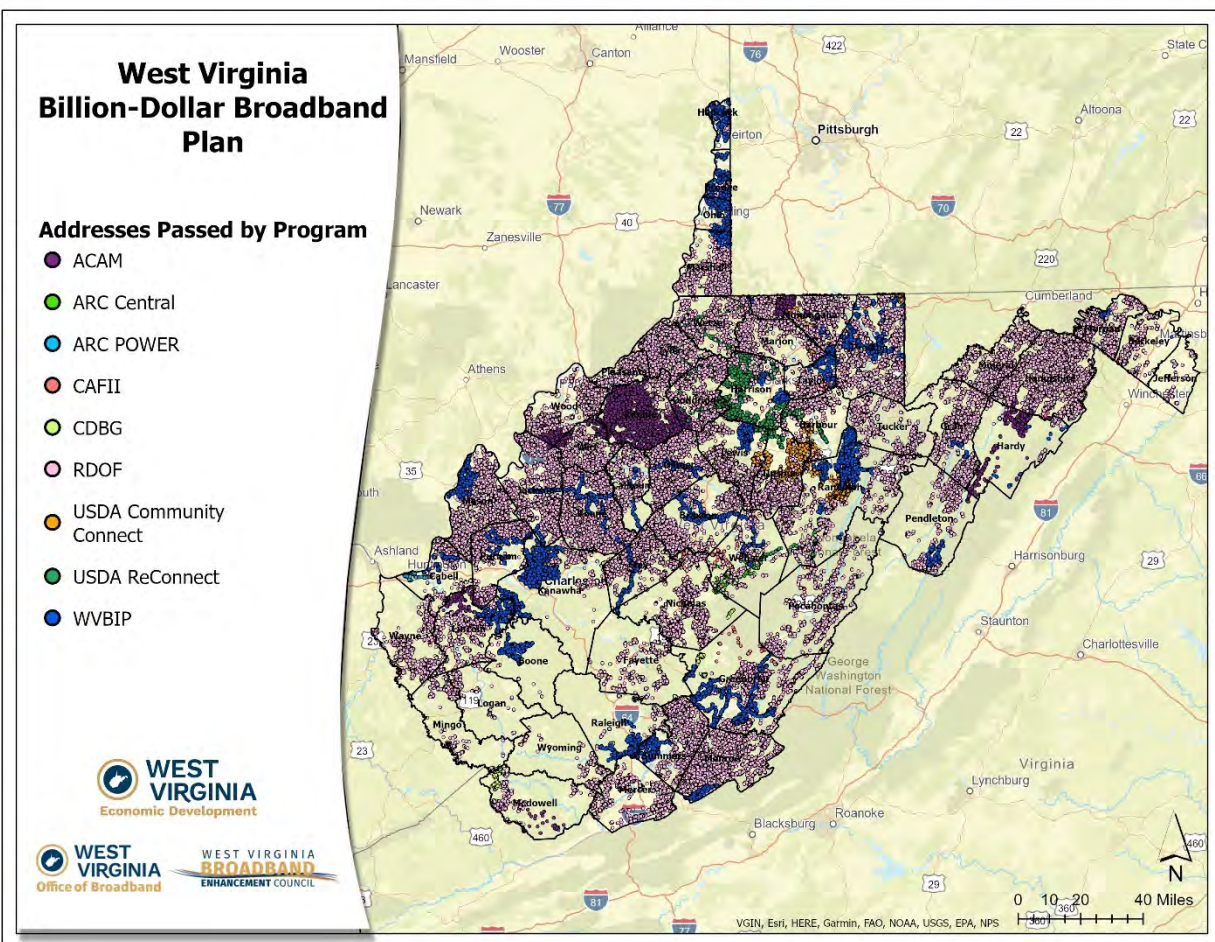


Figure 1.1. Addresses passed by program

1.2 West Virginia Broadband Enhancement Council

The West Virginia Broadband Enhancement Council was created in 2017 under the West Virginia Department of Commerce. In 2020, the Council was transferred to the West Virginia Department of Economic Development for administrative, personnel and technical support services to improve coordination with the West Virginia Office of Broadband.

The Council has 13 voting members; as well as two Senate Appointees and two House of Delegates Appointees, one from each party, to serve as ex officio, nonvoting advisory members. The Council conducts a regular meeting on the second Thursday of each month, at 10:00 a.m., in the West Virginia Department of Commerce offices in Building 3 at the State Capitol Complex or virtually.

The Council builds upon input from numerous state agencies and recognizes the value of representation from urban and rural communities throughout West Virginia. The Council's composition, which includes a cross-section of state agency directors, legislative advisory members, business community leaders and both urban and residential users, ensures that multiple voices are heard, that West Virginia's needs are represented, and that viable solutions are thoughtfully pursued.

The Council is committed to the development of policies, plans, and procedures to expand and enhance broadband access throughout West Virginia. The Council places a primary emphasis on the development of broadband infrastructure in unserved and underserved areas of the State as outlined in West Virginia Code § 31G-1-1, et seq: <http://www.wvlegislature.gov/WVCODE/31G>.

In July 2016, \$1,475,641, was transferred to the newly formed West Virginia Broadband Enhancement Council from the previous Broadband Deployment Fund to the Broadband Enhancement Fund in the West Virginia Department of Commerce. The Fund's beginning balance on July 1, 2021, was \$1,255,086. Fiscal Year 2022 expenses from July 1, 2021 through June, 30 2022 totaled \$839,971. With the addition of a Fiscal Year 2023 appropriation of \$500,000, the Broadband Enhancement Fund balance as of June 30, 2022, was \$915,114.

The Council's annual budget includes the purchase of the licensing necessary to continue speed testing and mapping projects, associated data subscriptions, software, marketing and communications, and other limited expenses to support broadband expansion. Additionally, the Council has approved the expenditure of funding for specific legal services and technical consulting services.

In 2021, House Bill 2002 amended West Virginia Code §31G to outline specific duties and authorities to be shared among West Virginia Broadband Enhancement Council the Office of Broadband.

For more information, visit the Council website at: broadband.wv.gov.

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1.3 West Virginia Office Of Broadband

The West Virginia Office of Broadband was created within the West Virginia Department of Economic Development upon passage of House Bill 2002 by the West Virginia Legislature in 2021. This legislation amended West Virginia Code §31G to outline specific duties and authorities to the Office of Broadband and the West Virginia Broadband Enhancement Council. This legislation transferred some duties and authority from the Council to the Office, assigned some distinct responsibilities to the Office, and identifies some areas in which the Council and the Office share responsibilities.

Distinct duties of the Office include:

- a. Gathering and report data regarding adoption rates of broadband by speed and community, residential and non-residential
- b. Gathering data regarding prices and fees charged for broadband, residential and non-residential
- c. Public awareness of issues concerning broadband service
- d. Reporting to the Joint Committee on Government and Finance annually
- e. Mapping, including annual publication of a statewide assessment, with the broadband availability map to be available online for public access, and centralized AREA mapping in GIS form for use by the private sector
- f. Creating guidelines and recommendations regarding voluntary donation program for easements for broadband service
- g. Making recommendations to the Legislature

Distinct authority of the Office includes:

- a. Soliciting, receiving, and dispensing funds from funding sources other than the Legislature
- b. Retaining outside expert consultants to assist with mapping
- c. Overseeing the use of conduit
- d. Making recommendations to the Legislature to expand broadband
- e. Making recommendations to the Legislature regarding an easement program
- f. Accepting voluntary donations of easements
- g. Establishing a voluntary data collection program
- h. Coordinating with Consumer Protection Division of the Attorney General's office regarding consumer protections

For more information, visit: broadband.wv.gov.

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2. Introduction

2.1 Key Priorities

West Virginia's leaders understand that broadband has moved beyond optional to essential. Four key priority areas were identified through the development of West Virginia's 2020-2025 Broadband Plan. These priority areas represent the important and essential services and functions related to:

- ❖ Economic Development
- ❖ Education
- ❖ Healthcare
- ❖ Public Safety

With these primary areas in mind, recent policy initiatives indicate that improving broadband and bridging the digital divide is one of the State's highest priorities. Broadband is the essential economic infrastructure that West Virginia needs to compete regionally, nationally and globally.

The West Virginia Broadband Enhancement Council and the West Virginia Office of Broadband continue to advocate for greater connectivity. This mission is strongly supported by the Governor Justice, the West Virginia Legislature, West Virginia Department of Economic Development, West Virginia Department of Commerce, and numerous partners.

Nationally, West Virginia's Congressional representatives continue to support and enhance Federal programs for broadband development. With this shared vision firmly in place, State policy is implemented to address barriers as they are identified.



3. 2022 Highlights

The State of West Virginia has made great strides to advance broadband development in unserved areas, reflecting the State's ongoing commitment to improving broadband services for its citizens. Under the leadership and vision of Governor Jim Justice and the West Virginia Legislature, the State is creating and implementing innovative policies, procedures, and processes for facilitating broadband deployment. While the State faces significant challenges, including mountainous topography and areas of low population density, these challenges are being met with the innovation, vision, and collaboration necessary to create progress.

3.1 Key Partnerships

Communication with and cooperation among West Virginia's Internet Service Provider (ISP) community is essential to the expansion of broadband in West Virginia. Joint ventures and innovative partnerships between public agencies, private companies and investor-owned utilities demonstrate the collaboration needed to improve connectivity. Notably, Internet Service Providers in West Virginia have dedicated matching funds in the amount of \$44 million for a total investment of more than \$147 million in 24 broadband infrastructure projects throughout West Virginia across all projects announced to date.

The West Virginia Broadband Enhancement Council and the West Virginia Office of Broadband strongly support these efforts and will continue working to develop a more connected West Virginia. Working collaboratively, West Virginia is pursuing primary goals to:

- ❖ Encourage the development of broadband infrastructure in the State
- ❖ Evaluate and map the broadband infrastructure and service systems through an Interactive Mapping Program and other data collection methods
- ❖ Eliminate barriers to broadband infrastructure development within the State
- ❖ Engage and mobilize the expertise, funding, and partners to facilitate the creation of reliable and affordable broadband service, and
- ❖ Expand economic development and represent the State in matters related to broadband infrastructure development.

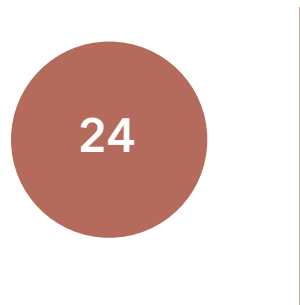

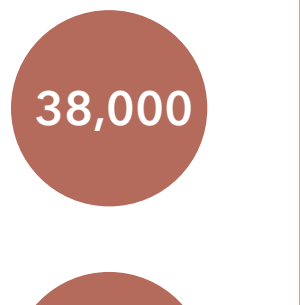
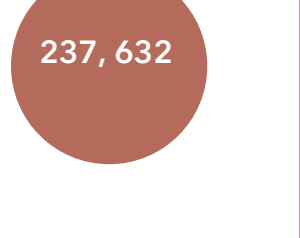
The West Virginia Office of Broadband and West Virginia Broadband Enhancement Council extend appreciation to Tilson Technology Management, Inc., for significant contributions and commitment to broadband development in the State of West Virginia as the State's lead broadband consultant.

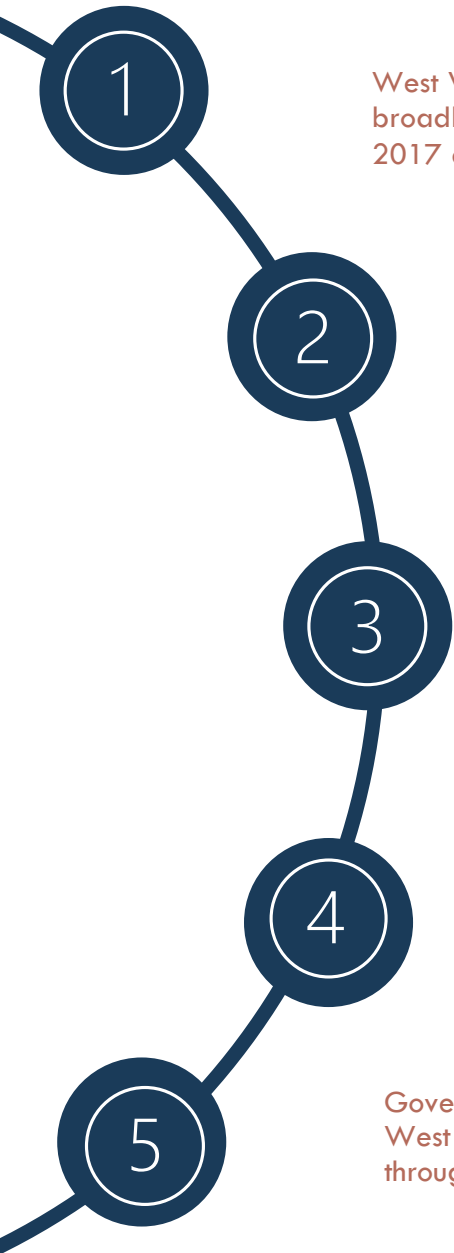
West Virginia's long-standing partnership with Ookla continues to strengthen the State's growing ability to collect, analyze and visualize important broadband consumer speed test data.

2022 Highlights

West Virginia took major steps forward in 2022. West Virginia leaders recognize that broadband connectivity must be part of the State’s overall economic development strategy. Broadband investment in West Virginia has reached historic levels with significant action underway to expand broadband connectivity throughout the State.

The West Virginia Broadband Investment Plan places the highest priority on directing broadband development resources to areas with the greatest need.

	<h3>Announced 24 Broadband Expansion Projects</h3> <p>The West Virginia Office of Broadband launched the West Virginia Broadband Investment Plan (WVBIP). The WVBIP consists of four distinct grant programs designed to meet West Virginia’s broadband development needs. Projects funds have been awarded to 12 companies for projects in 38 West Virginia counties.</p>
	<h3>Invested in 3,000 Miles of Fiber Infrastructure</h3> <p>Projects announced in 2022 will result in the construction of 3,000 miles of high-speed broadband infrastructure in West Virginia, expanding connectivity to unserved locations of the State.</p>
	<h3>Expanding Connectivity to 38,000 Locations</h3> <p>Projects announced in 2022 will provide high-speed broadband access to more than 38,000 targeted homes and business locations in West Virginia.</p>
	<h3>Identifying 237,632 Unserved Locations</h3> <p>The West Virginia Office of Broadband has analyzed more than one million distinct address locations and has identified approximately 237,632 locations in West Virginia that lack broadband internet service.</p>



1

West Virginia project teams compete and win, securing more than \$126 million in broadband infrastructure grant funding through various federal programs between 2017 and 2022, excluding FCC RDOF.

2

West Virginia ranked 16th in the nation for the amount of funding requested by states in the U.S. Department of Commerce, National Telecommunications and Information Administration's (NTIA's) Broadband Infrastructure Program. In 2022, NTIA awarded \$19.6 million to the Logan County Economic Development Authority for broadband expansion to more than 12,000 unserved locations in Logan and Mingo counties.

3

West Virginia was among the first four states in the nation to receive approval by the U.S. Treasury for Capital Projects Funds on June 7, 2022. Treasury approved an allocation of \$136 million for broadband development in West Virginia.

4

West Virginia residents value connectivity and have completed more than 10,000 speed tests and broadband surveys at broadband.wv.gov/speedtest, and 1,152,169 total Ookla speed tests in West Virginia in 2022.

5

Governor Justice announced \$103 million for 24 broadband projects throughout West Virginia in 2022, marking a historic commitment to broadband development throughout the State.

4. West Virginia Broadband Mapping

Accurate data is the cornerstone of solid infrastructure planning and development. Throughout 2022, the West Virginia Office of Broadband refined its address level broadband maps. The focus on broadband availability at the address level and service area levels represents a critical transition from relying on the generalized census block mapping system of the Federal Communications Commission (FCC). West Virginia's mapping initiative is continuously evolving and improving to identify served and unserved areas more precisely in West Virginia.

4.1 West Virginia Broadband Map

The Office of Broadband utilized West Virginia's Statewide Addressing and Mapping System (SAMS)¹ to develop the State's broadband mapping system. While the map represents significant advancement, it is not perfect. This mapping system may not include all address locations. Constituents may report any discrepancy to the Office of Broadband.

For addresses not shown in the maps, or for addresses classified as "Other" that lack access to broadband services (speeds of at least 25/3 Mbps), West Virginia residents may call (304) 352-4163 to provide the following information to the Office of Broadband:

- Full Name
- Full Address
- Address type (residential, commercial, etc.)
- Current Service Provider (if applicable)

Interactive broadband maps can be viewed at broadband.wv.gov.

Target Area Map: The West Virginia Target Area Map, identifies broadband availability at the address level.

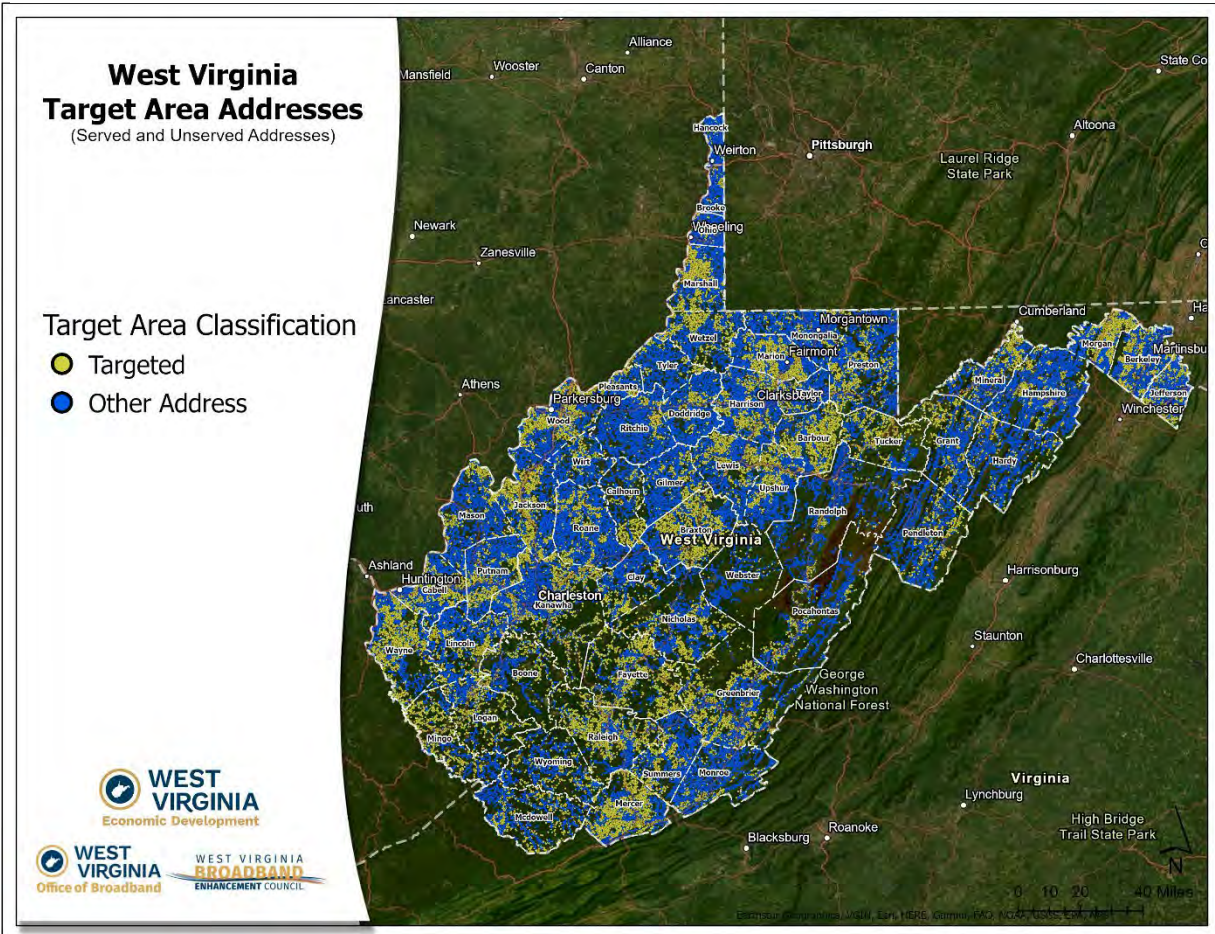
Provider Locator: The West Virginia Provider Locator Map, identifies Internet Service Providers (ISPs) that have reported service to the Federal Communications Commission.

RDOF Map: The Rural Digital Opportunity Fund Map, identifies areas that have been funded by the Federal Communications Commission (FCC). Funding is shown by ISP.

¹ <https://wvgis.wvu.edu/data/dataset.php?ID=483>

The West Virginia Target Area Map, identifies broadband availability at the address level. Broadband availability classifications have been assigned to the SAMS address points that help identify what areas in the State are in need for an investment. The Target Area Map continues to act as the core mapping dataset for grant funding in the West Virginia Broadband Investment Plan.

Figure 4.1: West Virginia Target Area Map



Targeted Addresses

- Addresses that are *estimated* to have no current access to internet service with at least 25 Mbps download and 3 Mbps upload (25/3 Mbps) speeds, not counting access to satellite or mobile wireless internet, and
- Not in an area with a binding commitment to a state, federal, or local entity to deliver mass-market broadband service of at least 25/3 Mbps, not counting commitments to expand access to satellite or mobile wireless internet.

All other addresses not classified as "**Targeted**" are classified as "**Other.**"

4.2 FCC National Broadband Map

The West Virginia Office of Broadband and the West Virginia Broadband Enhancement Council ask that all West Virginians review their location data and broadband availability data on the new National Broadband Map released by the Federal Communications Commission (FCC). The FCC will accept challenges through January 13, 2023, and with each map release going forward.

The new map displays Internet services across the United States, as reported by Internet Service Providers (ISPs) to the FCC. The FCC released the new map on November 18, 2022. States, local governments and consumers are encouraged to submit challenges. The FCC map will be used to calculate the amount of funds allocated to the State of West Virginia by the National Telecommunications and Information Administration (NTIA) through its Broadband Equity, Access, and Deployment (BEAD) program.

"It is vital that all West Virginia addresses are included in the FCC mapping data, especially when funding allocations will be based on the number of unserved locations in our State," said Governor Jim Justice. "Every West Virginian and every West Virginia address should be counted, especially those that lack real broadband service. I have directed the West Virginia Office of Broadband to challenge the FCC data whenever and wherever possible to ensure that all West Virginians gain access to crucial infrastructure."

The West Virginia Department of Economic Development, Office of Broadband, submitted more than 138,000 missing addresses to the FCC, as part of the State's official challenge to the FCC Broadband Serviceable Location (BSL) Fabric, in November 2022. Not all challenges will be accepted. The Office of Broadband anticipates that several cycles will be needed to validate the data.

West Virginians are encouraged to submit a Location Challenge to indicate that an address is missing, or an Availability Challenge to indicate that availability is incorrect. Please follow the instructions below on how to submit a challenge:

How to Find Your Address:

1. Visit <https://broadbandmap.fcc.gov/home>.
2. Using the search bar, type in the address you wish to review. The map should automatically zoom to your location.
3. After finding your location, a side-panel on the right-hand side of the screen will populate location and service information.
4. If your location is missing, ensure to select the building footprint or space of your location to submit a Location Challenge.

How to Submit a Location Challenge to the FCC:

1. After searching a location, select the building footprint or space to where the point location layer is missing.
2. Once the location is found, select "Challenge Location."
3. You will be required to fill out a form regarding information about your location.

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4. After a challenge is submitted, you will receive a confirmation email informing you that it has been received by the FCC.
5. If a location is available on the map that includes inaccurate information, navigate to “Location Challenge” in the side-panel to complete the form.

How to Submit an Availability Challenge to the FCC:

1. After searching a location, select “Availability Challenge” in the side-panel.
2. Select the provider (ISP) you wish to challenge.
3. Complete the form to dispute the provider's claim on service availability.
4. Submit a separate challenge for each provider, if multiple providers are listed incorrectly.

The map will be updated twice per year through a combination of FCC verification efforts, new data from Internet providers, new location data, and—importantly—information from the public and state broadband offices. To learn more about West Virginia’s ongoing broadband development initiative, visit broadband.wv.gov.

5. West Virginia Broadband Investment Plan

The West Virginia Department of Economic Development (WVDED), Office of Broadband, in coordination with the West Virginia Broadband Enhancement Council, will administer the West Virginia Broadband Investment Plan (WVBIP), utilizing funds allocated to the State of West Virginia through the Capital Projects Fund and State Local Fiscal Recovery Fund of the American Rescue Plan Act (ARPA), according to guidance published by the U.S. Treasury.

The allocation of SLFRF and General Revenue funding provided a historic \$100 million investment that will supplement West Virginia's allocation of funds through the Capital Projects Funds (CPF), also part of the ARPA. The ARPA CPF includes \$136 million for broadband development in West Virginia.

The combination of SLFRF and CPF funding provides a total ARPA broadband investment of \$236 million in West Virginia. This funding represents a major transition to State-led broadband development through which states will oversee the investment of broadband funding.

5.1 Capital Projects Fund (CPF)

The West Virginia Office of Broadband is the administrator of the American Rescue Plan Act (ARPA) Capital Projects Fund (CPF) for broadband development. The Office of Broadband designed programs to align with ARPA rules and guidance and other funds that may become available for broadband development in West Virginia. The U.S. Treasury approved West Virginia's plan for utilization of CPF funding on June 7, 2022. West Virginia was among the first four states in the nation to be approved for funding, along with Louisiana, New Hampshire, and Virginia.

The CPF program provides \$10 billion nationwide for eligible governments to carry out critical capital projects that directly enable work, education, and health monitoring, including remote options, in response to the COVID-19 public health emergency. The CPF Guidance, available at [treasury.gov/CPF](https://www.treasury.gov/CPF), describes how governments may access and use these funds.

According to the U.S. Treasury: "The focus of the Capital Projects Fund on the continuing need for connectivity in response to the COVID-19 pandemic complements the broader range of uses, including for broadband infrastructure, of the American Rescue Plan's separate \$350 billion Coronavirus State and Local Fiscal Recovery Funds."

5.2 State and Local Fiscal Recovery Fund (SLFRF)

While the Capital Projects Fund is specifically for broadband infrastructure, [State and Local Fiscal Recovery Funds](#) (SLFRF) can also be dedicated to broadband development. Recognizing this potential partnership, the WVBIP provides an opportunity to coordinate state and local ARPA funding. The State

Fiscal Recovery Fund (SFRF) includes \$1,355,489,988 allocated to West Virginia. The Local Fiscal Recovery Fund includes funding for cities, counties, and non-entitlement entities in the following amounts:

- a. \$348,103,547 for 55 West Virginia Counties,
- b. \$168,188,715 for Nine West Virginia Cities, and
- c. \$162,490,814 for Non-Entitlement Entities

In October 2021, the West Virginia Legislature created the Broadband Development Fund and allocated \$90 million of SFRF funds and \$10 million in General Revenue funds to this initiative. This total was added to CPF funding for a total investment of \$236 million. The additional SFRF funds will be dedicated to the existing the LEAD, GigReady, and MPBS programs.

The \$10 million allocation from General Revenue funds will be dedicated to the Wireless Internet Networks (WIN) program. The WIN program is in development and will launch in early 2022.

West Virginia is embarking on a mission to bridge the digital divide. The WVBIP is designed to integrate the need for broadband connectivity with practical solutions to help connect communities throughout West Virginia. Working together, West Virginia can achieve a more connected future.

5.3 West Virginia Broadband Development Fund

With the passage of House Bill 339 in 2021, the West Virginia Legislature created the Broadband Development Fund in the State Treasury under West Virginia Code [§31G-1A-7](#). According to this Legislation, the fund shall be administered by the Secretary of the West Virginia Department of Economic Development (WVDED) and shall consist of all moneys made available for the purposes of this article from any source, including, but not limited to, all gifts, grants, bequests or transfers from any source, any moneys that may be appropriated to the fund by the Legislature, and all interest or other return earned from investment of the fund.

The Broadband Development Fund may only be used for the following purposes:

- (1) Expenses for the administration of the Office of Broadband;
- (2) Line extension advancement and development projects, including expansion of existing fiber and cable networks;
- (3) Major broadband project strategies, including new networks or major expansions of existing networks;
- (4) GigReady incentive projects, including a state incentive for ISP and local governments and organizations to pool some of their federal American Rescue Plan Act allocations or other local funding; and
- (5) Wireless Internet Networks, including expansions or upgrades of existing fixed wireless networks.

The WVDED Office of Broadband has identified preliminary allocations under the West Virginia Broadband Investment Plan as shown below. These allocations may be adjusted based upon demonstration of need with the WVBIP programs.

Preliminary Funding Allocations

Program	LEAD	GigReady	MBPS	*WIN
Funding	\$10 Million	\$40 Million	\$40 Million	\$10 Million
Eligible Applicants	ISPs Operating Cable or Fiber Network	County, Municipal Governments, EDCs, EDAs, RPDCs, Private Partnerships Strongly Encouraged	ISPs Local Governments and Affiliated Organizations	ISPs with Existing Wireless Network *Subject to ARPA Rules
Speed Requirements	At Least 100/20, scalable to 100/100 Mbps 1000/500 Mbps Preferred	At Least 100/20, scalable to 100/100 Mbps 1000/500 Mbps Preferred	At Least 100/20, scalable to 100/100 Mbps 1000/500 Mbps Preferred	At Least 25/3, preferably 100/20 Mbps
Match Requirements	At Least \$500 per Passed Premise	At Least 25 Percent of Project Cost	At Least \$500 per Passed Premise	At Least \$400 per Covered Premise

Table 5.1: WVBIP program funding information

5.4 WVBIP Programs

Under the West Virginia Broadband Investment Plan (WVBIP), the West Virginia Office of Broadband has established four grant programs for broadband infrastructure development. Each program maximizes the potential of broadband availability and adoption in West Virginia. The programs are designed to meet the goals established in the West Virginia Broadband Enhancement Council's 2020-2025 Five-Year Plan and align with state and federal requirements. The WVBIP will also incorporate State funding, and other federal funds allocated or available to West Virginia. The WVBIP may be expanded through the addition of new or modified programs.

- Complete WVBIP program resources are available at: <https://broadband.wv.gov>.
- WVBIP Target Area Maps are available at: <https://wv-capitol-wvbroadband.hub.arcgis.com>.

The WVBIP contains four well defined infrastructure grant programs, each designed to specific broadband development needs. Programs launched in 2021 include:

1. [LEAD: Line Extension Advancement and Development](#)
2. [GigReady: Technical Assistance or Implementation Phases](#)
3. [MBPS: Major Broadband Project Strategies](#)
4. [WIN: Wireless Internet Networks](#)

Each WVBIP program emphasizes last mile connections. According to U.S. Treasury guidelines, each program places an emphasis on locations without access to reliable wireline service of 25/3 Mbps. Funded projects must be capable of delivering, or be scalable to deliver, symmetrical 100 Mbps service while encouraging the deployment of fiber networks.

In keeping with West Virginia's emphasis on public-private partnerships, the programs encourage private investment in cooperation with local development initiatives. To promote greater utilization of broadband service in West Virginia, the programs require participation in federal affordability programs and encourage the availability of a low-cost service.

Under LEAD and GigReady, the need for broadband expansion is analyzed at the individual address level. Conversely, the MBPS data focuses on the need for broadband expansion within eligible service areas as determined by the Office of Broadband. West Virginia's broadband maps can be found at: <https://broadband.wv.gov/>

5.4.1 Line Extension Advancement and Development (LEAD)

The LEAD program is intended to fund service extensions of last-mile cable modem and fiber-to-the-premise broadband networks that can be constructed quickly. The program targets Internet Service Providers (ISPs) as primary applicants to expand existing networks to reach unserved locations at the end of line.

Due to high cost of fiber deployment and extensions of cable modem networks, ISPs have found it economically infeasible to expand into rural communities with low population densities and rugged terrain. The increasing demand for high-speed reliable internet has prevented rural communities from moving forward in receiving the same eco-digital benefits that more urbanized areas have adopted. Implementing LEAD has sparked a significant shift in how the State maps broadband availability. Previously, the State relied on FCC Form 477 data that has made granular mapping difficult due its implications of census block level reporting. The program's core mapping focuses on broadband availability at the address level. The program defines projects and eligibility for funding within two classifications at the address:

- Targeted Addresses: Addresses estimated not to have current access to terrestrial internet service of 25/3 Mbps and not in an area with existing state, federal, or local funding, and
- Other Addresses: Addresses with current or future access to service only by satellite providers or mobile wireless networks are considered Targeted if they are not also served by a terrestrial broadband provider of fixed home broadband service offering serves with a speed of at least 25/3 Mbps. Applicants are required to match at least \$500 per passed address.

5.4.2 GigReady

GigReady is designed to encourage the collaborative partnerships needed for successful broadband development. The program provides an opportunity for local governments and organizations to dedicate funds available through the American Rescue Plan Act (ARPA), or other local funding, to a broadband development initiative in partnership with agencies and offices.

The GigReady program will assist participants in two distinct phases. In Phase One, the program will provide technical assistance to help communities scope projects, select private partners and vendors, and complete other necessary steps in the broadband development process. In Phase Two, upon completion of the technical assistance phase, participants may then be eligible for implementation funding through the GigReady program or other funding sources. Participants with qualifying, shovel ready projects that do not need technical assistance can apply to proceed directly to Phase Two by submitting a complete application, including all information listed as "optional" in the application.

County and municipal governments and affiliated organizations (economic development corporations, regional planning and development councils, etc.) may apply to participate. Regional consortia of local governments may participate. Participating local governments will be strongly encouraged to develop partner or vendor relationships with private for-profit or non-profit companies through the technical assistance program.

Compared to the LEAD program, applicants are required to provide a match of at least 25 percent of the total project costs.

5.4.3 Major Broadband Project Strategies (MBPS)

The Major Broadband Project Strategies Program (MBPS) is designed for projects that can transform broadband availability across a significant extent of coverage in West Virginia. The Program will fund larger scale projects designed to serve large numbers of Targeted addresses.

MBPS focuses on larger projects than LEAD that may consist of new networks or major enlargements of existing networks. Compared to LEAD that focuses on funding for projects at the address level, MBPS defines projects by Eligible Service Areas. The mapping for Eligible Service Areas (ESAs) classified by city locations.

The Target Address map provides an estimate of the unserved addresses within Eligible Service Areas that are not part of another funded project. Winning projects will have an obligation to provide service to any unserved address within the awarded Eligible Service Areas.

Eligible applicants include:

- a. Private for-profit or non-profit corporations
- b. Local governments
- c. Economic Development Authorities
- d. Economic Development Corporations
- e. Regional Planning and Development Councils

Key Program Highlights:

Budget: \$40 Million

Matching Funds: Minimum of \$500 per address passed or 25% of eligible project costs

Size of Project: Approximately 5000 Targeted addresses or \$20 million

Construction Timeline: 24 months, with extension for cause.

Guide to Reporting and Compliance Obligations for West Virginia ARPA Broadband Investment Plan Grant Recipients

To assist project teams in the implementation of federally funded projects, the West Virginia Office of Broadband has issued an [ARPA-Subrecipient-Compliance-and-Reporting-Guidance-Document-for-Awardees](#). This document was developed in cooperation with the West Virginia Broadband Enhancement Council and Tilson Technology Management, Inc. This Guide to Reporting and Compliance Obligations for West Virginia ARPA Broadband Investment Plan Grant Recipients covers three different programs administered by the West Virginia Department of Economic Development, Office of Broadband (WVDED). These programs are the GigReady Incentive Program (GigReady), the Line Extension Advancement and Development Program (LEAD), and the Major Broadband Project Strategies Program (MBPS).

The document is intended as a guide, not as a substitute for a thorough knowledge of state and Federal laws and regulations referenced in this document. This document may be updated to more fully incorporate requirements. In the event of any discrepancy, Federal regulations will prevail. The Grantee is responsible for compliance with the most current and stringent of any applicable local, State or Federal law or regulation(s).

5.5 2022 Project Announcements

Governor Justice has issued project approval announcements throughout 2022. Announced projects will result in nearly 3,000 miles of new fiber infrastructure, providing high-speed broadband access to more than 38,000 targeted homes and businesses. Projects announced in 2022 are funded by the American Rescue Plan Act (ARPA). West Virginia has awarded \$103 million in ARPA funding to date, including:

- \$70 million in Capital Projects Funds, and
- \$33 million in SLFRF funds

As critical partners in West Virginia’s broadband expansion initiative, Internet Service Providers in West Virginia have dedicated matching funds in the amount of \$44 million for a total investment of more than \$147 million in 24 broadband infrastructure projects throughout West Virginia across all projects announced to date. Governor Justice has issued project approvals on a rolling basis throughout 2022, as detailed below:

- a. **LEAD Announcements:** Governor Justice has announced the approval of 12 applications under the Line Extension, Advancement and Development (LEAD) Program in three separate announcements on January 19, March 18, and August 9, 2022.

The 12 LEAD awards to date represent an allocation of \$27,194,177, through which companies will construct 1,189 miles of fiber, serving 14,936 targeted locations in West Virginia. These projects will leverage an additional \$14,308,671 in match contributions for a total infrastructure investment of \$43,502,848.

Table 5.2: LEAD projects announced in 2022

LEAD Applicant	LEAD Project Name	Amount	Matching Funds	Targeted Addresses	Fiber Miles
1. Citynet	Green Valley Line Extension	1,191,535	188,500	265	26
2. Citynet	Shavers Fork, Helvetia, Crestview Line Extension	713,560	162,500	96	10
3. Comcast	Brooke, Hancock, Ohio, Marshall Line Extensions	4,721,590	2,064,978	1,462	59
4. Comcast	Cabell, Kanawha, Morgan, Putnam Line Extensions	2,885,246	1,111,628	716	119
5. Hardynet	East Hardy Line Extension	183,241	64,800	58	10

6. Hardynet	South Mill Creek Line Extension	416,984	140,000	117	5
7. Lingo-MGW Networks	East Pendleton Phase I South Mill Creek	2,257,834	297,000	86	31
8. Prodigy	Northcentral Preston	4,592,645	870,500	1,203	93
9. Prodigy	West Preston-Valley District	3,840,913	803,500	1,455	60
10. Shentel	North Fork, Sunset Drive	420,630	238,500	141	9.5
11. Altice	Greater Sissonville	4,000,000	6,062,482	5,895	538
12. Altice	North Lincoln-Alum Creek	2,000,000	2,304,283	3,442	230
LEAD TOTALS		27,194,177	14,308,671	14,936	1,191

- b. **MBPS Announcements:** Governor Justice has announced the preliminary approval of over \$34.8 million in grant funding for seven broadband infrastructure projects across the state through the Major Broadband Project Strategies (MBPS) program.

The approved projects will result in more than 910 miles of new fiber infrastructure, providing broadband connectivity to 9,840 homes and businesses in West Virginia. These projects will leverage an additional \$16.3 in match contributions for a total infrastructure investment of \$51 million.

The Governor issued the most recent MBPS Preliminary Approval on September 16, 2022. This announcement included the Micrologic Randolph County MBPS project listed below in Table 2, and the GigReady projects listed in Table 3.

Table 5.3: MBPS projects announced in 2022.

MBPS Applicant	MBPS Project Name	Amount	Matching Funds	Targeted Addresses	Fiber Miles
1. Citynet	Thornton, Gladesville, Morgantown South	2,200,635	733,545	376	86
2. Comcast	Northern Panhandle Broadband Expansion	14,726,012	6,265,607	1,402	304
3. DQE	Greater Hepzibah Area FTTH	1,088,276	373,000	650	15

4. Frontier	Boone County-Turtle Creek	671,385	1,993,688	1,566	83
5. Frontier	West Mason	1,039,734	3,447,586	1,398	113
6. Shentel	Lewis County Broadband Expansion	1,119,113	466,500	457	27
7. Micrologic	Randolph County MBPS	13,977,410	2,979,000	3,991	282
MBPS TOTALS		\$34,822,567	\$16,258,926	9,840	910

**Table 1: Preliminary MBPS Announcements 2022*

Table 5.4: GigReady projects announced in 2022

GIGREADY Applicant	MBPS Project Name	Amount	Matching Funds	Targeted Addresses	Fiber Miles
1. Greenbrier County Commission	Greenbrier Co. Broadband Expansion	12,940,988	4,313,663	5,316	177
2. Monroe County Commission	Seneca Trail-Green Valley Road	1,797,904	599,301	633	30
3. Raleigh County Commission	Ghent Fiber Expansion	5,889,198	1,963,066	1,677	106
4. Roane County Economic Development Authority	Multi-County Broadband	17,057,869	5,685,956	4,878	287
5. Summers County Commission	Mountview to Bellepoint	3,703,147	1,234,382	1,036	65
GIGREADY TOTALS		\$41,389,106	\$13,796,368	13,540	665

Figure 5.2: Addresses passed by program

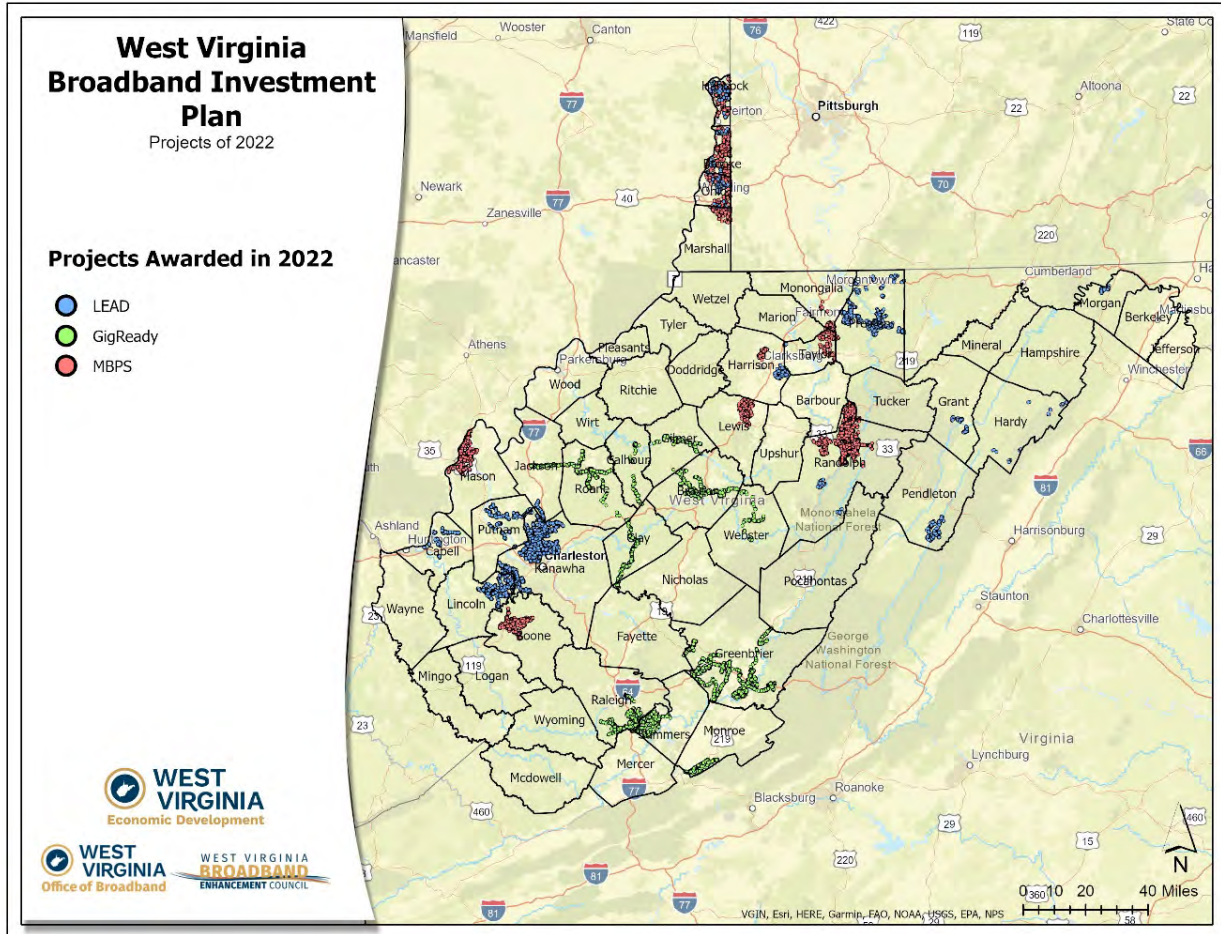


Figure 5 3: LEAD addresses passed for projects announced in 2022.

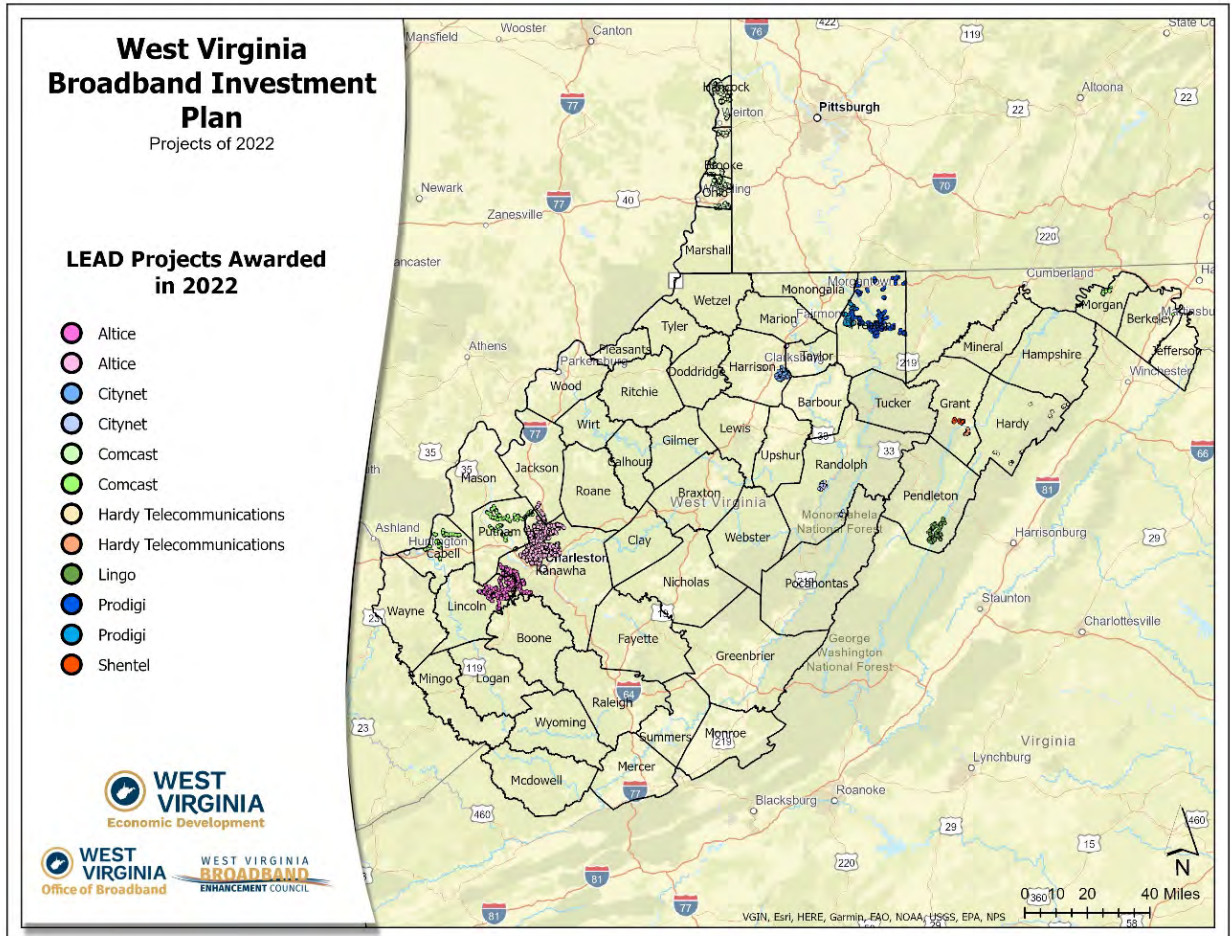


Figure 5.3: GigReady addresses passed for projects announced in 2022

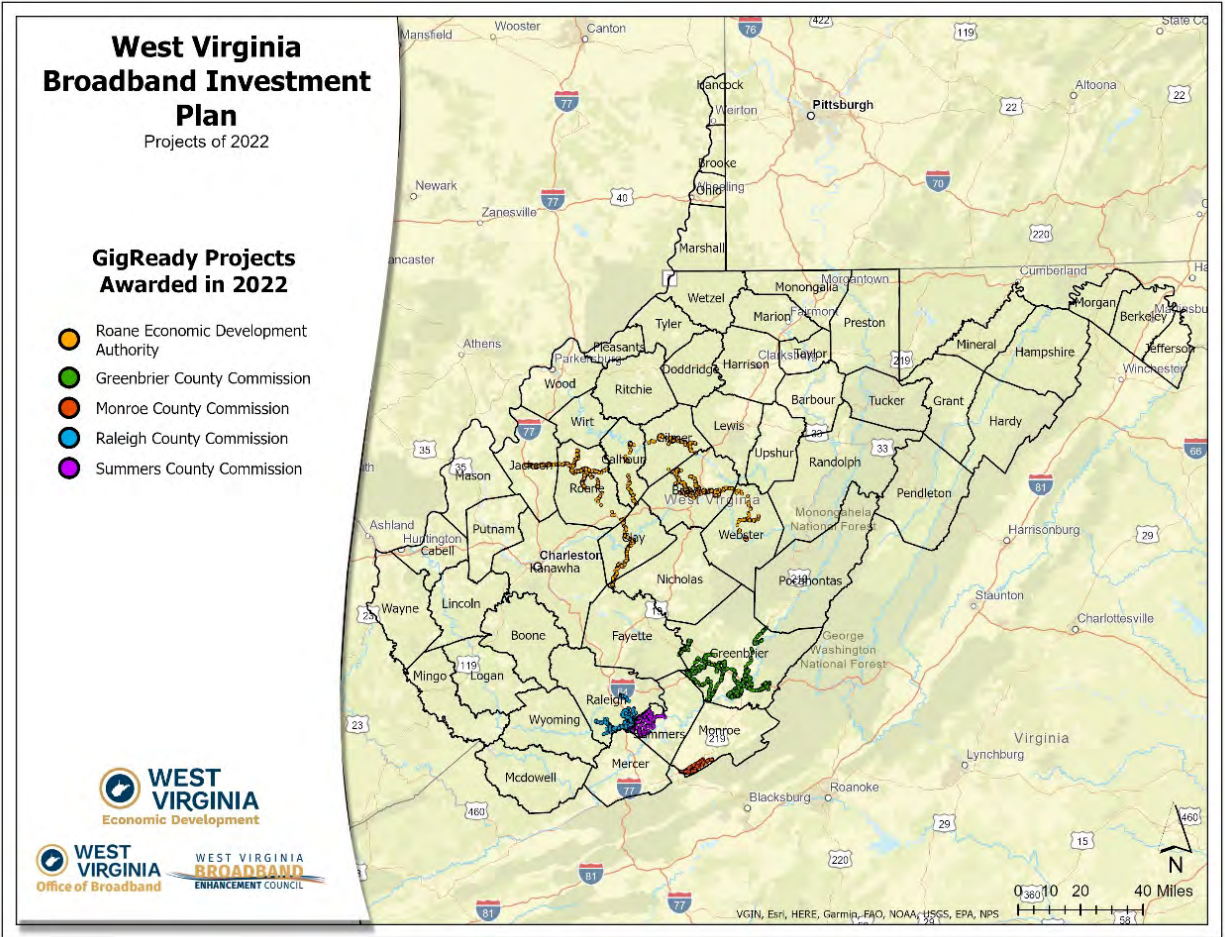


Figure 5.4: MBPS addresses passed for projects announced in 2022.

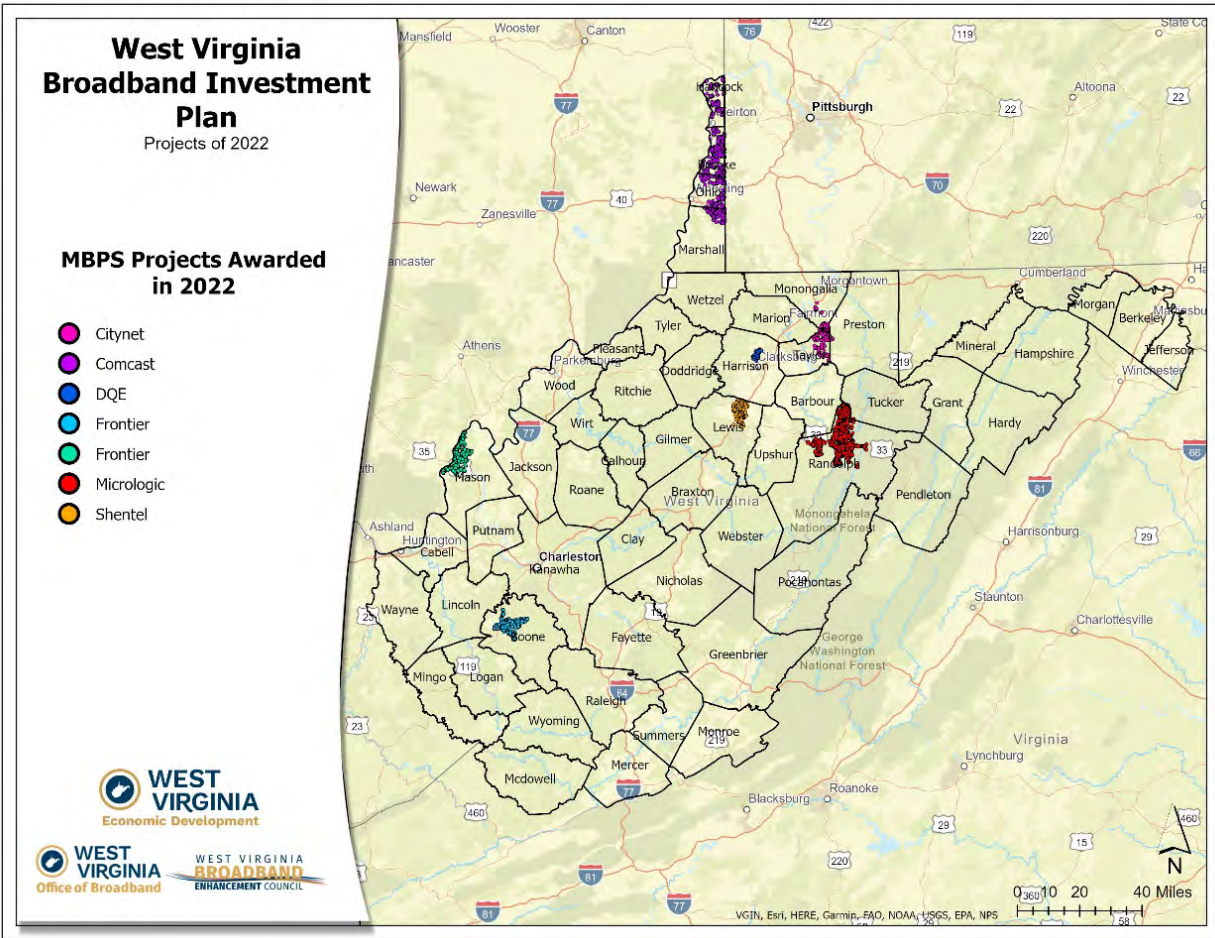
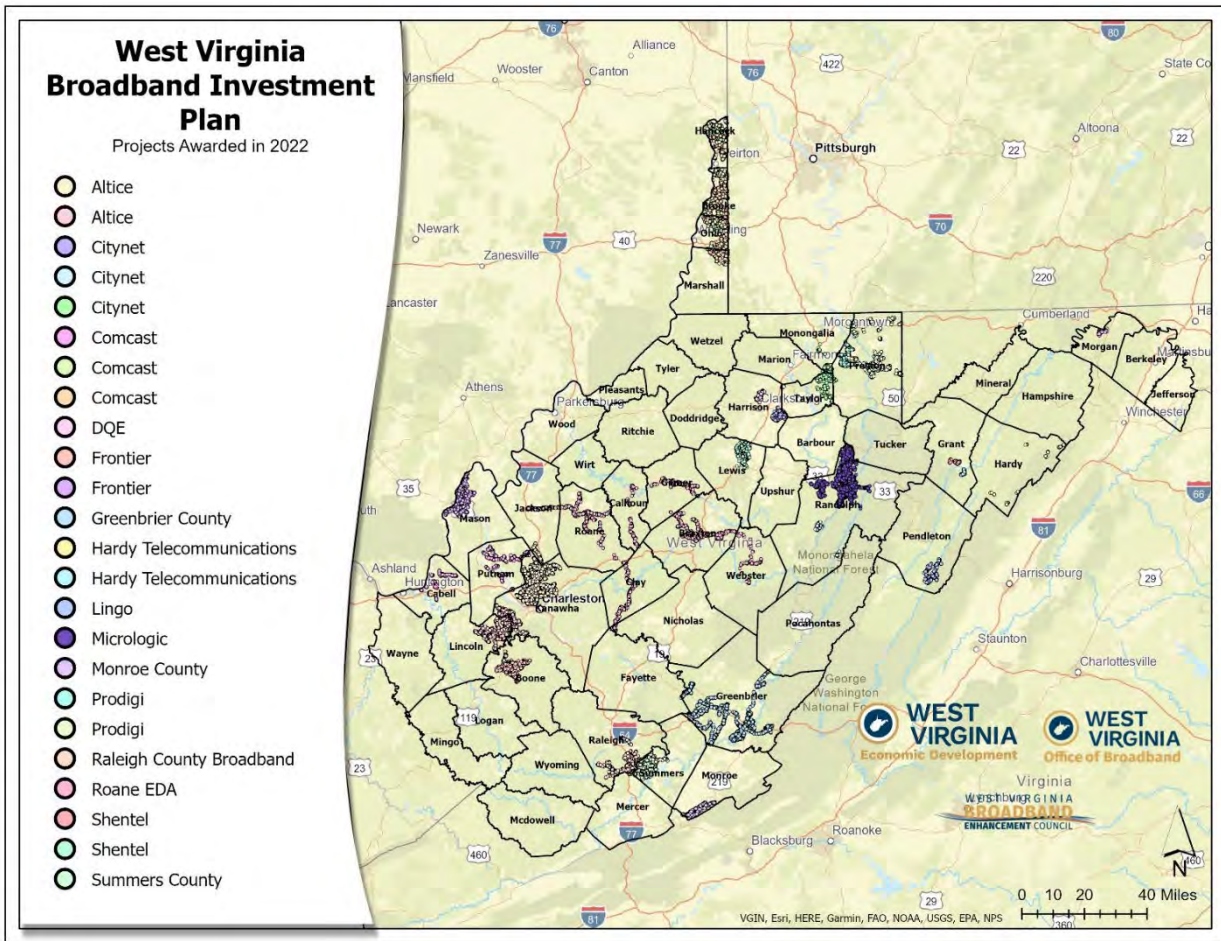


Figure 5.5: Addresses passed for all projects announced in 2022.

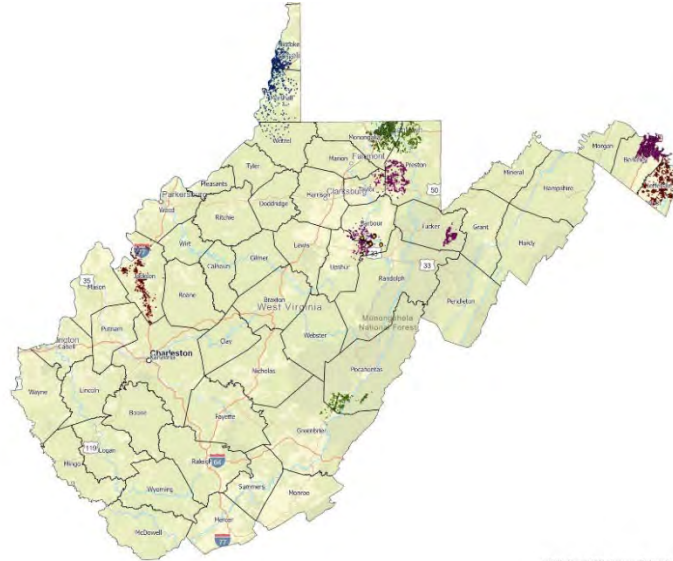


5.6 WIN Program Update

The West Virginia Department of Economic Development, Office of Broadband, launched the Wireless Internet Networks (WIN) Program on May 20, 2022. Funded through a \$10 million allocation from the West Virginia Legislature, the Program is designed to fund full extensions or upgrades of existing last-mile wireless broadband networks that can be constructed quickly.

Figure 5.6: Applications submitted for the WIN program in 2022.

This program is designed to connect unserved locations across West Virginia while also bringing connectivity to the State’s parks and surrounding communities. An interactive map featuring program priority locations is published at <https://broadband.wv.gov/>.



VGIRL, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

The Office of Broadband conducted a webinar to review the WIN program in May 2022. Applications were accepted through June 30, 2022. Five applications from four companies, representing a combined request of \$9.9 million, were received. The applications included 16 counties with proposed service to an estimated 5,800 locations. Applications are currently in final review.

Table 5.2: Applications submitted for the WIN program in 2022.

WIN APPLICATION SUMMARY		
Targeted Addresses	Counties	Park Location
257	Ohio, Marshall, Wetzell	None
45	Barbour	Audra
1,562	Monongalia, Preston, Greenbrier, Pocahontas	Watoga, Cooper’s Rock
1,846	Barbour, Berkeley, Jefferson, Preston, Taylor, Tucker, Upshur, Marion	Audra
2,151	Jefferson, Jackson	None

6. Speed Data

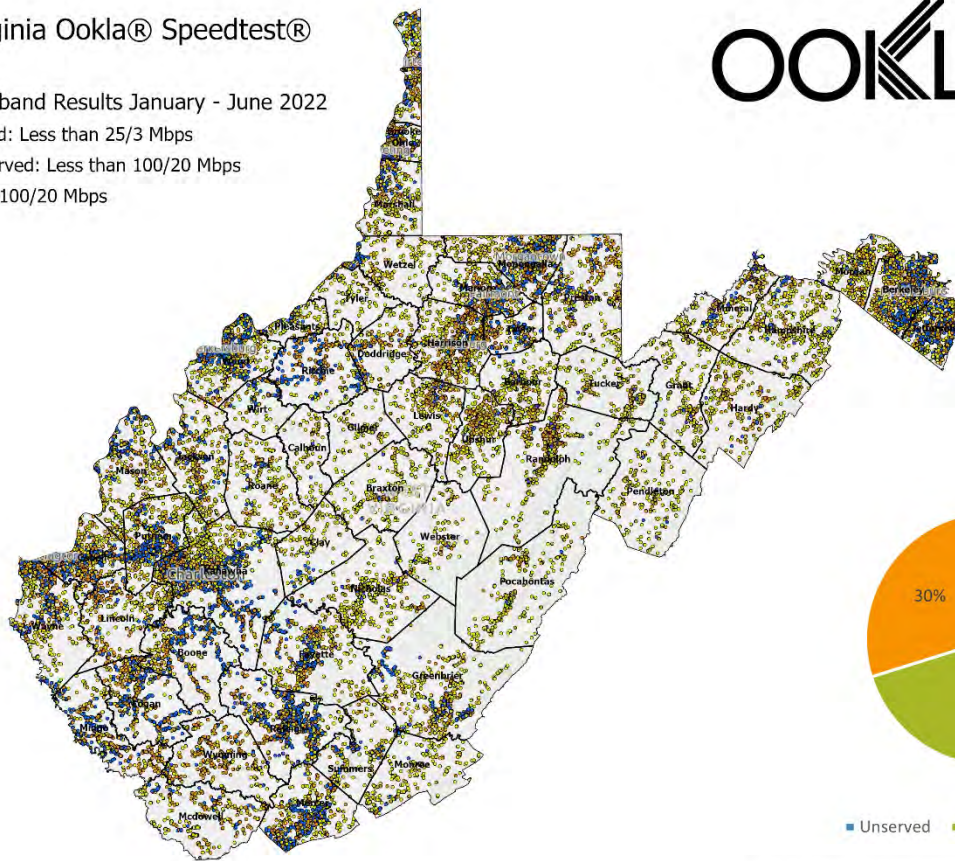
The West Virginia Broadband Enhancement Council maintains a contract with Ookla® to obtain speed test data in West Virginia. Internet performance tests measure the download, upload, and latency speeds of IP addresses. With numerous broadband infrastructure construction projects underway in West Virginia, performance measures can demonstrate progress and the validity of the networks. Speed tests have also been useful for identifying unserved communities where performance drops off which can suggest poor networks or lack of high-speed reliable broadband. In some cases, these locations can be overly reported to have connectivity while speed test data can suggest otherwise.

Figure 6.1: West Virginia Ookla® Speedtest® results for January - June 2022

West Virginia Ookla® Speedtest® Results

Fixed Broadband Results January - June 2022

- Unserved: Less than 25/3 Mbps
- Underserved: Less than 100/20 Mbps
- Served: 100/20 Mbps



VGIN, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

West Virginia Ookla® Speedtest®
 Results
 Fixed Broadband Results January - June 2022
 ● Served: 100/20 Mbps

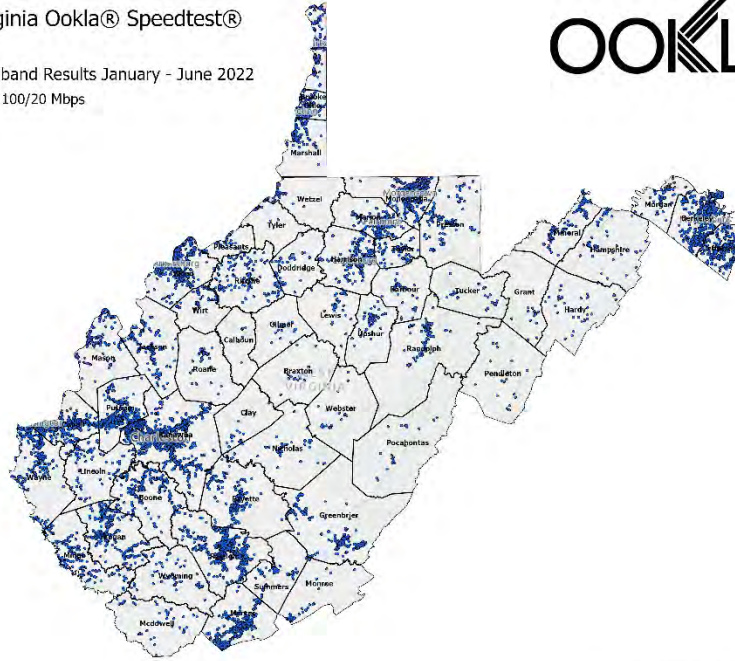


Figure 6.2 West Virginia Ookla® Speedtest® results for January - June 2022

VGIN, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

West Virginia Ookla® Speedtest®
 Results
 Fixed Broadband Results January - June 2022
 ● Underserved: 25/3 - 100/20 Mbps

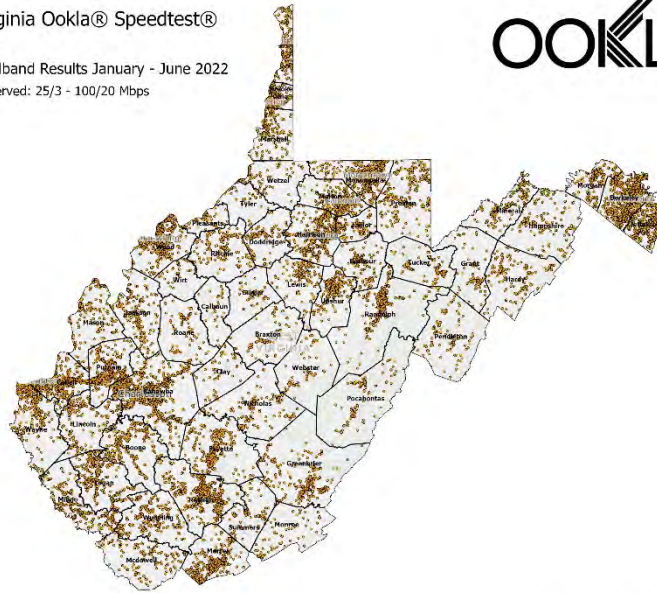


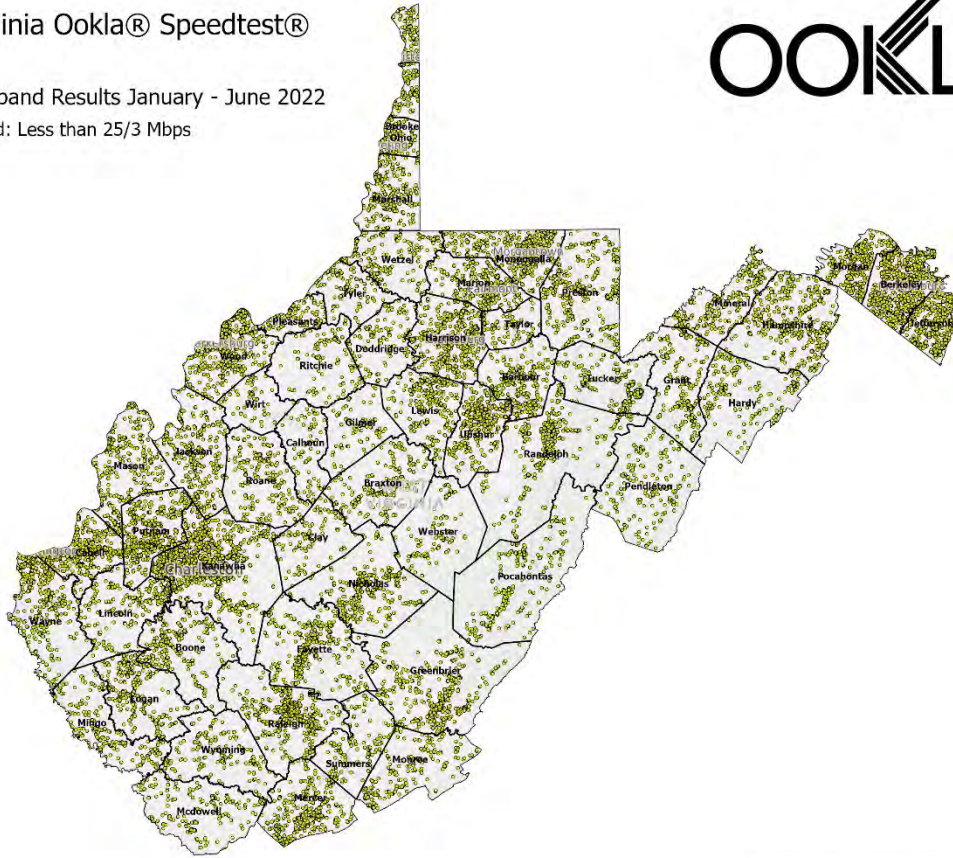
Figure 6.3 West Virginia Ookla® Speedtest® results for January - June 2022

VGIN, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

West Virginia Ookla® Speedtest®
Results

Fixed Broadband Results January - June 2022

● Unserved: Less than 25/3 Mbps



VGIN, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

Figure 6.4 West Virginia Ookla® Speedtest® results for January - June 2022

Unserved Speed Tests

Performance drops in speed as tests become more rural which could indicate a lack in high-speed networks. However, densities of unserved tests occur in areas where networks such as a cable are available. This could indicate poor connectivity or low adoption-rate due to costs.

7. FCC Broadband Data Collection (BDC)

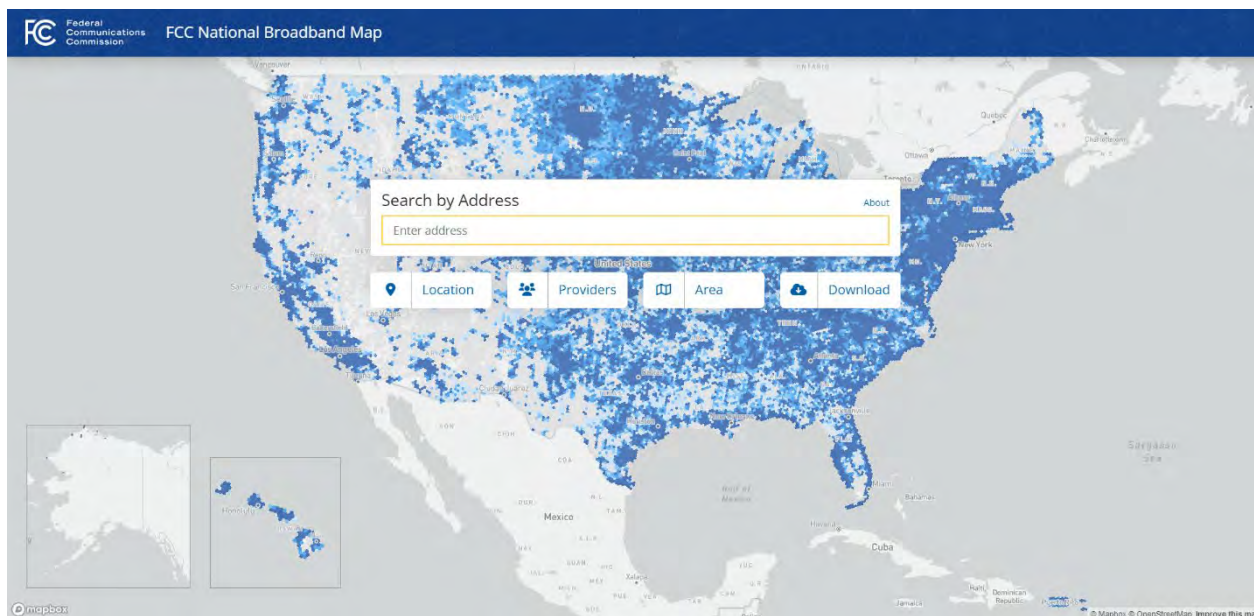
In 2022, the Federal Communications Commission (FCC) revised its system of collecting and reporting broadband availability data through its implementation of the Broadband Data Collection (BDC) program and released the FCC National Broadband Map. On November 18, 2022, the FCC released the *pre-production draft* of the [National Broadband Map](#). The map is designed to identify broadband availability at the address level. Individuals can now view where Internet Service Providers (ISPs) have reported service. Moreover, states and individuals can now challenge reports of service that are inaccurate.

Historically, the FCC has relied on data collected from ISPs twice a year on FCC Form 477, through which ISPs report what census blocks they offer particular services over particular technologies, such as cable, fiber and fixed wireless. This information has been criticized for its lack of accuracy because it aggregates data by census blocks, not by addresses. If even a single location within a particular census block is served by a provider and included in their Form 477 filing, the entire census block was deemed to have service. Additionally, the Form 477 data was never subject to challenges from states, other service providers, or individuals.

ISPs are now required to submit broadband coverage polygons, per service, per technology. These are essentially detailed coverage maps showing a service provider’s coverage area for technologies offered and a particular speed. If a provider offers service using cable and fixed wireless, and offers different speed tiers for each technology, each combination of speed and technology requires a separate filing.

Broadband Serviceable Locations (BSL Locations)

These broadband coverage polygons are then laid over a map layer consisting of Broadband Serviceable Locations (BSLs) provided by the FCC. The BSL map layer depicts homes and small businesses (mass market locations) that excludes buildings such as schools and hospitals).



While the underlying service availability information is still self-reported by the ISP, the FCC has introduced a challenge process through which state broadband offices and individuals can submit challenges to the reported information. The FCC also requires that the ISP respond to the challenge. The BSL map layer is also subject to a challenge process from state broadband offices and individuals. If a premise is not included in the current BSL layer of addresses it can be added, and if a multiple dwelling unit has an incorrect unit count, it can be corrected. Non-mass market locations can also be excluded from the BSL fabric.

The current iteration of the BDC map, released for the first time on November 18, 2022, is considerably more detailed than previous FCC broadband maps based only on Form 477 data. However, the BDC map does contain errors that must be addressed during the ongoing challenge process. The FCC has stated that the map will evolve over time and that multiple iterations will be necessary. Subsequent corrections to the FCC map will be incorporated every six months.

While the introduction and ongoing maintenance of the challenge process is a very welcome addition to broadband availability mapping efforts, since data BDC data collection process receives data and releases data twice per year, it will take some time before the more granular data submissions and the subsequent challenge data submissions lead to highly accurate broadband availability mapping.

7.1 Challenges

The West Virginia Office of Broadband is participating in the BDC program by conducting an official challenge under the following categories: Fabric Bulk Challenge and Availability Challenge. The Office submitted a Fabric Bulk Challenge by identifying more than 138,000 missing locations from the FCC Broadband Serviceable Locations (BSL) data set. The BSL dataset consists of 902,609 address locations in West Virginia that are deemed broadband serviceable. The Office currently identifies 1,094,282 locations in West Virginia.

The BSL data is categorized by six different building types: business-only, residential-only, business, and residential, group quarters, community anchor institutions, and enterprise. These locations are identified as building structures that can receive broadband services.

Table 7.1: Locations per BDC building type

Building Type	Locations
Business-only	137,335
Residential-only	732,262
Business and Residential	27,294
Group Quarters	412
Community Anchor Institutions	1,718
Enterprise	3,678

The Office is conducting an Availability Challenge to identify misreported broadband services shown on the Broadband Availability Map. This challenge is a multi-step analytical process that takes both spatial analysis and physical validation into account. According to the BEAD Notice of Funding Opportunity (NOFO)¹ Cable Modem/Hybrid fiber-coaxial technology, fiber-optic technology, DSL technology, and licensed terrestrial fixed wireless technology are all considered as reliable broadband services. The Office assessed locations where reliable broadband services were reported where unserved locations reported by the Office were present. These unserved locations identified by the Office are assessed to not have reliable broadband services from any of the above technologies.

In December 2022, the West Virginia Broadband Enhancement Council authorized a field validation study through which Tilson Technology Management conducted a field validation for over 900 locations in West Virginia. The field validation determines the accuracy of the BDC data and provides a granular plan to be implemented for future challenges. For DSL, the Office has conducted a desktop analysis utilizing speed test data and distance parameters to determine the validity of claims that the services can provide speeds of 25/3 Mbps.

7.2 National Broadband Map Implications

Importantly, the FCC National Broadband Map will be used to calculate the funds allocated to the State of West Virginia by the National Telecommunications and Information Administration (NTIA) Broadband Equity, Access, and Deployment (BEAD) program. This program will provide historic funding for broadband deployment nationwide under the Infrastructure Investment and Jobs Act (IIJA).

The FCC map includes a variety of functions, including a summary of the Internet Service Providers (ISPs) that may serve a specific location. Other details on the map include:

- residential and business service tiers,
- types of service,
- mobile broadband coverage,
- advertised speeds, and
- data downloading speeds.

The first release of the National Broadband Map has features that allows end-users to challenge a Location or Availability Challenge. West Virginians are encouraged to submit a **Location Challenge** to indicate that an address is missing, or an **Availability Challenge** to indicate that availability is incorrect.

The West Virginia Broadband Enhancement Council and the Office of Broadband have encouraged West Virginians to participate in the Location Challenge and the Availability Challenge process <https://broadband.wv.gov/west-virginians-encouraged-to-challenge-the-fcc-broadband-map-before-january-13/>. However, the agencies note that the FCC map presents several confusing implications that may impede individual participation in the challenge process.

¹ <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf>

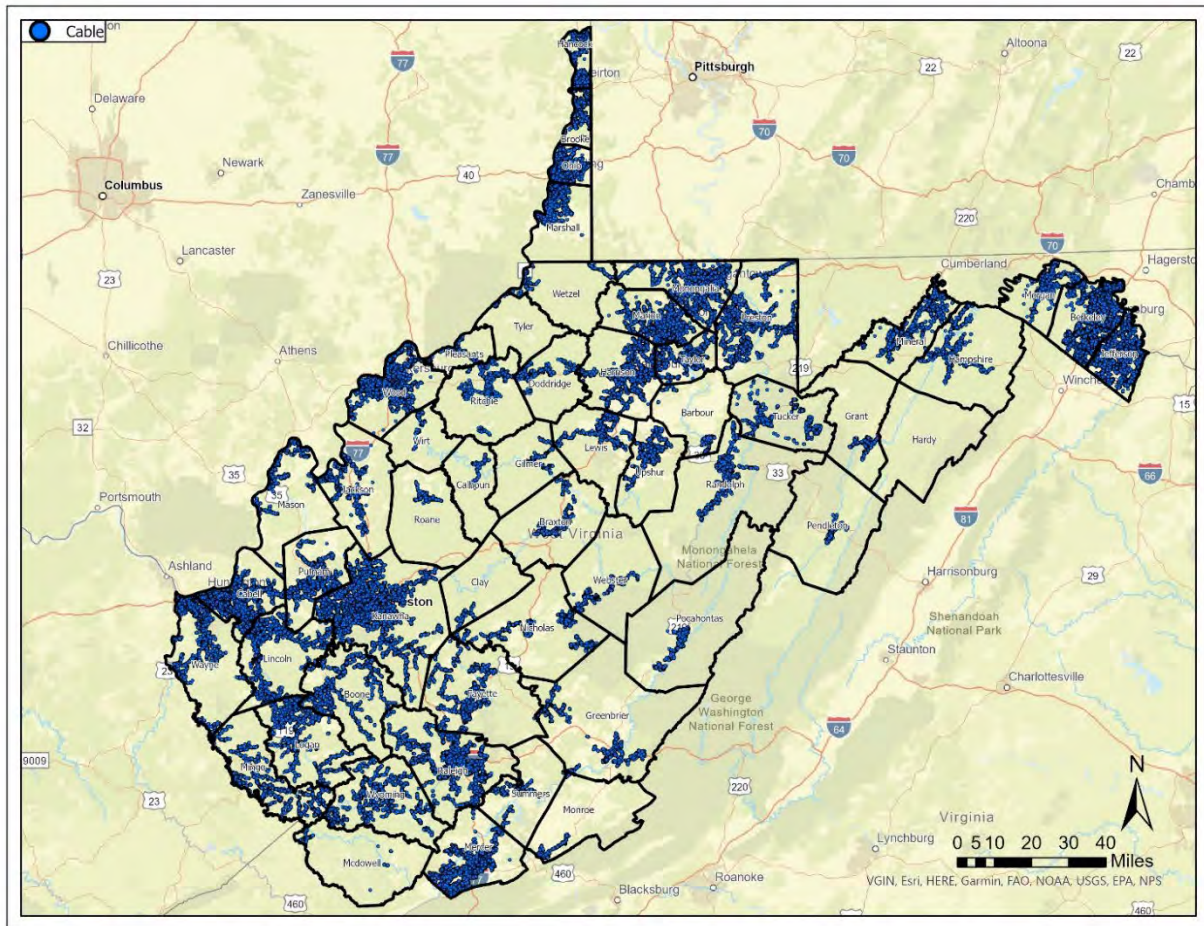
For example, the NTIA BEAD program does not recognize satellite technology as a reliable broadband service; however, most addresses on the map are classified as served due to satellite.

Below list the implications found in the FCC map.

- **Missing addresses:** The map includes a total of 902,699 broadband serviceable locations. The Office of Broadband has identified a minimum of 138,000 locations missing from the map.
- **100% Coverage:** The FCC represents broadband availability both at the address level and area based. Area based coverage consists of hexagon polygons represented by the percent of coverage. Due to satellite coverage, most of West Virginia both at the hexagon and address level appear as 100% served. This representation of West Virginia is misleading to consumers.
 - BEAD NOFO does not correlate with the FCC National Broadband Map
- **Licensed Fixed Wireless:** Licensed fixed wireless is a technology eligible to deem an address as served. This technology that meets the minimum speed threshold of 25/3 Mbps may impact the overall count of unserved locations in the final map. Unlike cable and fiber, fixed wireless requires access to more data specifications, equipment, and time to properly conduct a field analysis.
- **Copper/DSL:** Out-dated legacy technology in West Virginia with many reported cases of failing infrastructure, low speeds, and inability to serve new customers.
- **Satellite:** – Starlink satellite technology shows to offer 834,009 addresses as served with 100/10
- **Consumer challenges:** Consumer challenges are sent to the ISPs for review.

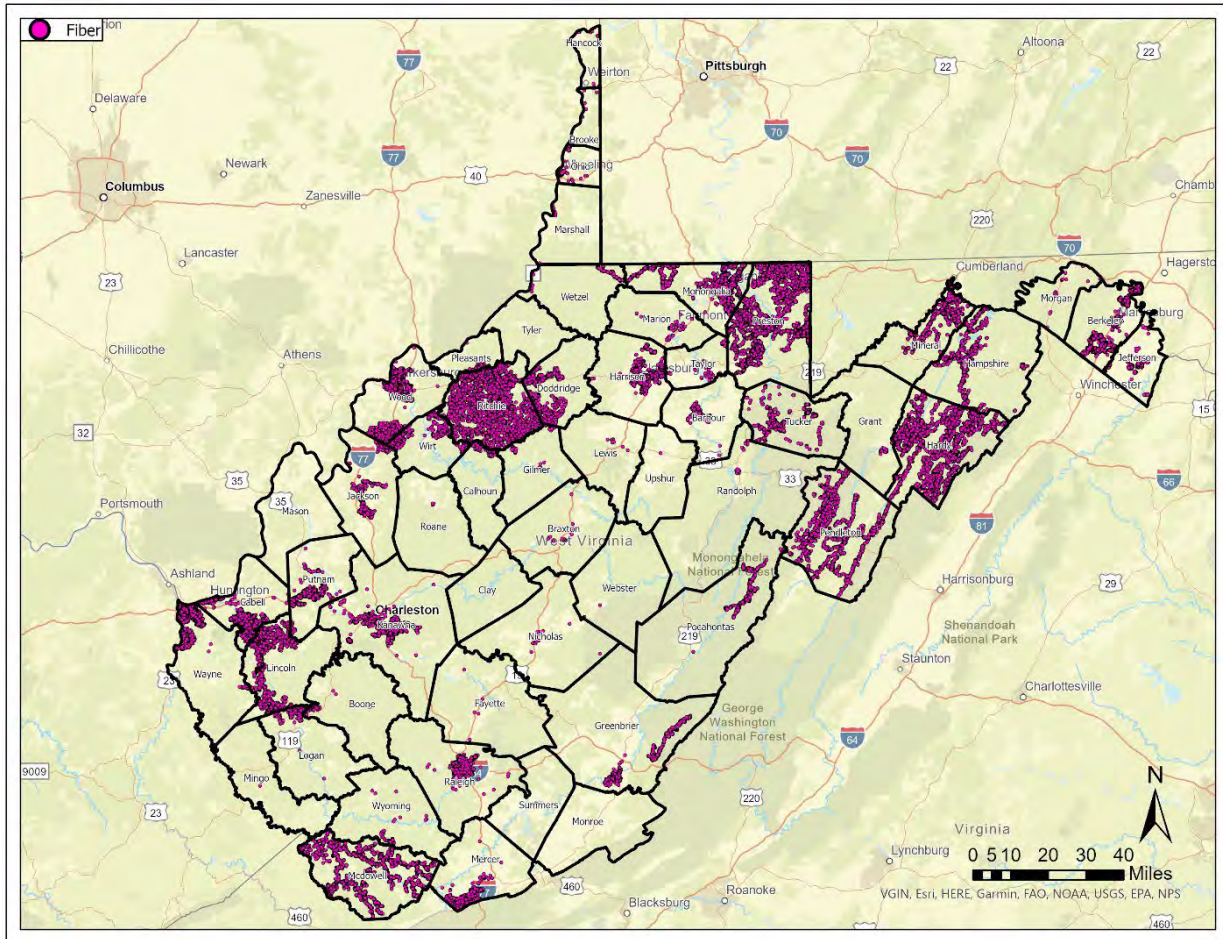
The following maps below demonstrate the breakdown of BDC technologies that are listed as “reliable broadband services” in the BEAD NOFO. There are 15 cable providers in West Virginia serving 604,376 locations. A majority of cable services can be found in areas of high population density; however, in more rural areas of West Virginia, cable services are not available.

Figure 7.1: BDC addresses reported to be served by cable.



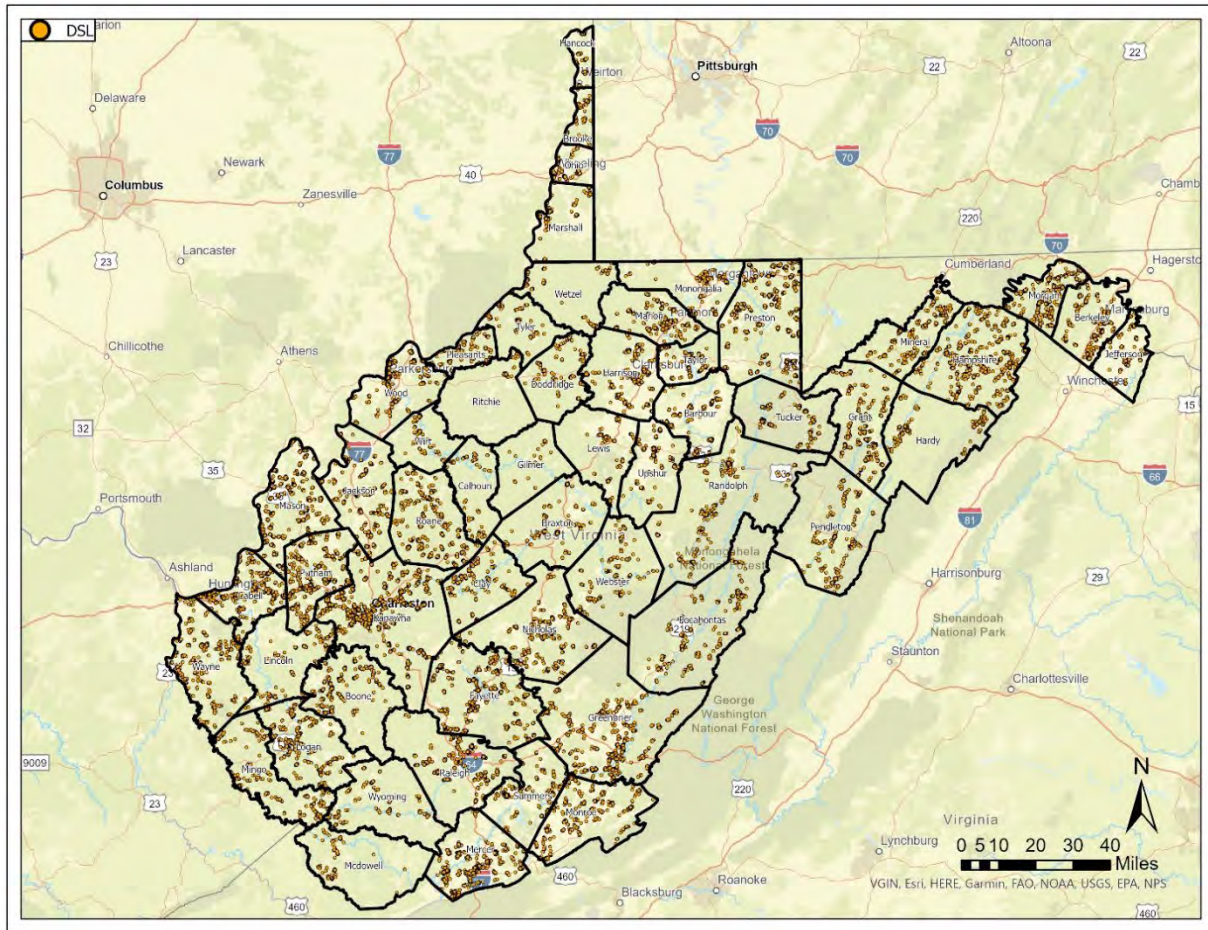
There are 32 fiber providers in West Virginia (including business only services) serving 172,252 locations.

Figure 7.2: BDC addresses reported to be served by fiber.



DSL (copper) is reported to serve 60,040 locations in West Virginia. The Office understands that DSL networks in the state are outdated and, in some cases, failing. Data collected suggests that the realistic number of served locations from DSL is much lower and the Office will submit a bulk challenge of locations that the National Map claims to be served.

Figure 7.4: BDC addresses reported to be served by copper.



CABLE	
ISP	Locations
Optimum	261118
Xfinity	215782
Shentel	50695
Charter Communications Inc	32957
Community Antenna Service Inc	23395
Breezeline	21000
Armstrong Utilities Inc	18329
MCTV	2325
Blue Devil Cable	2246
Mikrotec CATV, LLC	1528
Zito West Holding, LLC	1272
Lycom Communications Inc	363
A&A Communications LLC	251
Inter-Mountain Cable Inc	94
SecureNet	88

Table 7.2: Number of locations served by cable per ISP according to the BDC data

Licensed Fixed Wireless Offering 25/3 Mbps	
ISP	Locations
United States Cellular Corporation	278469
T-Mobile US	113596
VERIZON	48715
GigaBeam Networks, LLC	3469
Beam	2141
SkyPacket	1380

Table 7.3: Number of locations served by licensed fixed wireless per ISP according to the BDC data

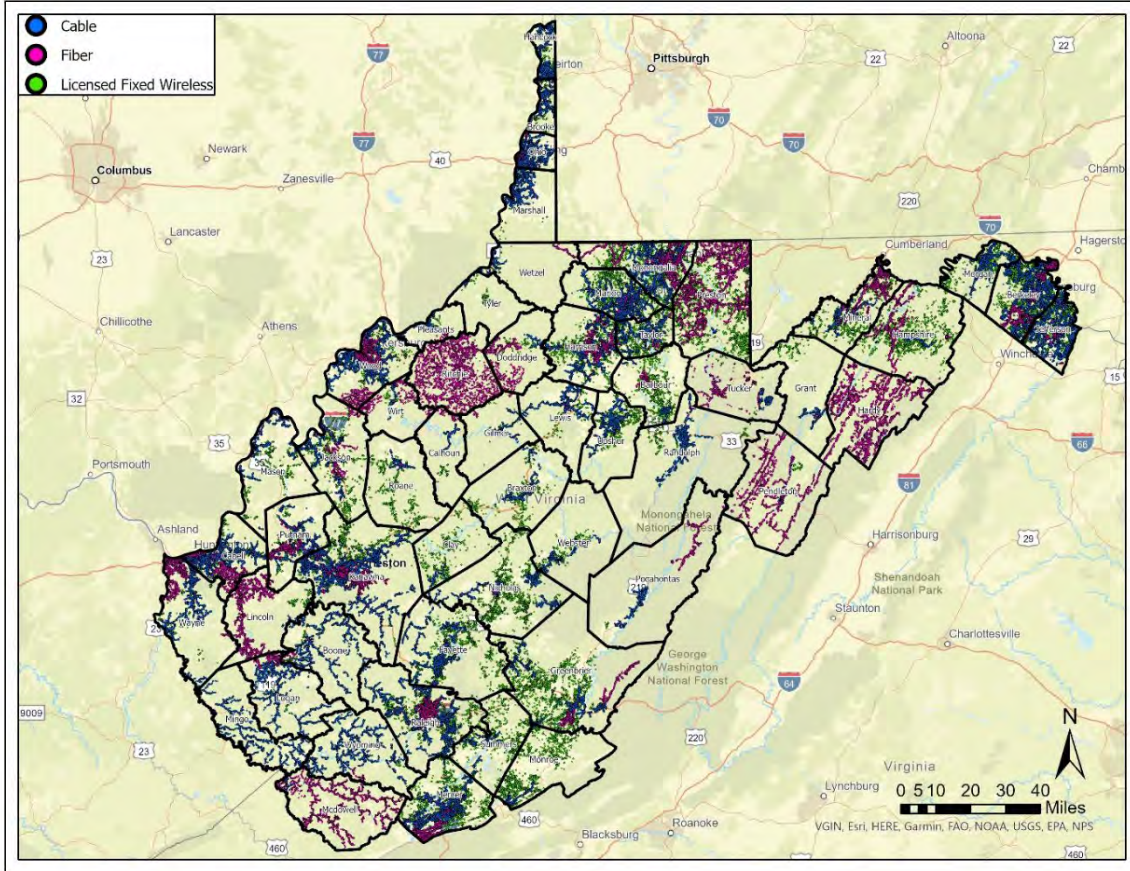
FIBER	
ISP	Locations
Frontier	83854
Breezeline	29195
Armstrong Utilities, Inc.	22273
Shentel	11373
Armstrong Telephone Company - ND	6745
Glo Fiber	6071
Digital Connections, Inc dba Prodigy	5259
Spruce Knob Seneca Rocks Telephone	4294
Hardy Communications Inc	4277
Hardy Communications, INC CLEC	3745
Point Broadband Fiber Holding, LLC	1741
Citynet LLC	1446
SecureNet	995
Crystal Broadband Networks	928

FIBER	
ISP	Locations
Foothills Connect	811
A&A Communications LLC	486
SEGRA	454
QCOL	351
Communications Plus, Inc.	202
Glo Fiber Enterprise	122
MCTV	110
South Carolina Telephone Group	98
Charter Communications Inc	60
Alpha Technologies Inc.	33
Lingo Networks	30
DQE Communications LLC	3
APX Net	1
ENA Healthcare Services, LLC	1
Lycom Communications Inc	1

Table 7.4: Number of locations served by fiber per ISP according to the BDC data

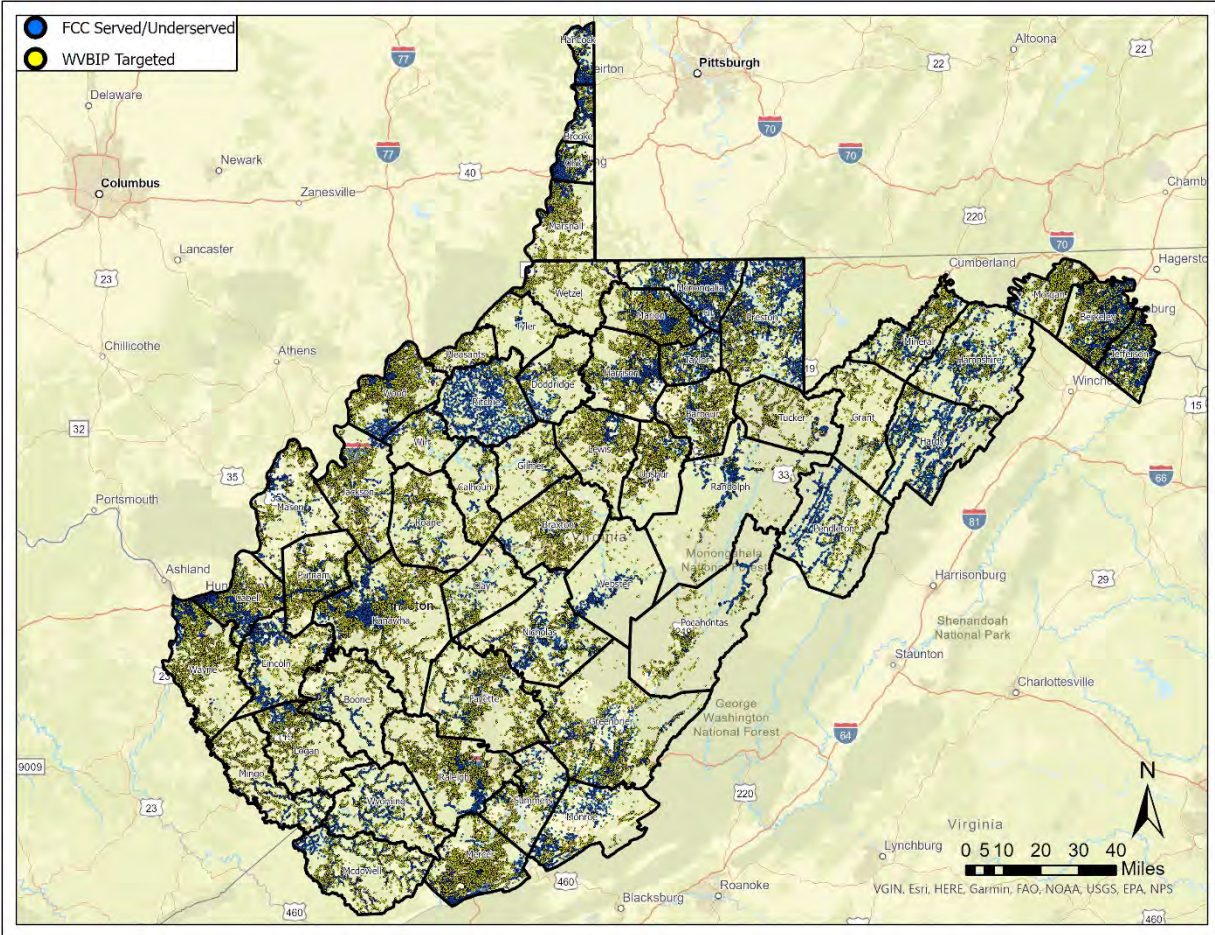
Below demonstrates the layering of addresses reported to have access to broadband services by cable, fiber, and fixed wireless (DSL not shown). 712,539 locations are reported to be served by these technologies including copper. 190,160 locations are reported as unserved.

Figure 7.5: BDC addresses reported to be served by copper.



The overlaying of targeted (unserved) locations identified by the Office, demonstrates the conflicting reports of FCC BDC locations.

Figure 7.6: WVBP targeted addresses overlayed on FCC BDC addresses.



The latest and final release of the FCC Form 477 was in December of 2021. The following maps demonstrate how broadband availability was mapped versus the pre-production draft of the national broadband map.

Figure 7.7: FCC census blocks with reported cable..

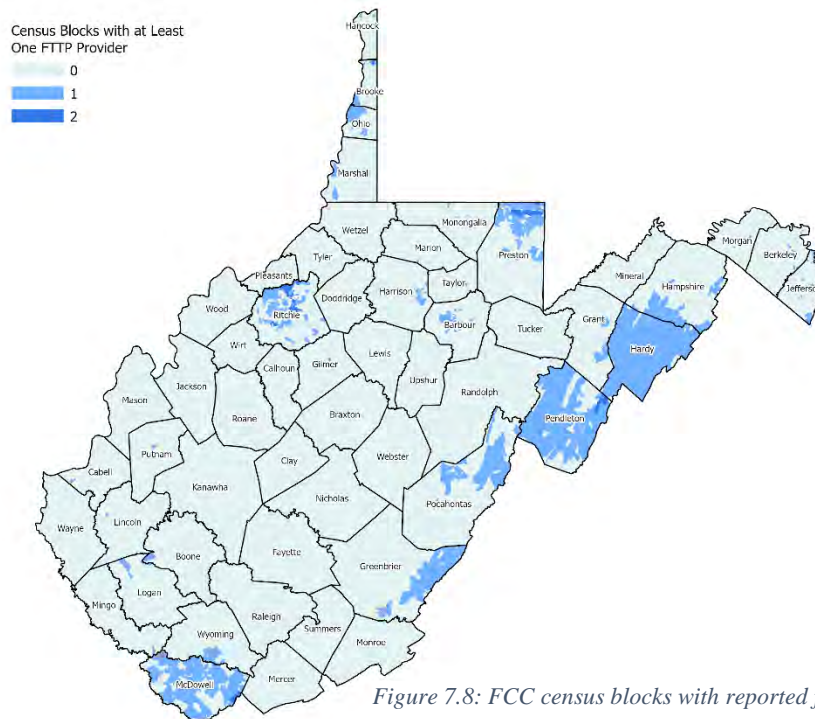
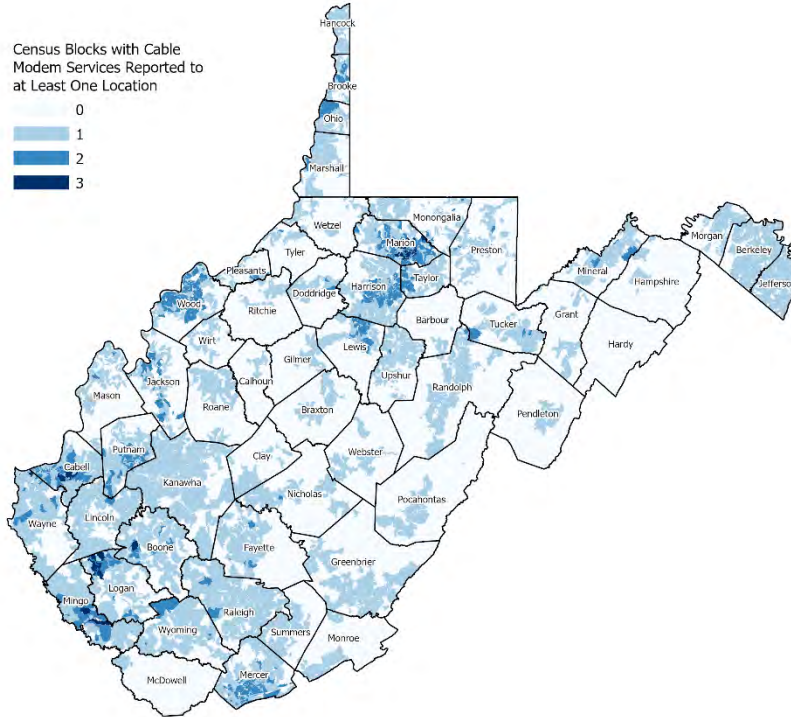


Figure 7.8: FCC census blocks with reported fiber..

8. FCC Rural Digital Opportunity Fund (RDOF)

The FCC conducted Phase 1 of the Rural Digital Opportunity Fund (RDOF) multi-round, reverse auction in October and November 2020. Through the entire RDOF program, the FCC outlined plans to award up to \$20.4 billion to support fixed broadband development nationwide. Phase 1 of the RDOF auction program included \$16 billion in potential funding. Of the \$16 billion, \$9.2 billion, or 57.5 percent, was awarded through a competitive, reverse auction framework designed to reduce costs through repetitive rounds of bidding by location(s). The balance of the initial \$20.4 billion is anticipated to be allocated during a second RDOF round, but the FCC has not released any information about RDOF Phase 2 as of this time.

Provisional winning bidders for Phase 1 were announced on December 7, 2020, at which point these provisional winning bidders started the post auction “Long Form Application” process in order to receive authorization to begin receiving their subsidy payments out of the Universal Service Fund’s High Cost Program, the source of RDOF funding. The Long Form process involved obtaining Eligible Telecommunications Carrier designation from either a state public utility commission or the FCC directly, providing additional financial information and providing additional information in response to questions the FCC posed to provisional auction winners.

Nearly two years later, in 2022, the Long Form process is still not complete for some provisional RDOF winners, including one West Virginia Internet service provider. Nationally, several provisional RDOF winners were ultimately denied final authorization to receive the RDOF High Cost subsidy. Additionally, numerous census blocks that were included in the auction initially and assigned to provisional auction winners were subsequently identified by the FCC as not qualifying for the auction either because they contained no broadband serviceable locations, or it was determined that qualifying broadband service was already present. These census blocks were excluded from receiving auction subsidy funding and categorized as “Defaulted” census blocks. Additionally, some census blocks assigned at the auction were defaulted on by provisional winners for various reasons.

West Virginia’s initial auction eligibility profile, as determined by the FCC, included 120,506 locations. The maximum statewide award possible was slightly more than \$766 million, or \$76 million per year, for ten years. This figure was the maximum potential subsidy to be awarded by the FCC to carriers that competed in the auction process. However, through the reverse auction process, the ultimate subsidy amount awarded in West Virginia was \$362 million, approximately 47.2 percent of the maximum amount. Additionally, of the 120,506 initially eligible locations, 119,267, 98.9 percent, were ‘won’ by auction participants.

After the Long Form process most of West Virginia’s provisional awards remained intact. While there were several census blocks in West Virginia classified as Defaulted, either due to the FCC initiated process of identifying census blocks that did not qualify for the auction or from provisional auction winners intentionally defaulting for various reasons, these were limited.

While several provisional auction winners were not approved by the FCC to receive the auction’s USF High Cost subsidy as a result of the Long Form process, only one of these affected West Virginia census blocks assigned during the auction. SpaceX did not receive final approval by the FCC for any of their RDOF assigned nationwide, including some in West Virginia, because the FCC had concerns about the capacity of their low earth orbit satellite system being able to provide the performance and speed SpaceX committed to during the auction. SpaceX is appealing this decision.

In addition, two provisional auction winners chose to default on a modest number of census blocks they were assigned during the auction including Commnet and Shentel.

Figure 8.1: RDOF Auction 904 winning bidders.

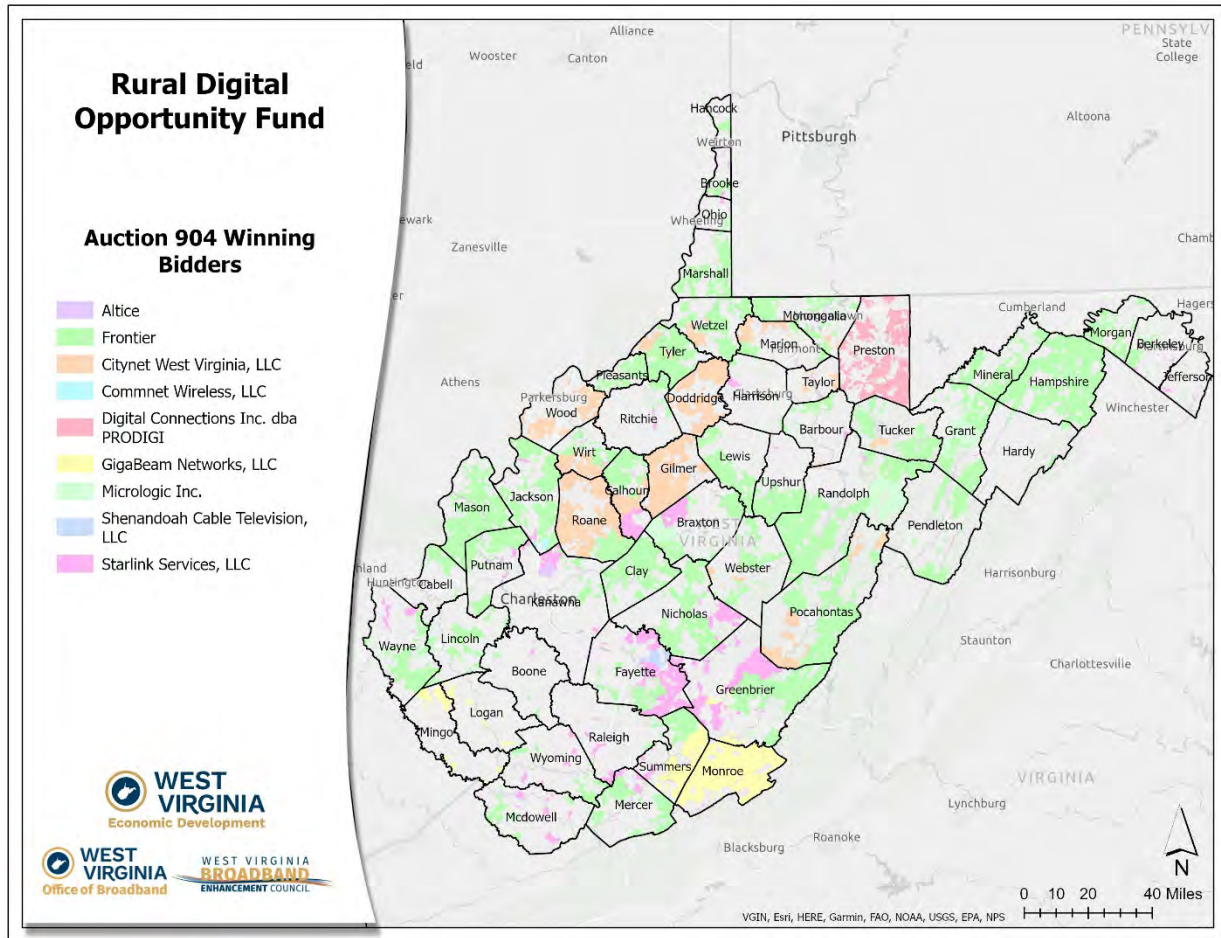


Figure 8.1 visualizes the census blocks that were won during the reverse auction; however, Starlink and Commnet locations are covered by defaults and will not be authorized.

Provisional RDOF Auction results, pre-Long Form process, for West Virginia are detailed below:

West Virginia FCC RDOF Maximum				
Competing Bidders	WV Eligible Locations	Maximum Annual Subsidy	Maximum 10-Year Subsidy	Auction Speed Tier
	120,156	\$76,621,628	\$766,216,280	
West Virginia FCC RDOF Awarded by Bidder				
Winning Bidders	WV Locations Assigned	Announced Annual Subsidy	Announced 10-Year Subsidy	Auction Speed Tier
Altice USA, Inc.	536	12,552.80	125,528	100/20 Mbps
Citynet West Virginia, LLC	13,460	5,351,685.83	53,516,858.3	1000/500 Mbps
CommNet Wireless, LLC	206	19,695.20	196,952	50/5 Mbps
Digital Connections, Inc. dba Prodigy	4,771	858,300.14	8,583,001.4	1000/500 Mbps
Frontier Communications Corporation, DIP	79,391	24,762,639.53	247,626,395.3	1000/500 Mbps
GigaBeam Networks, LLC	9,071	2,806,778.92	28,067,789.2	1000/500 Mbps
MicroLogic, Inc.	2,076	1,003,604.77	10,036,047.7	1000/500 Mbps
Shenandoah Cable Television, LLC	419	9,186.70	91,867	50/5 Mbps
Space Exploration Technologies Corp.	9,337	1,382,222.13	13,822,221.3	100/20 Mbps
TOTAL	119,267	36,206,666.02	362,066,660.2	NA

Table 8.1: Provisional RDOF auction results.

Current (almost final) RDOF Auction results, post Long Form process, for West Virginia are detailed below:

Post Long Form RDOF State Level Summary					
	State	Total Subsidy	Locations	Tier	STATUS
Altice	West Virginia	\$120,968.00	502	Above Baseline	Fully authorized
Frontier	West Virginia	\$247,538,077.60	79,334	Gigabit	Fully authorized
Citynet West	West Virginia	\$53,486,649.80	13,448	Gigabit	Fully authorized
Digital Connections	West Virginia	\$8,583,001.40	4,771	Gigabit	Fully authorized
Micrologic Inc.	West Virginia	\$10,036,047.70	2,076	Gigabit	Fully authorized
GigaBeam Networks	West Virginia	\$27,972,938.90	8,956	Gigabit	Ready to authorize status, 8/31/2022
State Total		\$347,737,683.40	109,087		

Table 8.2: Post Long Form RDOF Auction results

As shown above, of the approximately \$362 million (total amount of subsidy over ten years) in RDOF Phase 1 subsidy awarded in West Virginia, approximately \$247 million was assigned to Frontier. This was the largest award in West Virginia and the third largest award as detailed in Figure 8.1.

Of the 119,267 West Virginia locations provisionally assigned to bidders at the auction, approximately 80,000 of those were assigned Frontier. Notably, Frontier bid and won in the auction’s Gigabit Performance Tier, specifying the use of “Optical Carrier – Fiber to the End-User” as the technology to be utilized to satisfy deployment obligations. All auction winners must fulfill deployment obligations to serve 40 percent of the total locations won in a state by the end of year 3 (starting when the FCC announces final approval of auction winners to receive Universal Service Funds) and an additional 20 percent of auction subsidized locations per year until 100 percent completion by the end of year 6.

The specification of “Optical Carrier – Fiber to the End User” as a technology is presumed to necessitate the deployment of a Gigabit Passive Optical Network (GPON) as a fiber-to-the-home (FTTH) network that is able to provide service to each of the estimated 80,000 subsidized locations in West Virginia. To remain compliant with FCC RDOF auction rules, this GPON FTTH network must reach approximately 32,000 locations within three years after final FCC award approval. The network must then reach an additional 16,000 locations per year for each of the three years after the initial deployment.

These deployment milestones apply to all auction participants and represents a significant investment in broadband infrastructure in West Virginia.

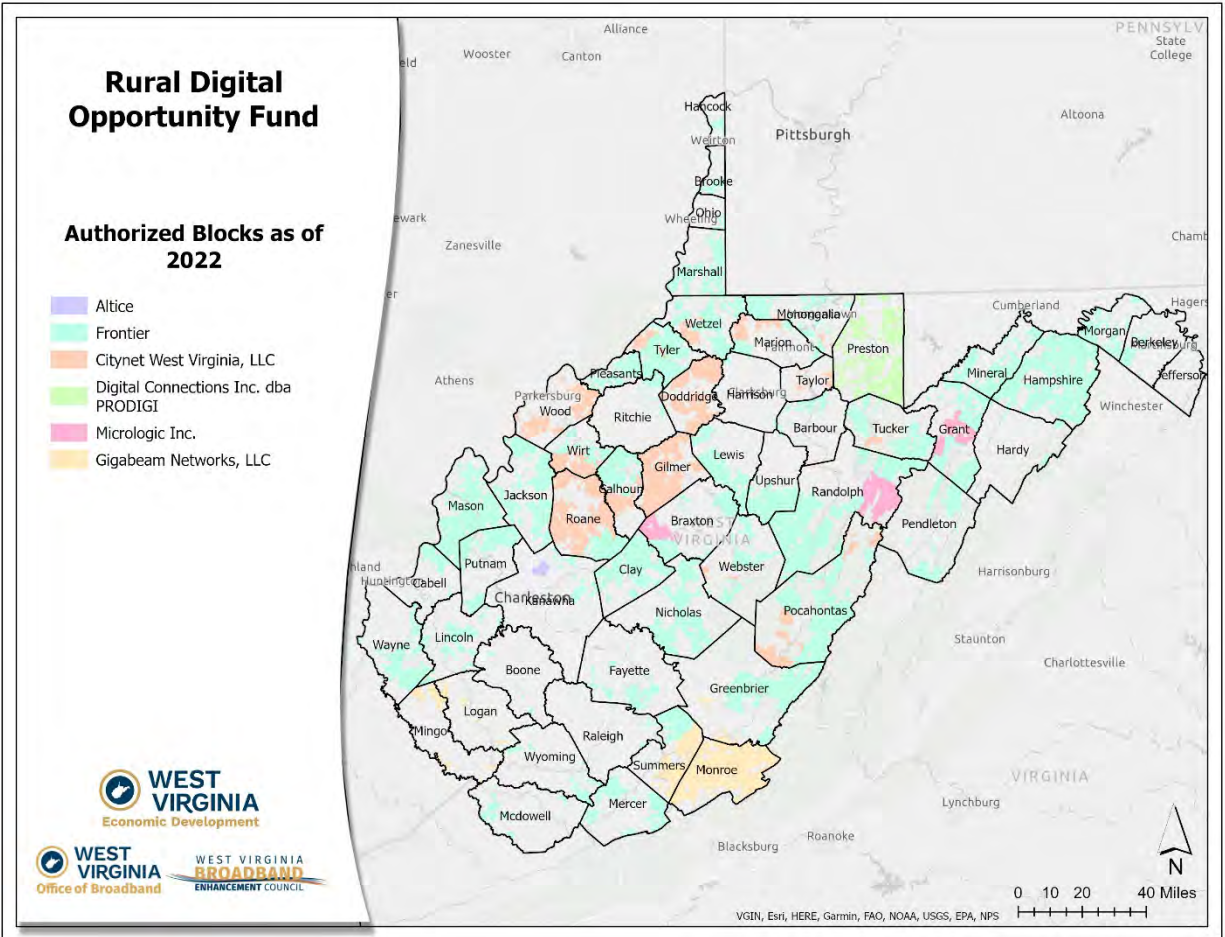
Bidder	State	Annual Support	Locations Assigned
LTD Broadband LLC	MN	\$31,187,793.64	102005
Etheric Communications LLC	CA	\$24,863,496.31	64463
Frontier Communications Corporation, DIP	WV	\$24,762,639.53	79391
Rural Electric Cooperative Consortium	MS	\$22,057,663.18	89505
AMG Technology Investment Group LLC	IL	\$19,309,883.99	68921
LTD Broadband LLC	WI	\$18,927,018.41	88070
Consortium of AEG and Heron Broadband I	MI	\$18,766,912.40	48449
LTD Broadband LLC	CA	\$18,750,605.97	76856
CCO Holdings, LLC	TX	\$18,679,335.99	133993

Table 8.3: Highest RDOF Statewide Awards, pre-Long Form process

A map which details RDOF locations by winning bidder is provided in Figure 8.2.

To assist companies as they prepared to compete in the auction, the WV Broadband Enhancement Council, WV Development Office, and Tilson Technology presented a series of webinars detailing the RDOF auction requirements. The webinars provided an in-depth look at RDOF auction process and eligible areas in West Virginia. The FCC’s Eligible Areas Public Notice and related materials can be found [here](#).

Figure 8.2: RDOF Auction 904 authorized blocks as of 2022.



9. Infrastructure Investment and Jobs Act (IIJA) Broadband Programs

The Infrastructure Investment and Jobs Act of 2021 provides a historic \$65 billion investment to expand internet access and use throughout the United States. Four federal agencies are leading the nation’s Internet for All initiative with programs to support high-speed internet planning, data development, infrastructure, and adoption. These agencies include: the National Telecommunications and Information Administration (NTIA), the Federal Communications Commission (FCC), the Department of the Treasury, and the U.S. Department of Agriculture (USDA). The federal agencies have consolidated funding programs under the national [Internet for All](#) initiative.

NTIA will administer two major programs under this initiative – the \$42.5 billion Broadband Equity, Access, and Deployment (BEAD) program, and the \$2.75 billion Digital Equity Act (DE) programs. The Digital Equity Act includes \$60 million for a State Planning Program, \$1.44 billion for a State Capacity Program, and \$1.25 billion for a Competitive Grant Program.

On May 13, 2022, NTIA released a Notice of Funding Opportunity (NOFO) for three national broadband programs under the Infrastructure Investment and Jobs Act (IIJA):

1. Broadband Equity, Access, and Deployment (BEAD) Program (\$42.5 billion)
2. Enabling Middle Mile Broadband Infrastructure Program (\$1 billion)
3. State Digital Equity Act programs (\$1.5 billion)

NTIA has awarded initial planning funds to the West Virginia Department of Economic Development, Office of Broadband as follows:

Program	Amount	Date of Award	Due Date
BEAD Planning Grant	\$5,000,000	November 14, 2022	TBD
Digital Equity Planning Grant	\$ 728,065	September 30, 2022	October 1, 2023

The NTIA Grants Portal is available at: <https://grants.ntia.gov/grantsPortal/s/>. This portal features information related to IIJA broadband funding programs. Each program is briefly detailed below:

1. **Broadband, Equity, Access, and Deployment (BEAD)**
 - a. The BEAD program provides funding for broadband planning, deployment, mapping, equity, and adoption activities. Each State is eligible to receive a minimum of \$100 million, of which \$5 million can be allocated as Planning Funds.
 - b. NTIA is expected to release allocation totals for each state in June 2023.

- c. West Virginia was among the 34 initial states that submitted a Letter of Intent (LOI) to participate in [the BEAD Program](#).
- d. West Virginia's BEAD application was submitted to NTIA on August 11, 2022, in advance of the August 15, 2022, application deadline. West Virginia's BEAD application was approved on November 14, 2022.
- e. The State's Five-Year Action Plan must be submitted with 270 days of receiving BEAD Planning Funds.
- f. States that do not complete the BEAD Planning process will not be eligible for BEAD Implementation funds.

2. State Digital Equity Planning Grant Program

- a. The State Digital Equity Planning Grant (<https://broadbandusa.ntia.doc.gov/resources/grant-programs/digital-equity-programs>) will be awarded to States and territories to develop State Digital Equity Plans designed to identify barriers to digital equity and implement strategies to overcome these barriers.
- b. Digital Equity Plans must be included in the BEAD Five-Year Plan.
- c. West Virginia's application was submitted on July 1, 2022, in advance of the July 12, 2022, Digital Equity Planning Grant application deadline. West Virginia's Digital Equity Planning Grant was approved by NTIA on September 30, 2022.
- d. Digital Equity Plans must be submitted with 270 days of receiving Digital Equity Planning Grant funds.
- e. States that do not complete the Digital Equity planning process will not be eligible for Digital Equity Implementation funds.

3. NTIA Middle Mile Broadband Infrastructure Grant

- a. The Middle Mile Broadband Infrastructure Grant Program (<https://broadbandusa.ntia.doc.gov/enabling-middle-mile-broadband-infrastructure-program>) provides funding for the construction, improvement, or acquisition of middle-mile infrastructure. Grant funds will be used to expand middle mile infrastructure to reduce the cost of unserved last-mile networks to connect to the internet backbone.
- b. NTIA will prioritize projects that meet at least two of the following five criteria, as outlined in Section 60401(d)(2) of the Infrastructure Act. Preferred projects will:
 - Adopt "fiscally sustainable middle mile strategies"
 - Commit to offering non-discriminatory interconnect
 - Identify specific, documented and sustainable demand for middle mile interconnections
 - Identify conditions/resources to speed up project

- Demonstrate benefits to national security interests
- c. The Middle Mile Program’s Notice of Funding Opportunity states that applicants must coordinate with the Office of Broadband prior to submitting an application *“to ensure that the proposal is consistent with the State’s broadband plan and priorities.”*¹
 - d. Middle Mile Program grant applications were submitted directly to NTIA in September 2022. NTIA expects to make available awards for grantees ranging from \$5 million to \$100 million, with expected to begin in March 2023.
 - e. The Office of Broadband issued Request for Information (RFI) to gauge interest in potential middle mile grant applications from West Virginia on June 24, 2022. The RFI closed on July 20, 2022. The RFI was later extended, to close on August 31, 2022.
 - f. Eligible applicants are defined as: *“(A) a State, political subdivision of a State, Tribal government, technology company, electric utility, utility cooperative, public utility district, telecommunications company, telecommunications cooperative, nonprofit foundation, nonprofit corporation, nonprofit institution, nonprofit association, regional planning council, Native entity, or economic development authority; or (B) a partnership of two (2) or more entities described in (A).”*²
 - g. The intent of the NTIA Middle Mile Program is to complement other programs focused on internet connectivity and digital equity. Eligible projects funded by this program must be middle mile networks capable of providing backhaul connectivity to facilities such as last mile network networks, community anchor institutions, towers and other facilities.³

9.1 Internet for All West Virginia

Building upon the national Internet for All initiative, the West Virginia Office of Broadband has created [Internet for All West Virginia](#). Through Internet for All West Virginia, the WV Office of Broadband and WV Broadband Enhancement Council will join with residents, businesses, nonprofit organizations, and numerous partners to develop West Virginia’s Digital Equity Plan and BEAD Five-Year Action Plan as directed by the NTIA.

The Internet for All West Virginia initiative is designed to achieve digital equity throughout the Mountain State and to ensure that all communities have access to broadband connectivity.

¹ <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/MIDDLE%20MILE%20NOFO.pdf>, page 22-23

² page 5

³ *Ibid*, page 4

9.2 West Virginia's Core Planning Team

Engagement with covered populations, unserved, and underserved locations, as well as community anchor institutions is an essential part of the planning process.

The Office of Broadband has partnered with key agencies and groups to solidify a Core Planning Team to facilitate stakeholder engagement and develop the West Virginia's Digital Equity and BEAD plans. The Core Planning Team includes the West Virginia Broadband Enhancement Council, Tilson Technology Management (Tilson), West Virginia University's Startup WV (Startup WV), and Marshall University's Center for Business and Economic Research (CBER).

9.3 West Virginia's Key Partners

In addition to the Core Planning Team, West Virginia's 11 Regional Planning and Development Councils (RPDCs) are key partners with direct connections to West Virginia communities. The RPDCs work directly with counties, municipalities, and critical stakeholders throughout West Virginia. Additional Digital Equity and BEAD Partners include:

- WV Department of Education
- WV Economic Development Council
- WV Herbert Henderson Office of Minority Affairs
- Regional Optical Communications
- The Thrasher Group

The Core Planning Team is reaching out to state, regional, and local groups to continuously grow this list of partners.

9.4 West Virginia's Digital Equity Steering Committee

In addition to the Core Planning team, West Virginia has established a Digital Equity Steering Committee. The Steering Committee will provide direction and assistance, leveraging their expertise in public outreach and organizing throughout the Digital Equity planning process. Digital Equity Steering Committee members include representatives from:

- AARP West Virginia
- Generation West Virginia
- West Virginia Broadband Enhancement Council
- West Virginia Library Commission

9.5 Digital Equity Planning

On October 4th, 2022, Governor Justice released a proclamation declaring October 3-7, 2022, as Digital Inclusion Week in West Virginia. Digital Inclusion Week is a national effort to recognize activities that promote digital inclusion around the country. This Proclamation recognizes that many West Virginians lack internet access and the skills necessary to use the internet, displaying the need for a State Digital Equity Plan. The Proclamation also described the Affordable Connectivity Program (ACP), outlined eligibility criteria, and provided resources for enrollment.

West Virginia's Digital Equity Planning team is dedicated to planning, expanding, funding, and building access to reliable and affordable high-speed internet in West Virginia. Digital Equity means enabling all individuals and communities to have access to, and the ability to use, information technology (including Internet access) to fully participate in society, the economy, and perform civic duties.

Under the Digital Equity Planning process, the WV Office of Broadband, together with its partners, will draft a plan to achieve digital equity in West Virginia. This plan will ensure that everyone in the state has access to affordable high-speed internet, affordable or free devices to use the internet, and the opportunity to learn the skills necessary to take full advantage of everything the internet offers.

West Virginia must submit its Digital Equity Plan to NTIA no later than one year after receipt of funds. The State will provide at least 30 days for public comment and will consider all public comments prior to final plan submission to NTIA. States that fail to complete a Digital Equity Plan cannot compete for Digital Equity Implementation funds. Digital Equity Plans must include:

- a. Statewide vision for digital equity
- b. A digital equity framework and scorecard
- c. Plans for digital literacy innovation programs
- d. Proposed technology-related apprenticeship or other workforce opportunities
- e. Integration with the State's Economic Development Strategy, educational and health outcomes, and civic and social engagement
- f. Action steps to implement the Digital Equity Plan that contains all requirements set forth in the [Notice of Funding Opportunity](#).

9.6 Digital Equity Deliverables

Digital Equity Planning Grant deliverables will include:

- a. a printed Digital Equity Plan, with an electronic version hosted on the [Internet for All WV website](#);
- b. an open access, interactive online dashboard and downloadable map displaying the data collected to inform the measurable objectives, and
- c. a Digital Equity asset inventory and community resource library.

West Virginia’s Regional Planning and Development Councils provide an essential connection to each area of the State. Working together, the planning teams will ensure that all West Virginians are represented in the Digital Equity and BEAD planning process.

9.7 Digital Equity Timeline

The WV Office of Broadband and partners are beginning development of the State Digital Equity Plan.

- a. Eligible Entities that receive Initial Planning Funds must submit a Digital Equity Plan to NTIA no later than 1 year after receipt of planning funds (October 1, 2023).
- b. The Application for State Capacity Grants open. (Early 2024).
- c. State Capacity Grants are awarded. Competitive Grant Program is launched within one month of State Capacity Grant Awards (Summer 2024).
- d. Five-Year State Capacity Implementation. Competitive Grant Application process and Four-Year Implementation (2024 - 2026+).

9.8 Broadband Equity, Access, and Deployment (BEAD) Planning

The Broadband Equity, Access, and Deployment (BEAD) Program provides \$42.45 billion to expand high-speed internet access by funding planning, infrastructure deployment, mapping, equity, and adoption activities in all 50 states, Washington D.C., and U.S. Territories. BEAD prioritizes unserved locations that have no Internet access or that have service under 25/3 Mbps. Key requirements are outlined in the [BEAD Notice of Funding Opportunity](#).

West Virginia has received \$5 million in initial planning funds, which will support the development of a Five-Year Action Plan. The Five-Year Action Plan will establish the State’s high-speed internet goals and priorities and serve as a comprehensive needs assessment that will inform infrastructure expansion strategies.

Coordination with the Digital Equity program will be integrated throughout all BEAD planning activities, with a special focus on collaborative community engagement. Building upon recent planning initiatives and working collaboratively with community partners, the West Virginia Office of Broadband intends to invest BEAD planning funds in the following six activities:

- a. Increasing the Capacity of the Office of Broadband to improve connectivity in West Virginia
- b. Identifying Unserved, Underserved, and Underrepresented Communities in West Virginia
- c. Conducting Community Outreach and Stakeholder Engagement in West Virginia
- d. Meeting Local Coordination Requirements through effective partnerships in West Virginia
- e. Providing Technical Assistance to Communities in West Virginia
- f. Developing Strategies for Universal Broadband Coverage in West Virginia

9.9 BEAD Timeline

The WV Office of Broadband and partners are beginning development of the Five-Year Action Plan.

- a. Eligible Entities that receive Initial Planning Funds must submit a BEAD Five-Year Action Plans to NTIA no later than 270 days after receipt of planning funds. (Fall 2023)
- b. Initial Proposals due 180 days after new FCC DATA broadband maps and funding amounts issues, based upon formula. (Late 2023)
- c. Final Proposals must be submitted to NTIA no later than 365 days after the approval of the Initial Proposal. (2024)
- d. Final Funding: Four-Year Implementation. (2024 - 2027+)

9.10 Relevant Links

- West Virginia Office of Broadband Website: <https://broadband.wv.gov/>
- Internet for All West Virginia Website: <https://internetforallwv.wv.gov/>
- Internet for All National Website: <https://www.internet4all.gov/>
- FCC National Broadband Map: <https://broadbandmap.fcc.gov/home>
- FCC Affordable Connectivity Program Information: <https://www.fcc.gov/acp>
- National Digital Inclusion Alliance (NDIA): <https://www.digitalinclusion.org/>

10. Demographic-Adoption Data

Digital equity is fundamentally concerned with promoting full participation in the digital economy and society by all. Achievement of digital equity requires strategic investments in human and community capacity.¹ The Digital Equity Act therefore requires the State of West Virginia, through the West Virginia Office of Broadband, to provide a comprehensive baseline assessment of its covered populations, including identifying areas of higher need across the State.

The Office of Broadband has primarily used American Community Survey (ACS) data to identify areas with higher covered populations (when available). 2019 1-year and 5-year ACS data is available for the following covered populations: covered households, aging individuals, veterans, individuals with disabilities, individuals with language barriers learning English, rural residents, and for racial and ethnic minorities. In all cases, source tables and vintages were chosen to provide as close alignment to the National Telecommunications and Information Administration's *State Total Covered Populations* document as possible.²

The ACS is an ongoing survey conducted by the U.S. Census Bureau that is designed to provide up-to-date information on a yearly basis about the United States and its people.³ ACS provides reliable and timely social, economic, housing, and demographic data every year. Survey results from the ACS are used to learn more about the needs of local communities, as well as to help determine where \$675 billion in federal and State funds are distributed each year.⁴

The Census Bureau selects a random sample of addresses to be included each year. Each address in the United States has about a 1 in 480 chance of being selected in a given month, with no address selected more than once every five years. Each of the 300,000 addresses selected each month receive a mailed questionnaire and instructions to complete the survey online, and additional follow-ups if the questionnaire is not completed within a few weeks. The Census Bureau then releases these data to the public in one-year and five-year increments.⁵

In some instances, data on certain covered populations is not available from the Census Bureau. In these cases, tables were chosen to match National Telecommunications and Information Administration's (NTIA's) *State Total Covered Populations* source data whenever possible. To determine areas with higher rates of those with English language barriers as a result of low English literacy, the most recent Department of Education literacy data was chosen.⁶

Similarly, the Office of Broadband determined areas that contain non-federal incarceration facilities using a mixture of West Virginia Department of Corrections and U.S. Census of Jails and Prisons data.

¹ <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/DE%20PLANNING%20GRANT%20NOFO.pdf>

² <https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia.html>

³ <https://www.census.gov/programs-surveys/acs/about.html>

⁴ https://www.census.gov/content/dam/Census/programs-surveys/acs/about/ACS_Information_Guide.pdf

⁵ https://www.census.gov/content/dam/Census/programs-surveys/acs/about/ACS_Information_Guide.pdf

⁶ <https://nces.ed.gov/surveys/piaac/skillsmap/>

Overall, data analysis by the Office of Broadband finds that 96.9% of West Virginians fall into at least one covered population under the Digital Equity Act. Please note that these percentages do not add up to 100% — many West Virginians fall into more than one of these covered population categories.

Table 10.1: Digital Equity Act Covered Populations

Covered Population	% of WV Population
Covered Households	26.5%
Aging Individuals	28.8%
Veterans	6.8%
Incarcerated Individuals	0.5%
Individuals with Disabilities	20.3%
Language Barrier: English Learner	0.7%
Language Barrier: Literacy	20.9%
Racial or Ethnic Minority	8.0%
Rural	90.0%
Total	96.9%

Source: U.S. Census Digital Equity Act [Population Viewer](#)

Figure 1 shows the rates of households with incomes of less than 150 percent of the federal poverty line by county in West Virginia scaled to the national average (noted in parentheses). In general, there are higher rates of covered households in the south of West Virginia; most counties have higher rates of covered households than the national average.

Figure 1: Covered Populations

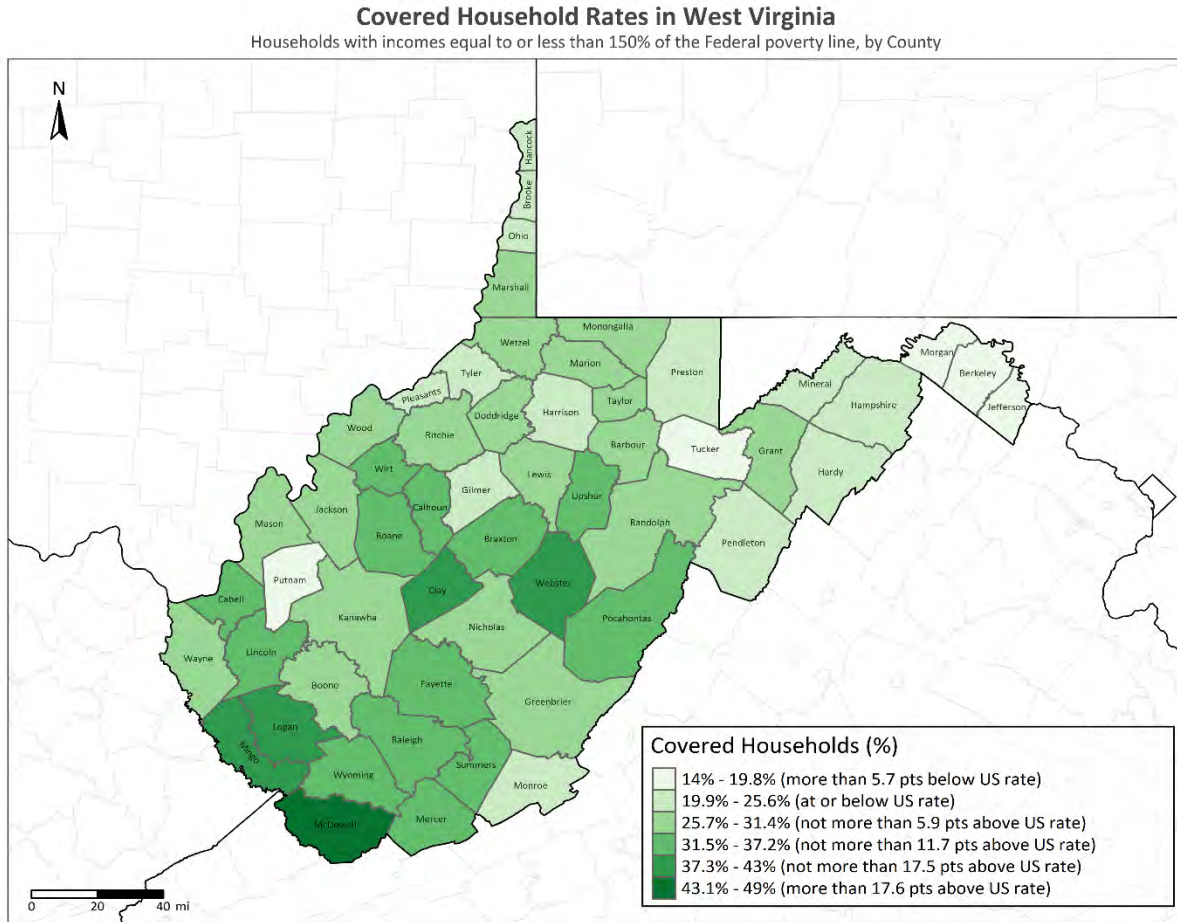


Figure 10.1: Covered household rates in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

Figure 2 shows the rates of individuals aged 65 and over by county in West Virginia, scaled to the national average (noted in parentheses). In general, counties to the east and south of the state have older populations than the national rate.

Figure 2: Aging Individuals

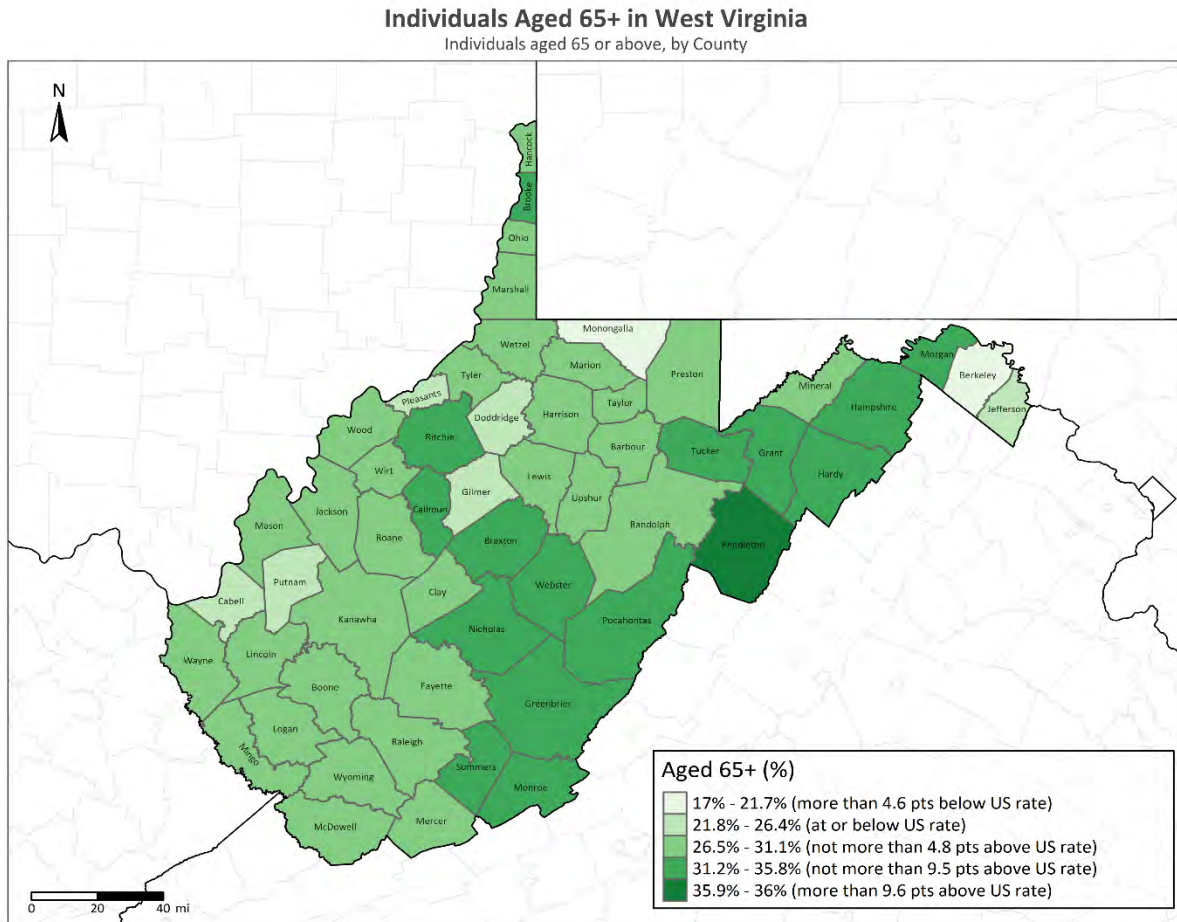


Figure 10.2: Individuals aged 65+ in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

Figure 3 shows a graphical representation of all jails, prisons, and joint federal incarceration facilities across the state of West Virginia, including what counties contain at least one incarceration facility.

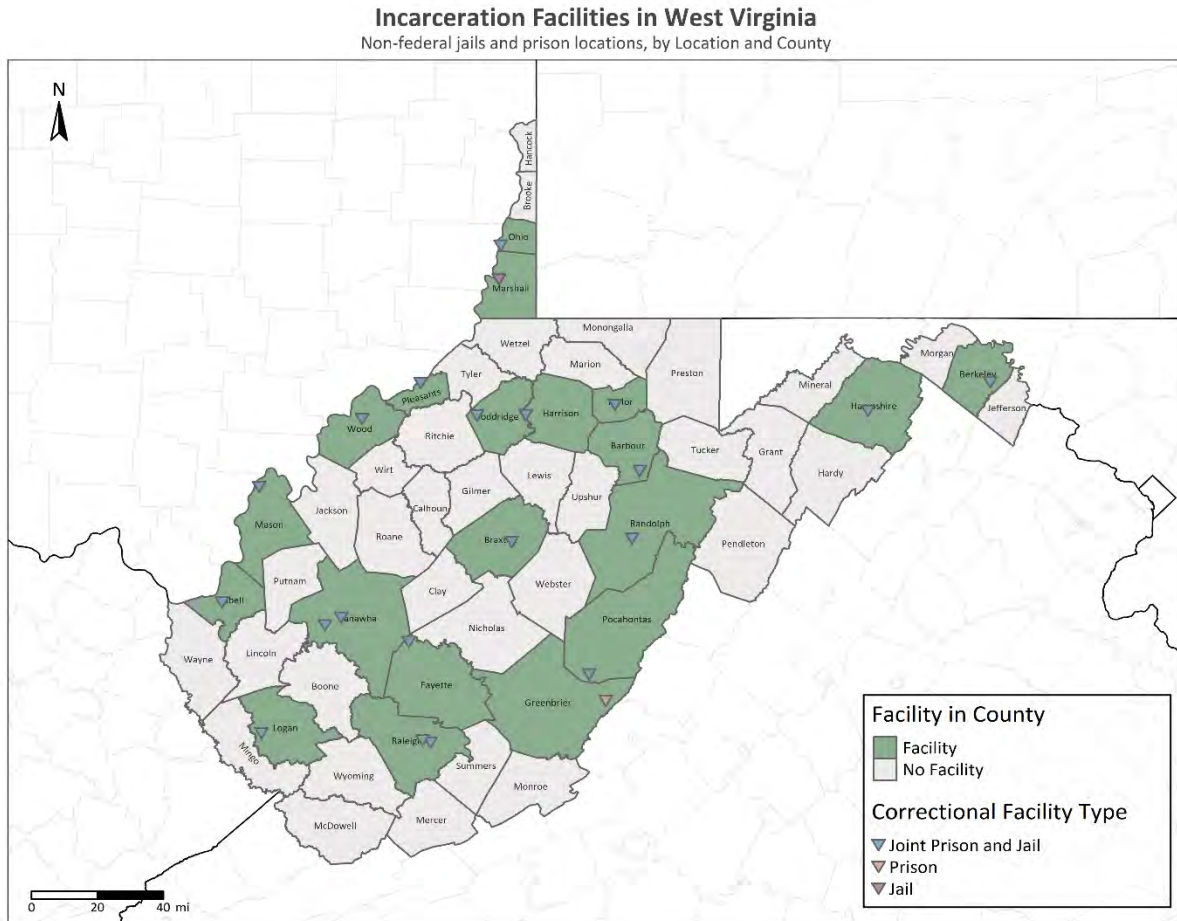


Figure 10.3: Covered household rates in West Virginia.
Source: WV Dept. Corrections; © OpenStreetMap and OpenAddress contributors

Figure 4 shows the rate of veterans in West Virginia by county. In general, West Virginia has a higher rate of veterans than the national average. Counties with the highest percentage of veterans are spread across the state, with the two highest being Taylor County and Hardy County.

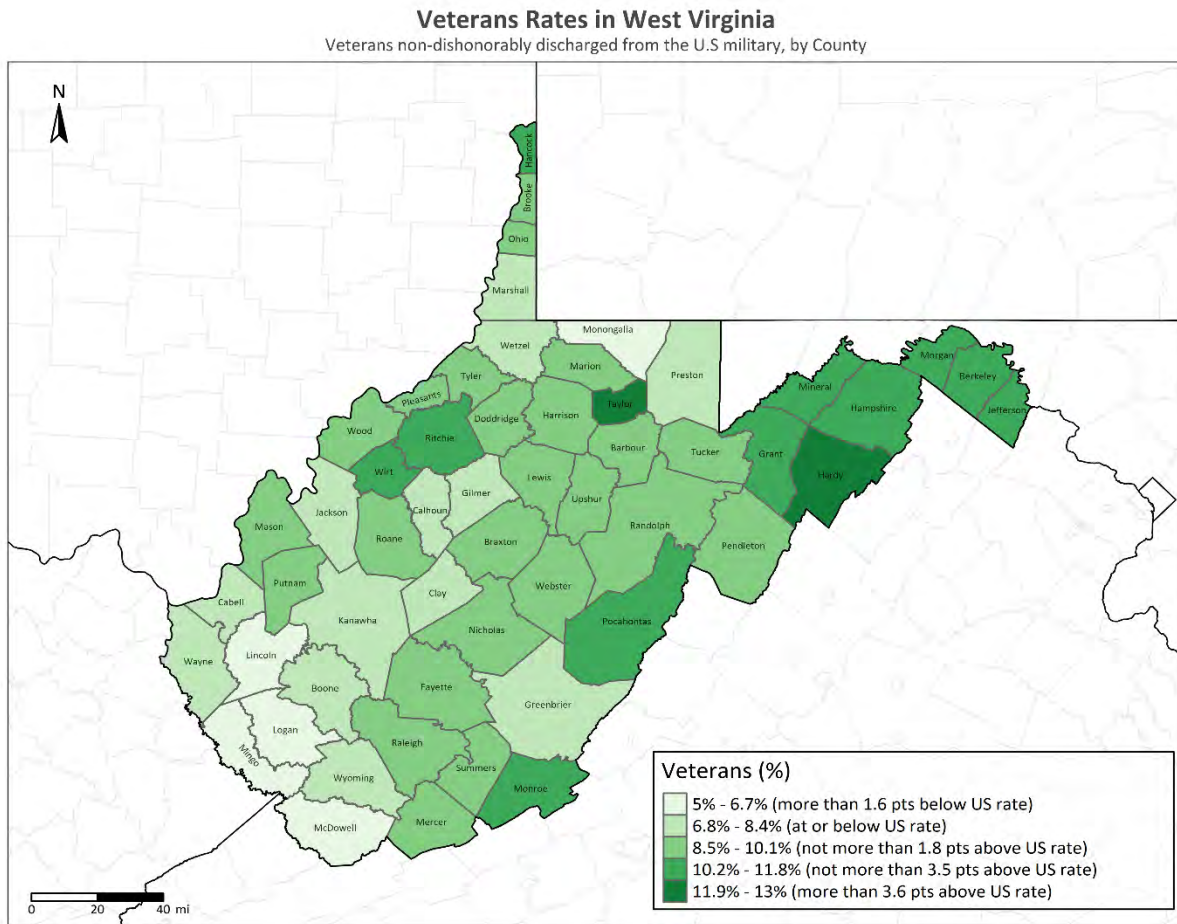


Figure 10.4: Veteran rates in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

Figure 5 shows the rates of individuals with disabilities by county across West Virginia. Only six counties in West Virginia fall at or under the national average, with the highest concentration of individuals with disabilities to the south of the state. This map is not dissimilar to the covered households map, as research shows that individuals with disabilities are more than twice as likely to live in poverty.¹

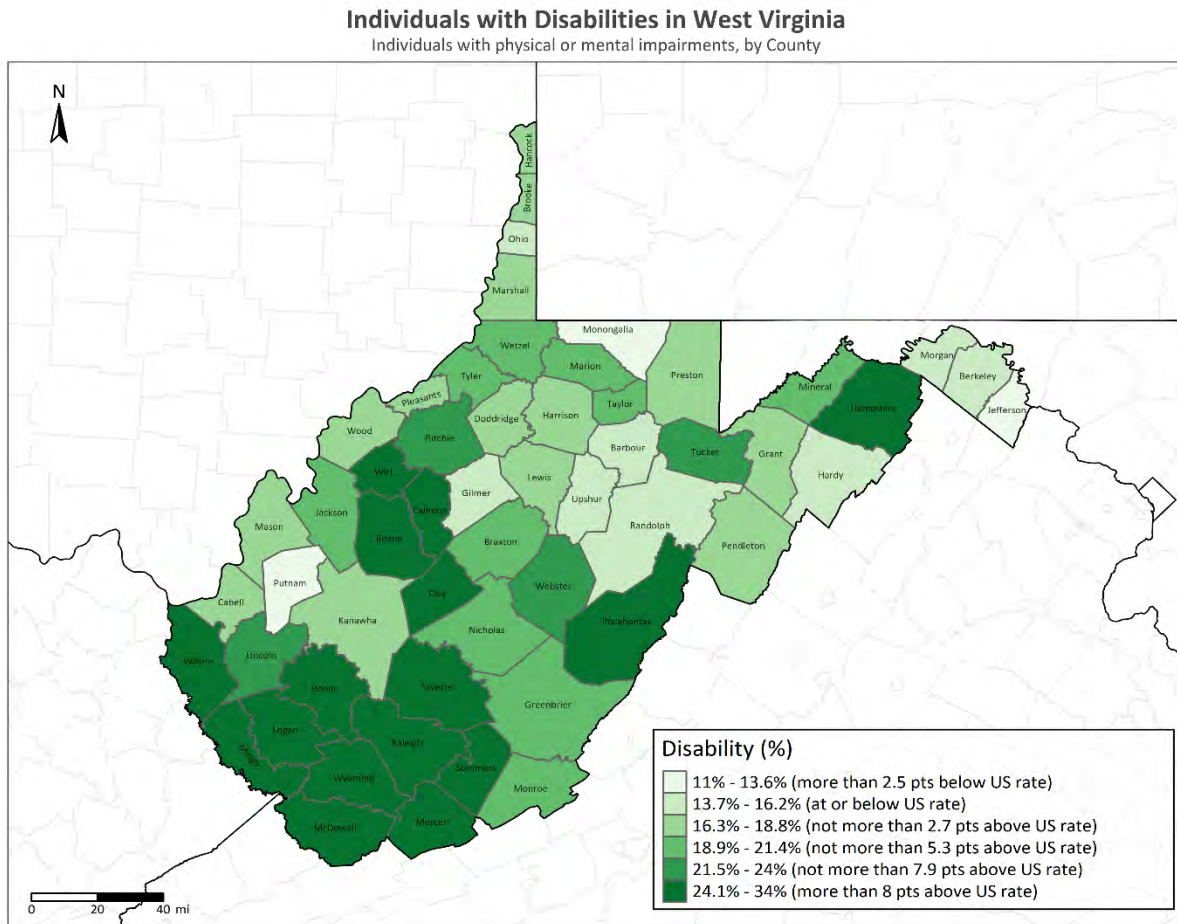


Figure 10.5: Individuals with disabilities in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

¹ https://ncd.gov/sites/default/files/NCD_A%20Progress%20Report_508.pdf

Figure 6 shows the first of two components of the language barrier covered population by county—those who are learning English and speak English less than “very well.” Counties close to Hagerstown, Maryland have the most concentrated rate of English learners, with other pockets around Morgantown and Gilmer County in West Virginia. In general, West Virginia has lower rates of English learners than the national average.

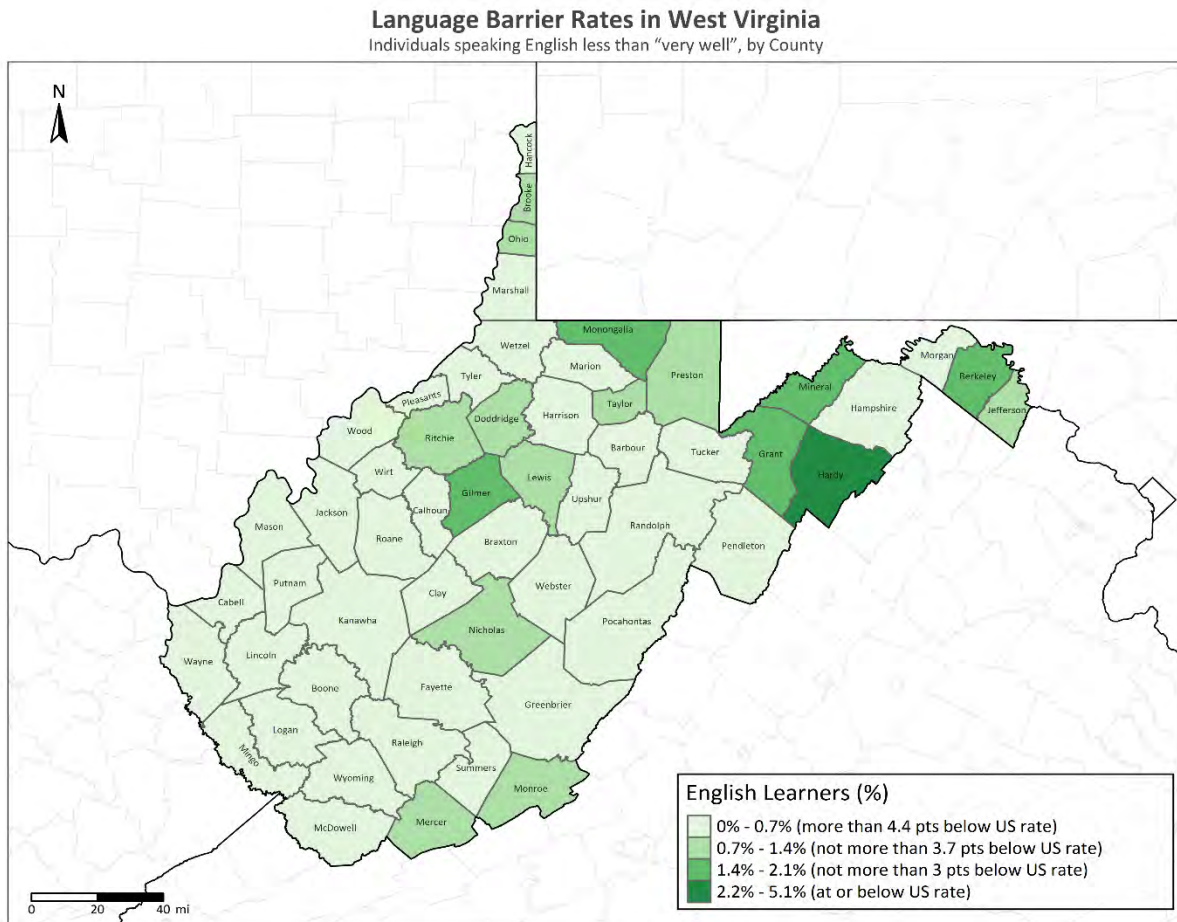


Figure 10.6: Language barrier rates in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data, Department of Education NCES PIAAC.

Figure 7 shows the second of two components of the language barrier covered population by county—those with low levels of English literacy. There are significantly higher rates than the national average in some West Virginia counties, with an elevated rate across the state relative to the national average.

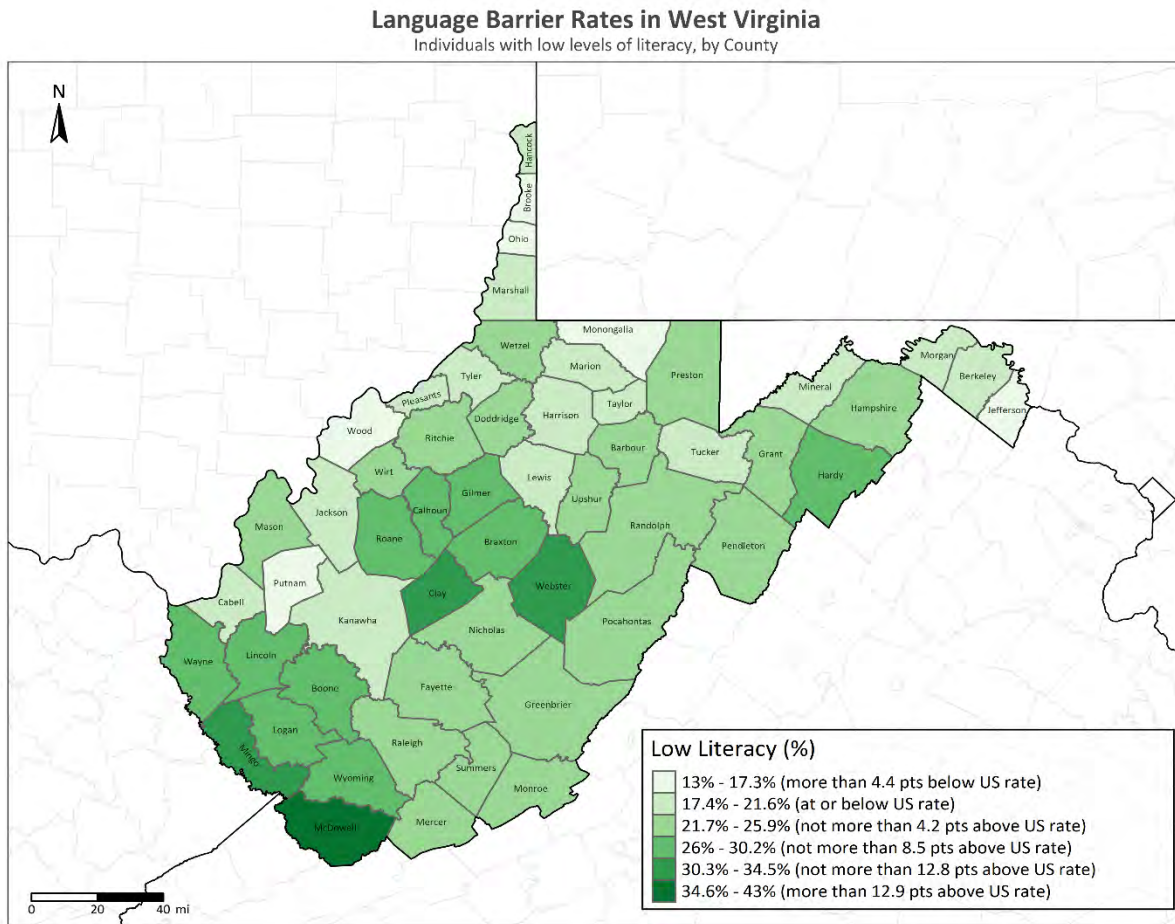


Figure 10.7: Low literacy rates in West Virginia.

Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data, Department of Education NCES PIAAC year data.

Figure 8 shows the rates of racial and ethnic minorities by county in West Virginia. All counties in West Virginia fall below the national average for the percentage of minority populations living in a county, although larger cities—including Morgantown, Martinsburg, and Charleston—have higher rates relative to the rest of the state.

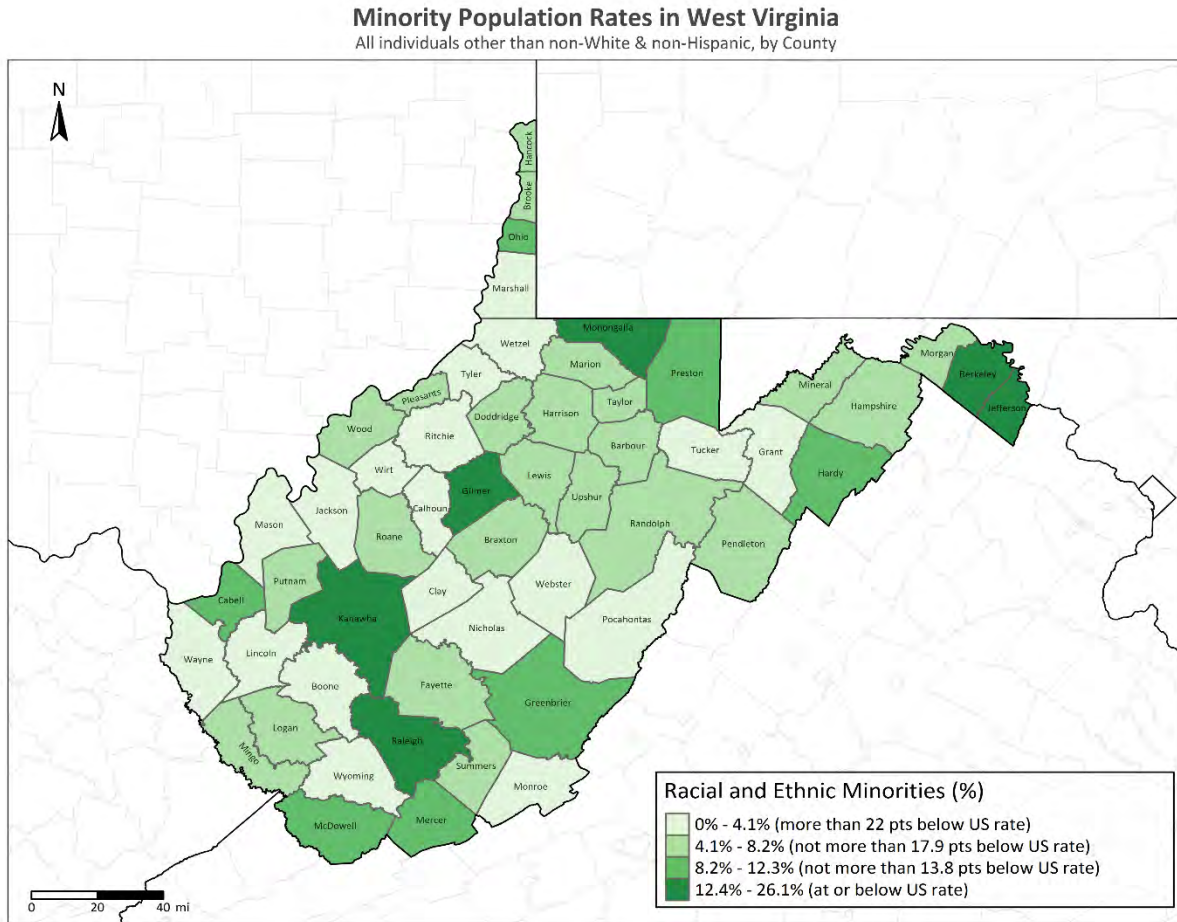


Figure 10.8: minority population rates in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

Figure 9 shows the rate of rural residents living by county in West Virginia. This map is derived differently from traditional Census/USDA rural area maps due to the more lenient way the Digital Equity Act classifies rural areas, leading to a 90 percent rural area rate across the state—the highest in the nation by far. Only individuals living inside the municipal city boundaries of Charleston, Huntington, Morgantown, Parkersburg, and Wheeling are not considered rural.

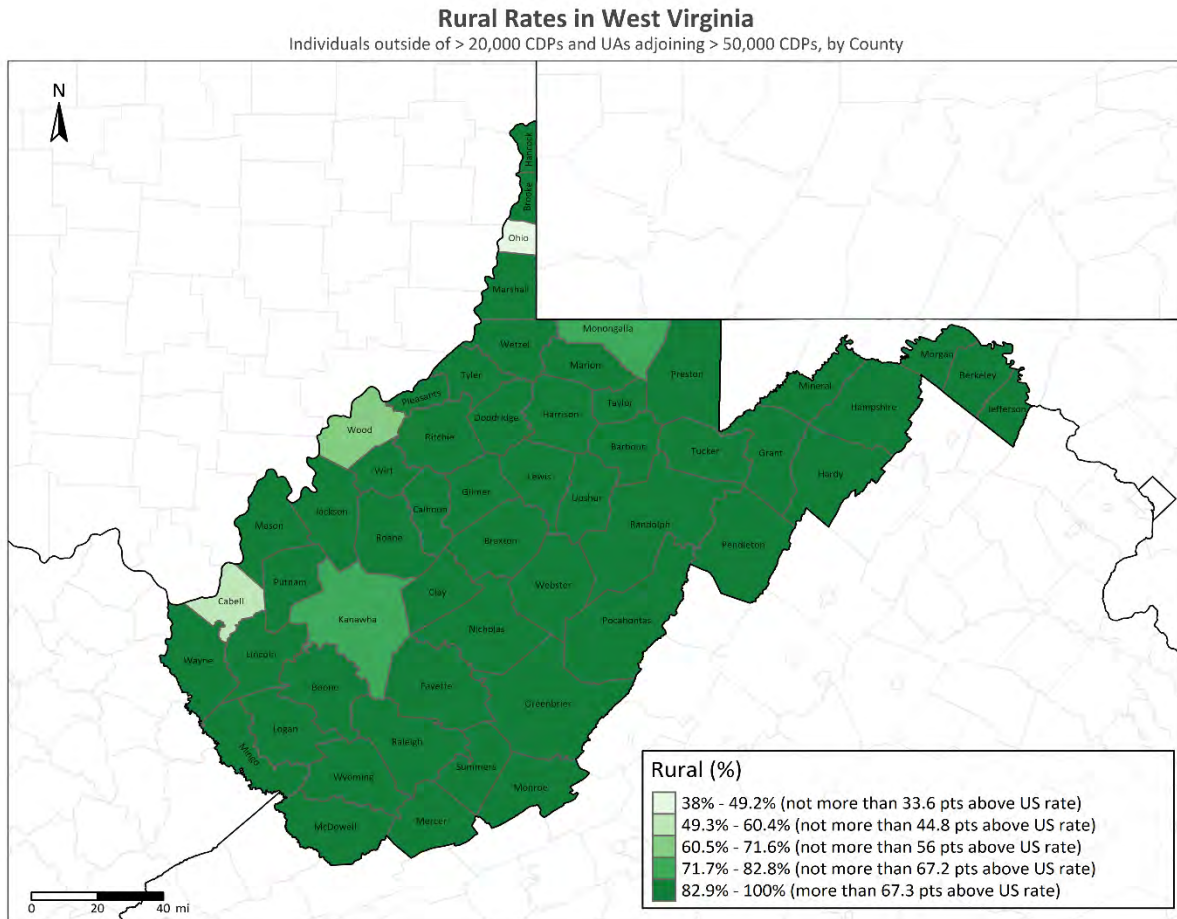


Figure 10.9: rural rates in West Virginia.
Source: U.S. Census Bureau, 2019 American Community Survey, 1 & 5-year data.

25/3 Mbps Broadband Availability by State
 Percent of population with access to at least one 25/3 provider, by state

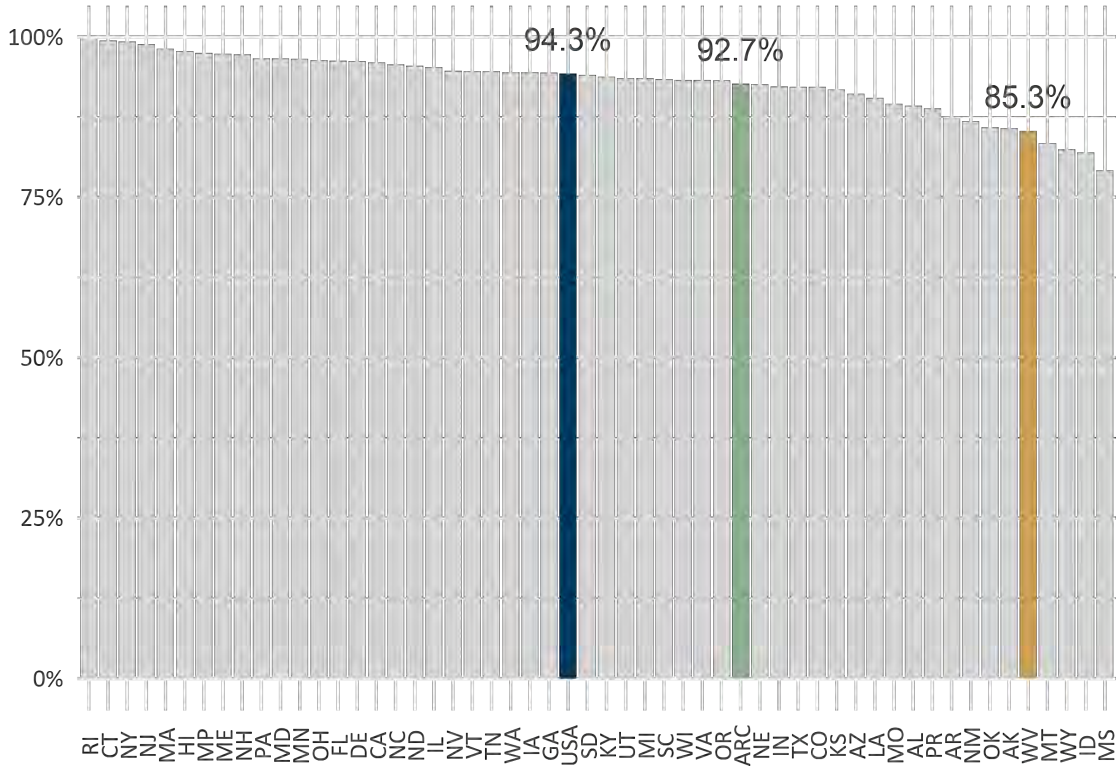


Figure 10.10: Broadband availability rank by State according FCC Form 477.

25/3 Mbps Availability by State

Figure_ shows the rate of 25/3 availability by state, and also adds national and Appalachian Regional Commission (ARC) counties averages.

100/20 Mbps Broadband Availability by State
 Percent of population with access to at least one 100/20 provider, by state

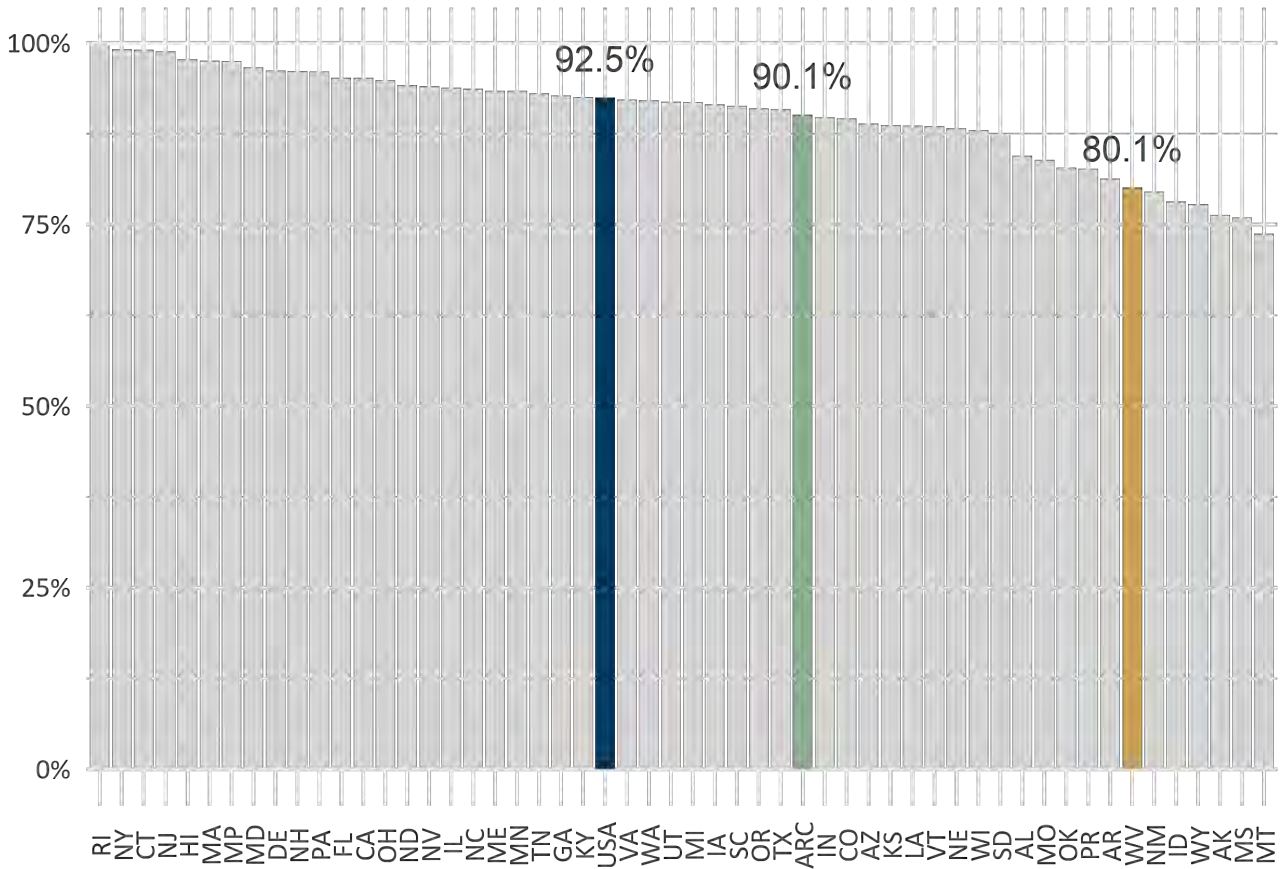


Chart 10.1: 100/20 rank by State according to FCC Form 477.

100/20 Mbps Availability by State

100/20 Mbps broadband availability is the first speed considered wholly sufficient by BEAD
 WV moves up 2 places to 43rd.

25/3 Mbps Broadband Availability
 Percent of population with access to at least one 25/3 provider, by County

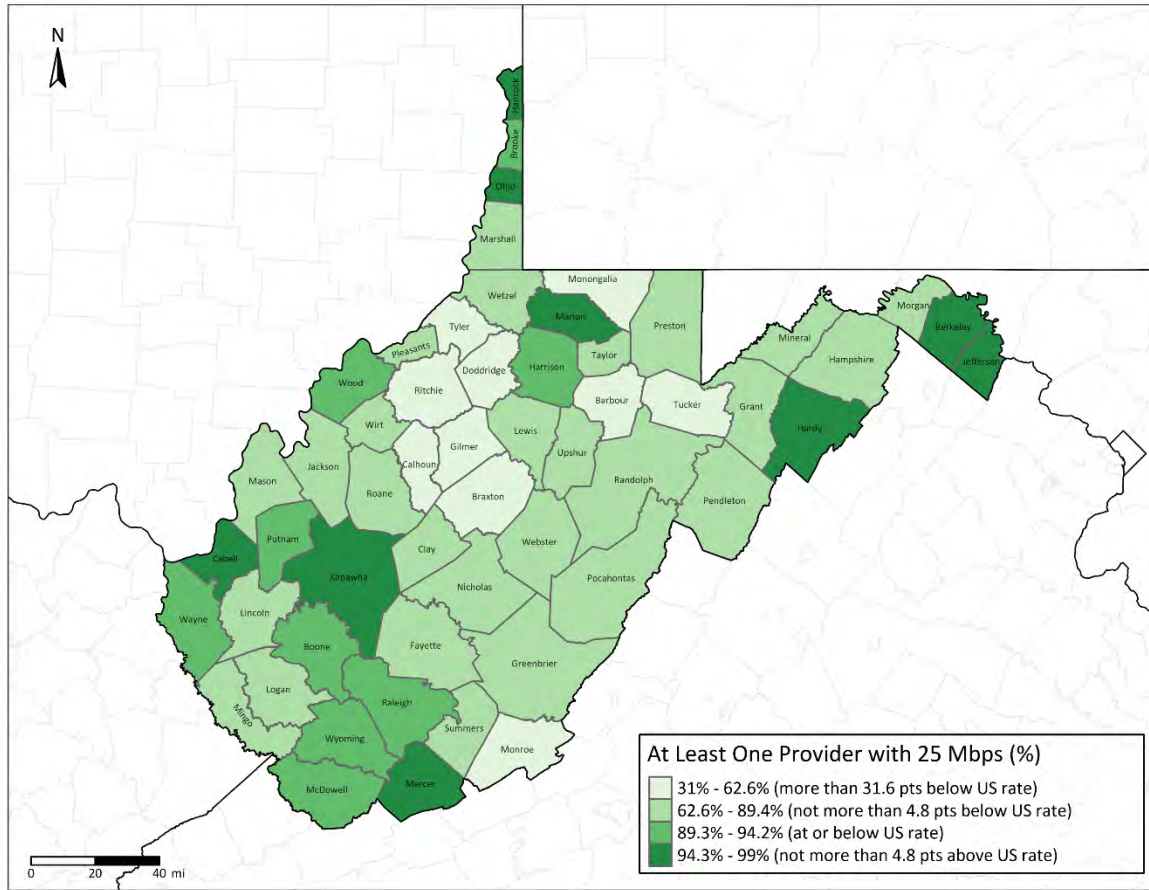


Figure 10.11: Percent of population with access to speeds of 25.3 Mbps.

100/20 Mbps Broadband Availability
 Percent of population with access to at least one 100/20 provider, by County

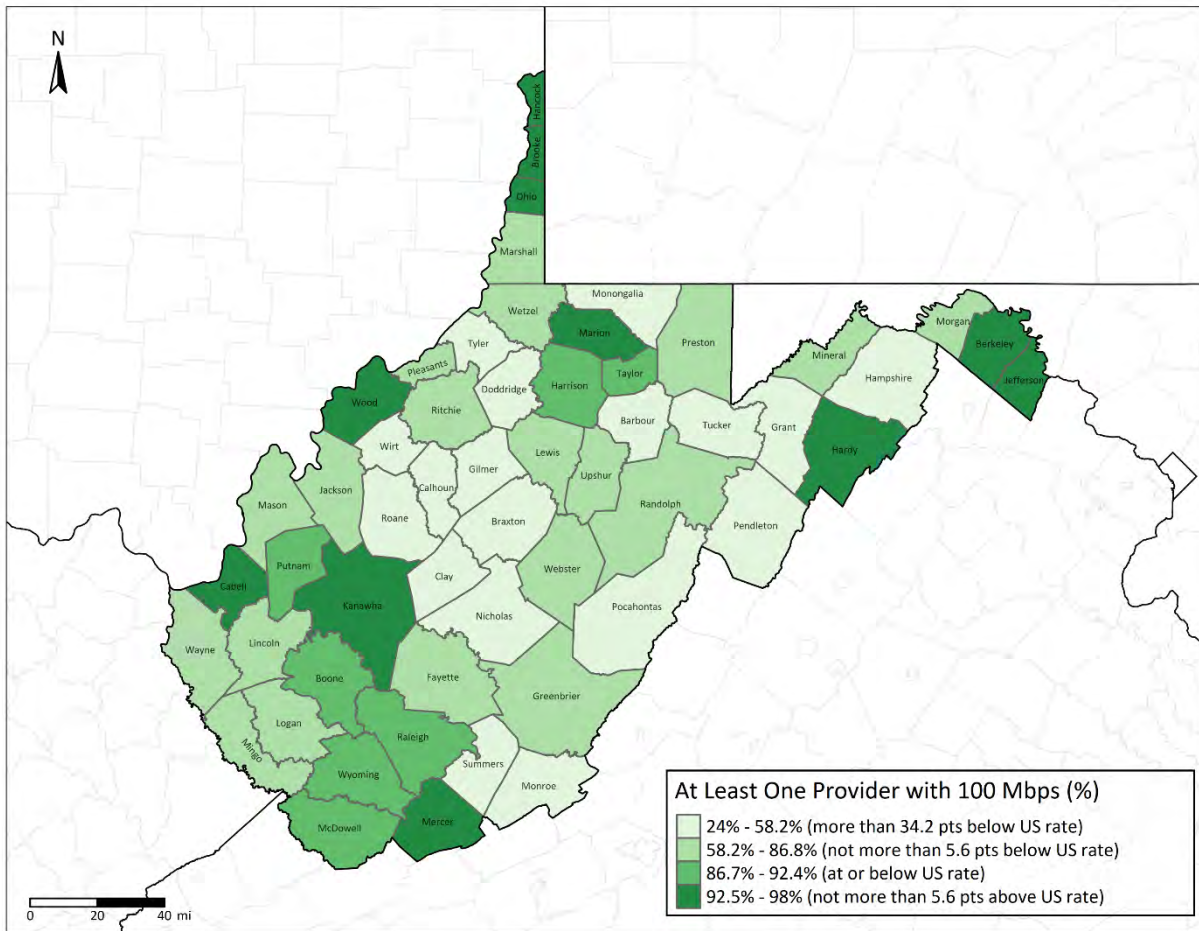


Figure 10.12: Percent of population with access to speeds of 100/20 Mbps.

Affordable Connectivity Plan

Additionally, while not part of the covered populations directly, the Office of Broadband analyzed data from the Affordable Connectivity Plan (ACP), a separate affordability program from the Federal Communications Commission which provides internet subsidies, to assist in planning where existing affordability efforts might overlap with the Digital Equity Plan and Broadband Equity, Access, and Deployment (BEAD) Plan. There are several different ways of qualifying for the ACP—including through eligibility for SNAP, WIC, Medicaid, receiving Free/Reduced Price School Lunch Program benefits, receiving SSI benefits, or if a household income is less than 200% of the Federal Poverty Line guidelines.¹

As of writing, no public data of the total number of individuals qualifying for ACP benefits in each West Virginia county is available. Thus, the State used ACS data from the largest qualifying group (household income at 200% or below of FPL) to estimate where the highest concentrations of Affordable Connectivity Plan using a methodology developed by ISLR and Rural LISC.²

¹ For more information, please see <https://www.affordableconnectivity.gov/>

² <https://acpdashboard.com/>

Figure 10 displays the estimated number of households qualifying with a household income of 200% of the poverty line or less as a percent of the overall population of the county. Overall, West Virginians qualify for ACP benefits at higher rates than the national average.

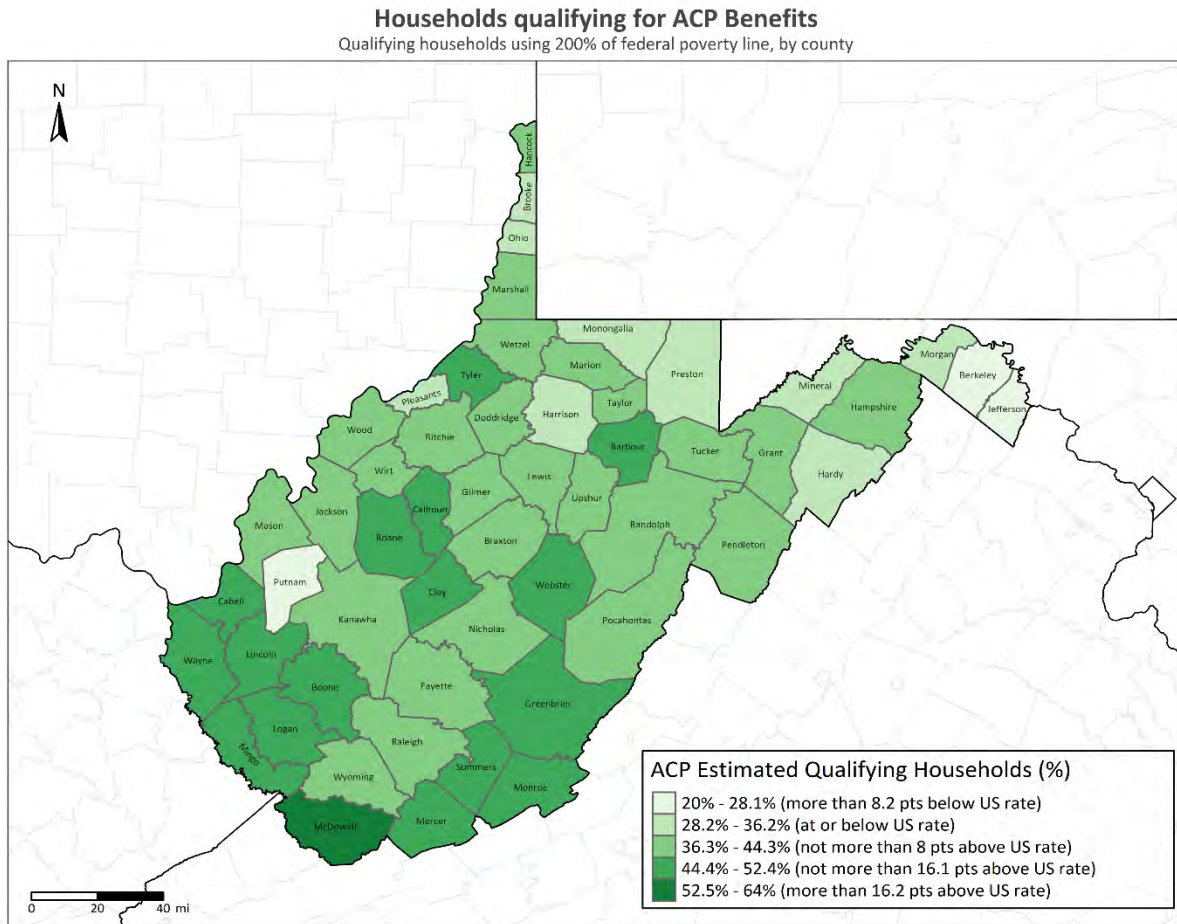


Figure 10.13: Households qualifying for ACP benefits.
Source: USAC ACP Enrollment data

In Figure 11, WVOB then combined the above data with FCC ACP enrollment data by county to highlight counties with high or low rates of ACP uptake relative to the number of households qualified to receive ACP. While parts of West Virginia have higher ACP enrollment rates than the United States overall, most counties in West Virginia lag national enrollment rate averages.

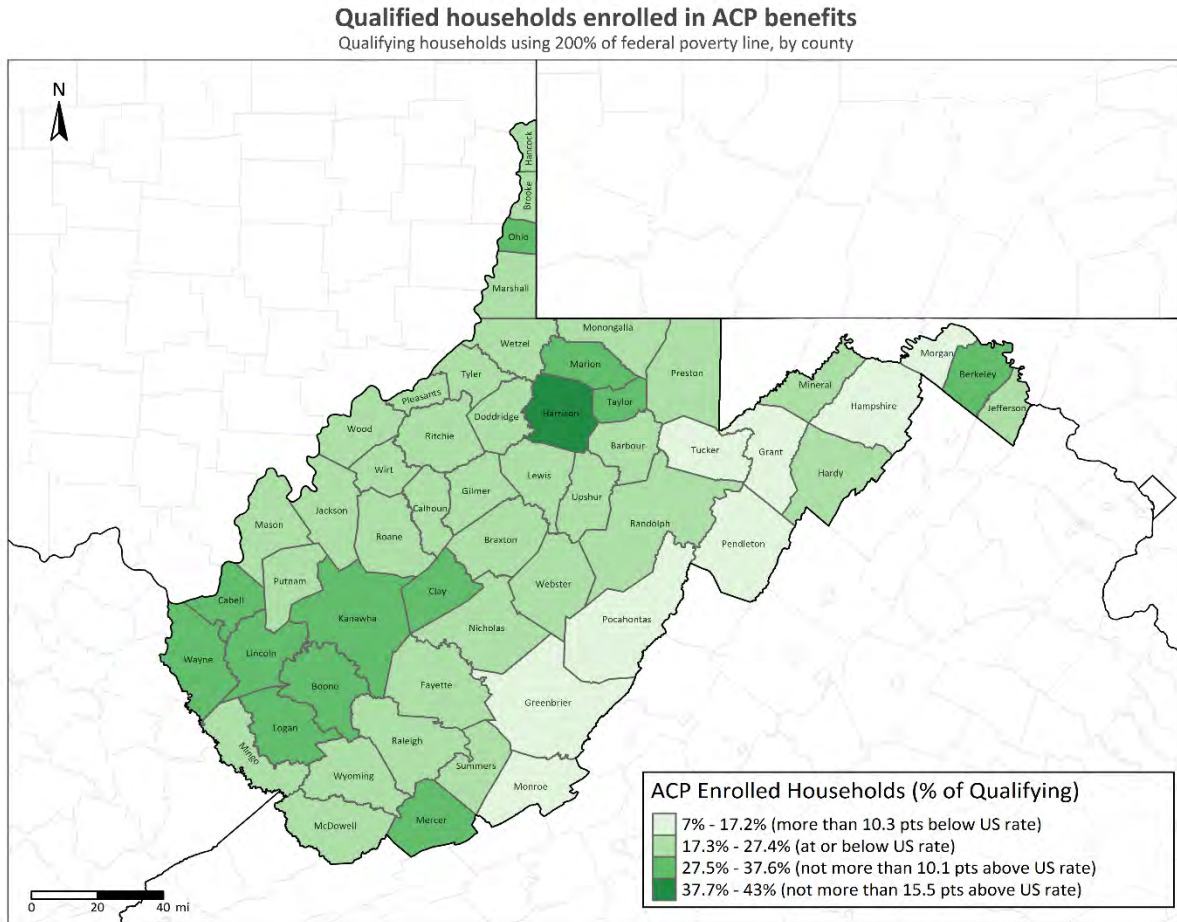


Figure 10.14: Households qualifying for ACP benefits.
 Source: USAC ACP Enrollment data

11. FCC Affordable Connectivity Program (ACP)

The Federal Communications Commission administers the \$14 billion Affordable Connectivity Program (ACP). The ACP helps ensure that households can afford the broadband they need for work, school, healthcare, and more by providing a discount of up to \$30 per month. The FCC estimates that about 48 million families are eligible for the program—nearly 40 percent of households in the United States.

The West Virginia Broadband Enhancement Council and West Virginia Office of Broadband website prominently features the Affordable Connectivity Program at <https://broadband.wv.gov/>.

In addition, the FCC has launched a new ACP pre-qualification widget to help streamline the application process. As of December 26, 2022, approximately 86,000 West Virginians have registered for this benefit.

A household is eligible if one member of the household meets at least one of the criteria below:

- Income at or below 200% of Federal Poverty Guidelines;
- Assistance programs, such as SNAP, Medicaid, Federal Public Housing Assistance, SSI, WIC, or Lifeline;
- Free and reduced school lunch or school breakfast, such as USDA Community Eligibility Provision;
- Federal Pell Grant during the current award year; or
- Eligibility for provider’s existing low-income program.

There are two steps to enroll in the ACP:

1. Visit <https://www.affordableconnectivity.gov/> to submit online or mail-in application.
2. Contact a participating provider to apply discount.



Additional resources are available at:

Support Contact

ACPSupport@usac.org or 1-877-384-2575

12. AEP Logan-Mingo Broadband Project

Under legislation adopted in 2019, West Virginia electric utilities began reviewing the feasibility of constructing and operating a middle-mile infrastructure project within the electric utility distribution system. The Council and the West Virginia Public Service Commission (WVPSC) are assisting the electric utilities in the preparation of the feasibility studies, which will address:

- a. The route of the middle-mile infrastructure proposed for the project,
- b. The number of fiber strands that would be utilized in connection with the proposed project and dedicated to serve as the middle mile,
- c. The location of the electric utility's distribution infrastructure that will be utilized in connection with the proposed project, and
- d. The capacity of the middle-mile broadband infrastructure that will be available to lease to last-mile broadband Internet providers upon completion of the proposed project;
- e. The estimated cost of the proposed project, including but not limited to engineering costs, construction costs, permitting costs, materials and labor, right-of-way costs, and a reasonable rate of return to the electric utility;
- f. The proposed schedule of construction of the proposed project; and
- g. The method of attachment and connection of the middle-mile broadband fiber assets to the electric utility's distribution infrastructure.

Pursuant to legislation passed by the West Virginia Legislature in 2019, Appalachian Power Company and Wheeling Power Company (AEP) prepared and submitted to the West Virginia Broadband Enhancement Council (Council) a Broadband Feasibility Study for the construction of a middle-mile fiber optic network in Logan and Mingo Counties, known as the Logan-Mingo Broadband Project.

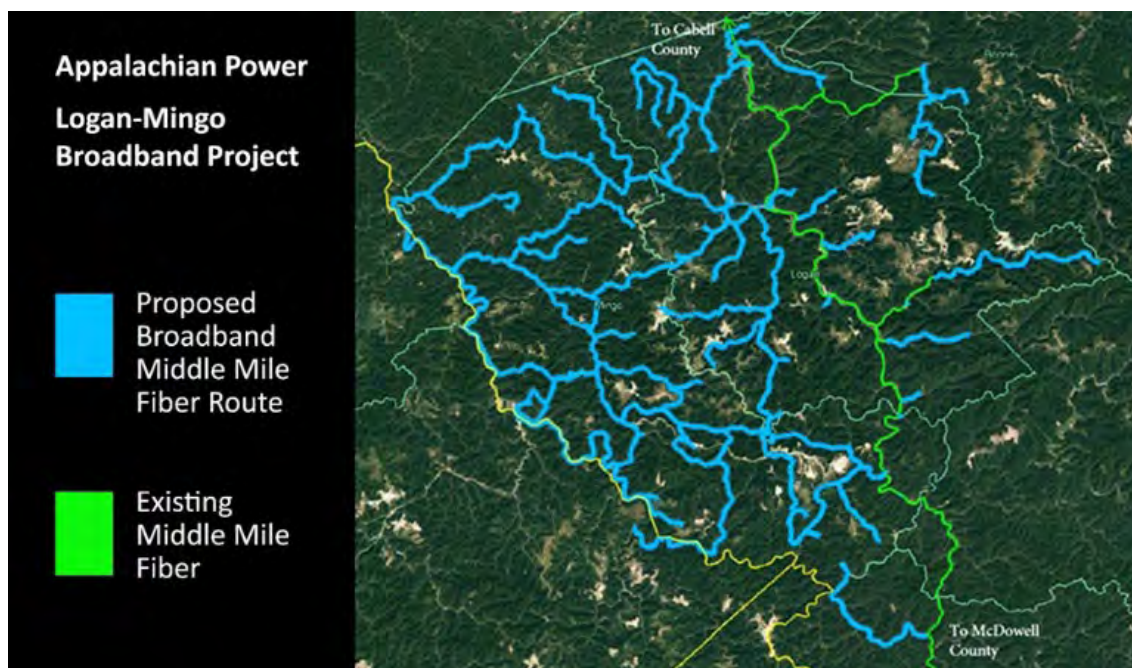


Figure 13.1: AEP Logan-Mingo Project

The proposed network will provide utility communications and contain fiber optic strands that AEP could lease to Internet Service Providers (ISPs) who would provide broadband internet service to end-user, “last-mile” customers through the construction of more than 400 new fiber miles and the utilization of approximately 200 existing fiber miles.

The Council approved the study in December 2019, concluding that the proposed project was feasible and in the interests of both AEP and the citizens of West Virginia. AEP conducted a Request for Proposal process and selected GigaBeam Networks, LLC, as an ISP partner. The project continued with formal submission to the WVPSC, in 2020.

AEP’s study included a review of statutory requirements authorizing electric utilities to prepare such studies. It also identified regulatory and public policy hurdles, a number of which were addressed in legislation enacted into law in 2020. In 2020, the West Virginia Legislature passed HB 4619, which amended §24-2-1 of the W. Va Code and added a new section, §24-2-10, both of which concern the powers and duties of the West Virginia Public Service Commission (PSC). HB 4619 allows electric utilities to install “middle-mile” broadband fiber on their existing infrastructure to facilitate the expansion of broadband service into unserved and underserved areas of the State.

In early 2022, the National Telecommunications Information Administration (NTIA) announced the award of \$19.6 million to complete a fiber to the premise project to bring qualified broadband to more than 12,000 unserved households across the region. This application was submitted by the Logan County Commission in partnership with the Mingo County Commission and GigaBeam Networks, LLC. The project team held an official construction kickoff event in July 2022.

13. U.S. Department of Agriculture (USDA) Broadband Programs

In anticipation of increased funding for broadband expansion in rural areas, the U.S. Department of Agriculture (USDA), West Virginia Rural Development, team partnered with the West Virginia Broadband Enhancement Council to conduct a series of workshops in West Virginia with a focus on increasing the number of USDA project proposals from West Virginia. This focused initiative resulted in numerous successful proposals through which project teams secured USDA funds for broadband expansion projects in West Virginia.

The USDA awarded significant funds to projects in West Virginia through three broadband programs:

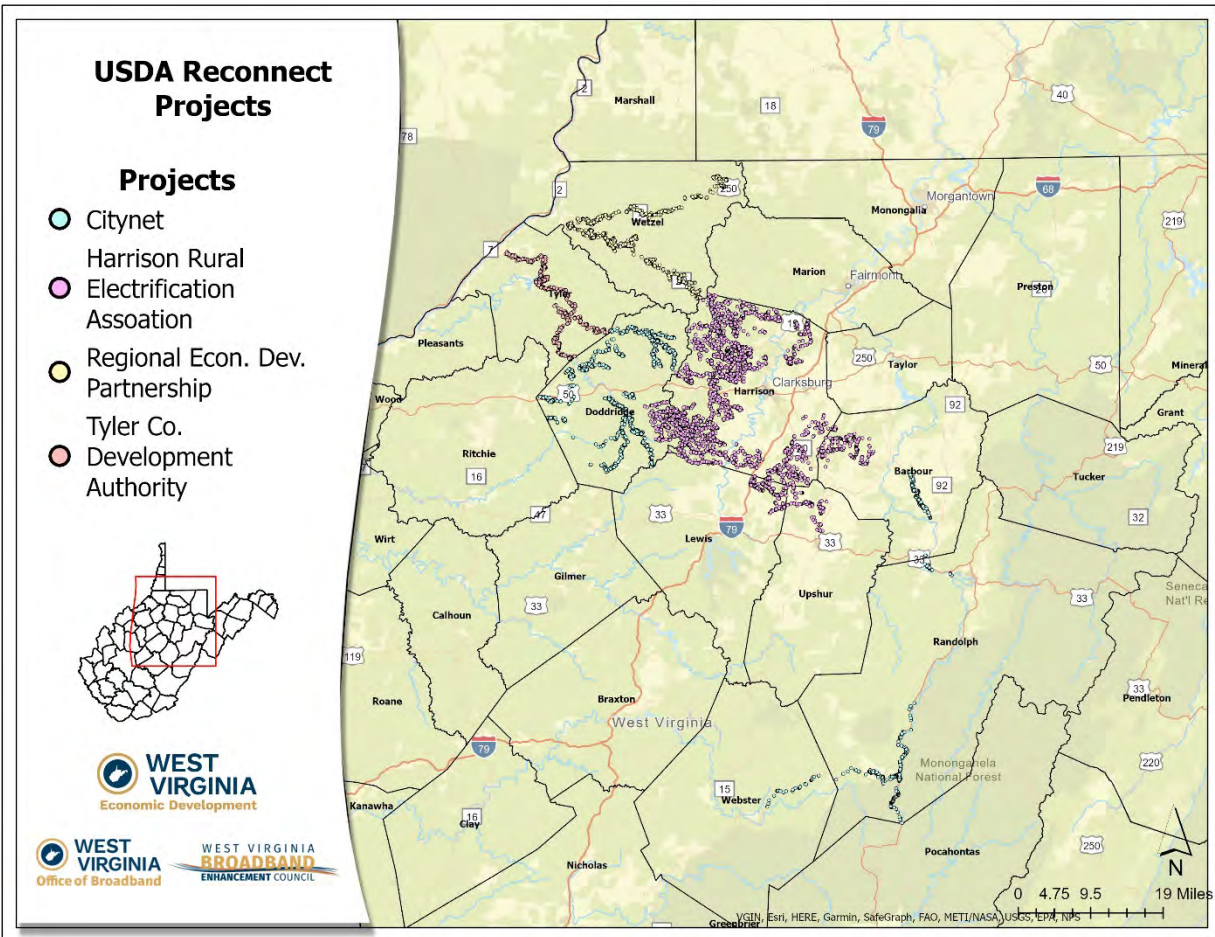
- USDA ReConnect
- USDA Community Connect
- USDA Distance Learning and Telemedicine

Prior to this initiative, West Virginia had not actively pursued USDA funding, having secured just one Community Connect grant in 2017. Building upon this momentum, the USDA continued webinars through 2020, and through 2022, numerous projects are underway.

13.1 USDA Reconnect

In December 2018, the U.S. Department of Agriculture (USDA) launched its \$600 million [ReConnect Loan and Grant Program](#). ReConnect projects in West Virginia are underway.

Figure 13.1: USDA Reconnect projects in West Virginia



USDA ReConnect Projects in West Virginia					
Approved and Administered by U.S. Department of Agriculture					
Applicant	Provider	Counties	Total Project Cost	USDA Award	Year
1. Citynet	Citynet	Doddridge, Barbour, Randolph, Webster	\$8,000,000	\$7,623,651 Grant	2020
2. Harrison Rural Electrification Association (HREA)	Digital Connections-Prodigi	Harrison, Doddridge, Lewis, Upshur, Barbour	\$24,999,920	\$18,700,000 Grant	2020
3. Tyler County Development Authority	Citynet	Tyler	\$3,516,000	50/50 Loan-Grant	2019
4. Regional Economic Development Partnership (RED)	Citynet	Wetzel	\$4,189,000	50/50 Loan-Grant	2019

Table 13.1: USDA Reconnect projects in West Virginia

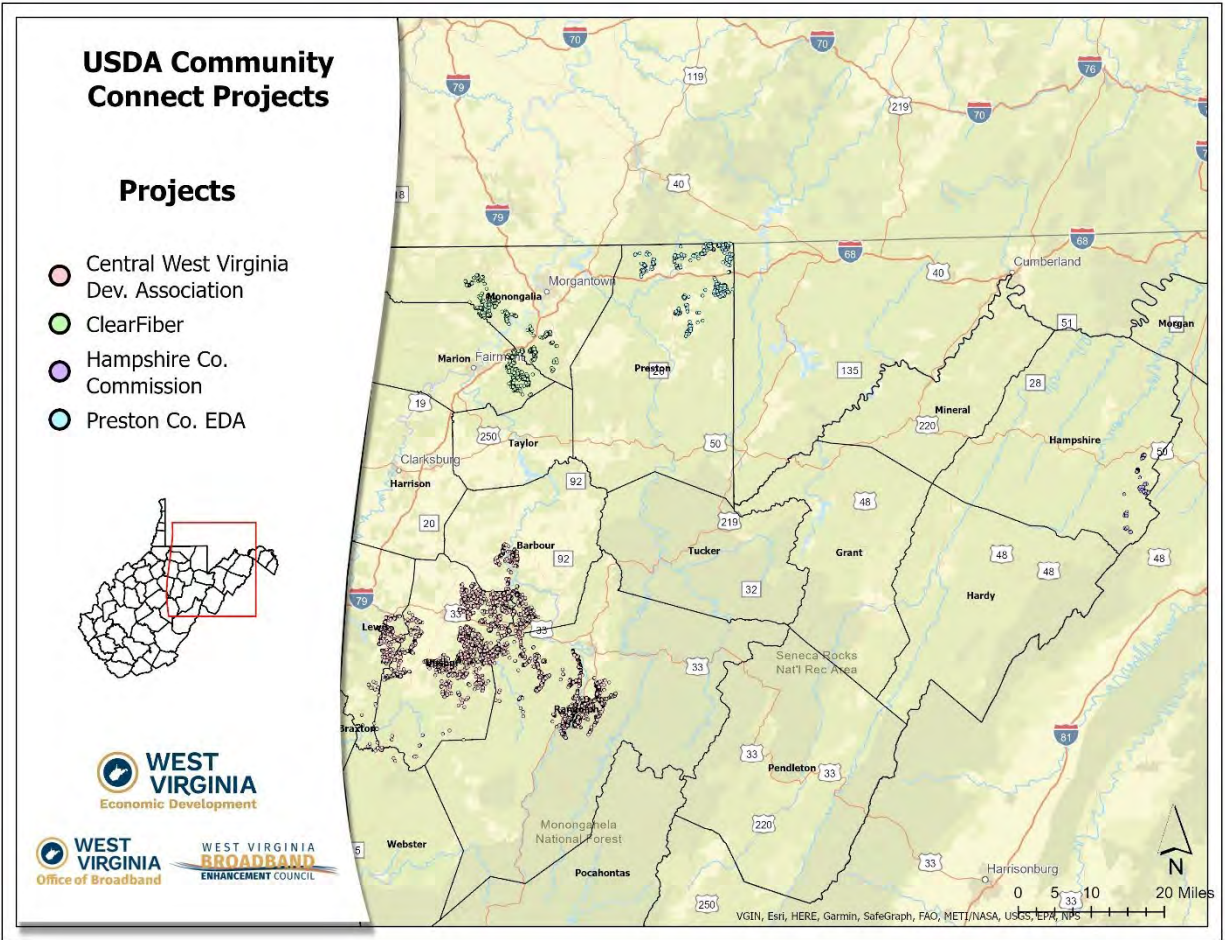
13.2 USDA Community Connect

The USDA [Community Connect](#) program announced the first round of funding in 2017 with projects approved through 2020. The grant program targeted unserved rural, economically challenged communities to build fiber. Four Community Connect projects were awarded in West Virginia that will bring high-speed connectivity to approximately 8,000 households.

USDA Community Connect Projects in West Virginia				
Approved and Administered by U.S. Department of Agriculture				
Applicant	Provider	Counties	Award	Year Awarded
5. Hampshire County Commission	HardyNet	Hampshire	\$3,000,000	2020
6. Preston County Economic Development Authority	Digital Connections-Prodigi	Preston	\$3,000,000	2019
7. ClearFiber	ClearFiber	Marion, Monongalia	\$1,960,000	2019
8. Central West Virginia Development Association	MicroLogic	Randolph, Barbour, Upshur	\$3,000,000	2017

Table 13.2: USDA Community Connect projects in West Virginia

Figure 13.2: USDA Community Connect projects in West Virginia



13.3 USDA Distance Learning and Telemedicine (DLT)

The USDA Distance Learning and Telemedicine (DLT) program helps 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. West Virginia was strongly represented in recent application cycles and funding announcements. For more information, visit: <https://www.rd.usda.gov/programs-services/telecommunications-programs/distance-learning-telemedicine-grants>. Applications will be accepted through January 30, 2023.

Recent USDA Distance Learning and Telemedicine (DLT) Funding Awards in West Virginia

a. Clay County School District \$464,614

This USDA Rural Development investment will be used to provide distance learning technology and telemedicine stations for each of Clay County's six schools. This project will benefit approximately 2,000 residents in Clay County, West Virginia.

b. Pocahontas County Board of Education \$434,779

This USDA Rural Development investment will be used to purchase distance learning supplies that will connect students K-7 grade and teachers, K-12 grade with Microsoft Surface Go 2 and Microsoft Surface Pro 7 devices. The project will benefit approximately 3,000 residents in rural West Virginia.

c. Shepherd University \$96,891

This USDA Rural Development investment will be used to fund the "Bridges to Degrees" project that creates pathways to postsecondary education for rural high school students by providing high quality distance learning through Shepherd University, located in the Eastern Panhandle of West Virginia. The university proposes to provide distance learning through live-streamed dual enrollment courses to over 400 eligible high school students per calendar year.

d. West Virginia Higher Education Policy Commission \$744,328

This Rural Development investment will be used to purchase distance learning equipment that will develop a statewide network to provide interactive telecommunications links. The West Virginia Higher Education Policy Commission will serve as the hub of the project and will serve approximately 5,600 residents in rural West Virginia.

USDA Distance Learning and Telemedicine (DLT) Projects in West Virginia

Approved and Administered by U.S. Department of Agriculture

Applicant	Awarded Funds	Year
1. Rainelle Medical Center	\$614,048	2021
2. Ohio Valley Physician	\$429,841	2021
3. Morgan County Partnership	\$999,999	2021
4. New River CTC	\$149,789	2021
5. Lincoln County Primary Care	\$686,656	2021
6. Glenville State	\$292,000	2021
7. Garret County* <i>MD applicant with benefit to West Virginia</i>	\$430,000	2020
8. Cabell Huntington Hospital Foundation, Inc.	\$206,000	2019
9. Salem University, LLC	\$231,436	2019
10. Charleston Area Medical Center Health Education and Research Institute	\$163,223	2018
11. CHANGE, Inc.	\$500,000	2018
12. Toronto Board of Education* <i>OH applicant with service benefit in WV</i>	\$500,000	2018
13. Lincoln County Board of Education	\$440,295	2017
14. Charleston Area Medical Center Health Education and Research	\$100,079	2017

Table 13.3: USDA DLT projects in West Virginia.

14. Appalachian Regional Commission (ARC)

The Appalachian Regional Commission (ARC) launched the (Partnerships for Opportunity and Workforce and Economic Revitalization) [POWER Initiative](#) to help communities and regions that have been affected by job losses in coal mining, coal power plant operations, and coal-related supply chain industries due to the changing economics of America's energy production. The West Virginia Department of Economic Development, Office of Broadband, administers ARC POWER broadband projects in West Virginia.

In 2022, ARC awarded POWER funds to the Boone County Economic Development Authority and the Summers County Commission. Projects funded in 2020 and 2021 include the Pocahontas County Commission, Wayne County Commission, and Woodlands Development Group, and the Thundercloud project; a 25-mile fiber loop in downtown Huntington. Recent ARC POWER projects are briefly described below:

- ❖ **Pocahontas County Commission:** received a \$2,500,000 to build FTTH to over 1,000 households in Pocahontas County.
- ❖ **Wayne County Commission:** received \$1,551,000 to build a 16-mile middle-mile route along WV-152 connecting households and businesses along the route with fiber. The project also targets last-mile FTTH in Lavallette, Beech Fork, and Arden. The future potential of this middle-mile route can expand FTTH to rural areas of Wayne County.
- ❖ **Woodlands Development Group:** a non-profit entity received \$2,500,000 to construct a 33-mile middle-mile fiber route along Route 33, from Elkins to Davis.
- ❖ **Boone County Community and Economic Development Corporation:** received \$1,692,507 to build an 8.2 fiber network with one wireless tower. This initiative will support the redevelopment of surface coal mine with businesses that rely on connectivity including a 3,000-acre solar field and other diversified industries.
- ❖ **Summers County Commission:** received \$2,400,000 to build 28 miles of fiber to connect 489 homes and 179 businesses in Summers County.

Appalachian Regional Commission (ARC) Central Appalachian Broadband

In addition to ARC POWER funding, the Office of Broadband administers the ARC Central Appalachian Broadband program through designation as a Responsible State Basic Agency (RSBA).

The goal of this ARC funding initiative is to provide funding for the deployment of broadband that will increase economic and business development or provide service to unserved customers. Funding is limited to ARC-designated distressed counties in West Virginia that have been most negatively impacted by the downturn in the coal industry. Eligible counties are Boone, Clay, Logan, Lincoln, McDowell, Mingo, Webster, and Wyoming.

Current projects include the \$1.9 million Southern West Virginia Broadband Expansion project awarded to the Webster County EDA.

14.1 Community Development Block Grant

Governor Jim Justice announced the first broadband projects funded by Community Development Block Grant (CDBG) funding for broadband development projects in West Virginia in 2018. Through 2020, approximately \$6.3 million in CDBG funding has been dedicated to broadband planning and infrastructure projects, with more than half of West Virginia’s 55 counties actively pursuing broadband development as follows:

1. Broadband Planning: 20 projects including 41 counties, and
2. Broadband Infrastructure: 11 projects that will provide broadband connectivity to more than 3,500 residential and business customers upon completion.

The CDBG program is one of the longest running programs of the U.S. Department of Housing and Urban Development (HUD). The CDBG broadband program has a primary emphasis on the extension of broadband to unserved and underserved communities. These areas often align with CDBG priorities for low- to moderate-income residents. The following chart summarizes CDBG infrastructure projects.

CDBG Broadband Infrastructure In West Virginia					
Applicant	Project	Amount	FY	Date Awarded	Completion
1. Taylor County Commission	Taylor County Broadband Expansion Project	\$131,382	2020		
2. Greenbrier County	Quinwood Fiber Extension Phase II	\$668,227	2020		
3. Greenbrier County	Quinwood Fiber Extension	\$583,000	2019	6/3/2020	2023
4. Meadow Bridge	Fiber Development Project	\$906,600	2019	6/3/2020	2023
5. Monroe County	Keenan-Doss-Shaver Road Fiber	\$50,059	2019	6/3/2020	2023
6. Raleigh County	Airport Industrial Park	\$643,999	2019	6/3/2020	2023
7. Summers County	Talcott Area Fiber Project	\$220,500	2019	6/3/2020	2023
8. Lewis County	Southern Lewis -Walkersville Towers	\$500,000	2018	4/1/2019	2023
9. McDowell County	Bull Creek – Isaban Area Fiber Expansion	\$630,000	2018	4/1/2019	2023
10. Mercer County	Cumberland Industrial Park Fiber Project	\$155,000	2018	4/1/2019	2023
11. Hampshire County	Capon Bridge Industrial Park Fiber	\$434,137	2017	2/1/2018	2021
12. Jackson County	Sandyville Tower Wireless Project	\$137,500	2017	2/1/2018	2021
13. Nicholas County-Richwood	Richwood-Hinkle Mountain Hybrid Fiber-Tower Project	\$600,000	2017	2/1/2018	2023
Total CDBG Infrastructure Awards 2017-2020		\$5,660,404			

Table 14.1: CDBG broadband infrastructure projects in West Virginia.

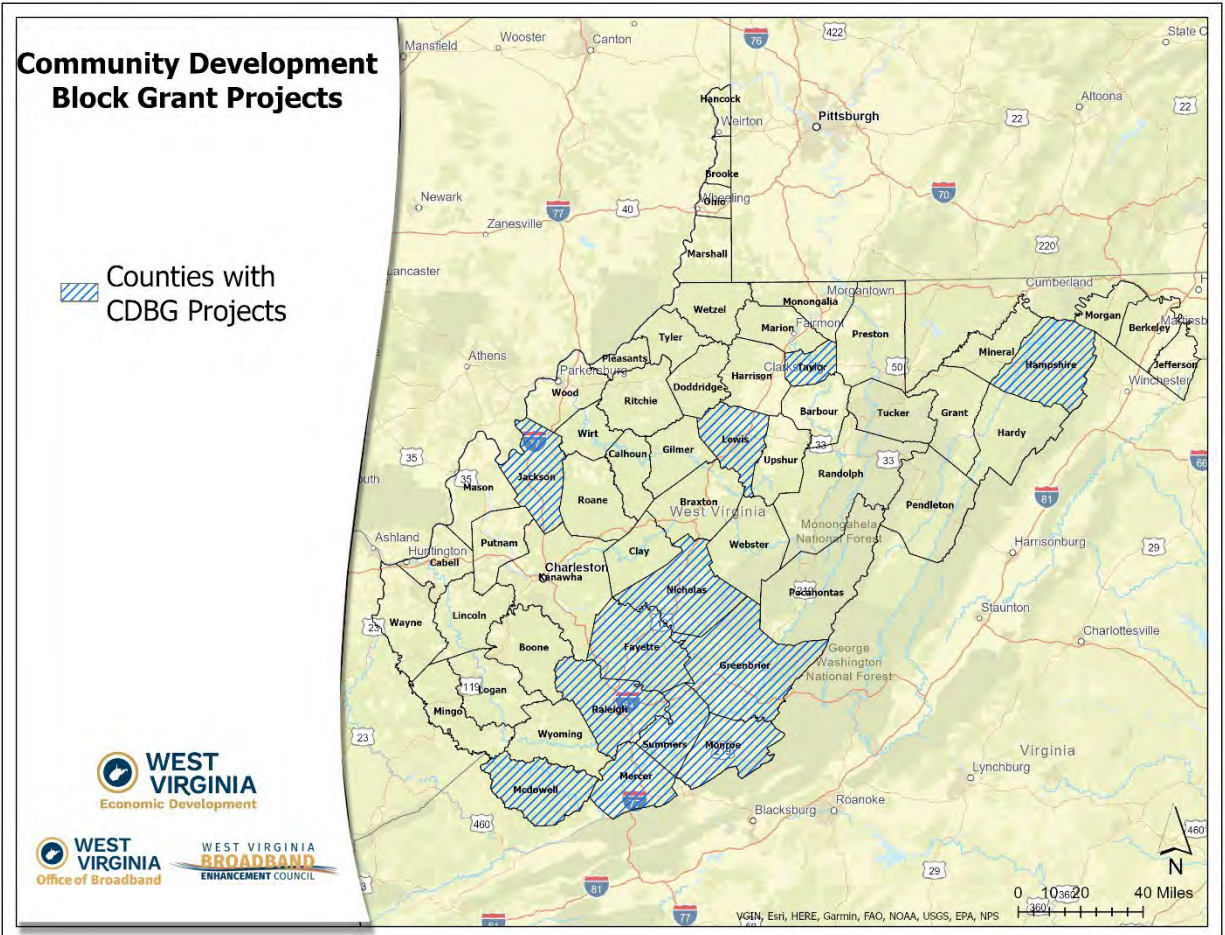


Figure 14.1: Counties with CDBG broadband infrastructure projects in West Virginia.

15. State and Federal Policy Updates

West Virginia’s leaders continue to develop policies that encourage broadband development throughout the State. The West Virginia Legislature has advanced innovative broadband policies, developing an ideal environment for broadband infrastructure expansion. These policies encourage competition, discourage monopolies, and enhance the business environment for Internet Service Providers within the State of West Virginia.

State, federal and local policies and regulations must recognize broadband as essential economic infrastructure and align in support of broadband infrastructure expansion. The West Virginia Broadband Enhancement Council and the West Virginia Office of Broadband will continue to advocate for policies and regulations that support efforts to expand broadband throughout West Virginia.

15.1 West Virginia Economic Development Authority (WVEDA) Broadband Loan Insurance Fund

Since 2018, West Virginia has provided incentives for investors to support deployment of broadband infrastructure, through a non-lapsing fund administered by the West Virginia Economic Development Authority (WVEDA).

The **Broadband Loan Insurance Program** (BLINS) insures the repayment of debt on capital costs related to providing broadband service to unserved or underserved areas of the State, or that links a segment of a network operator’s core network to a local network plant that serves an unserved area or an area with no more than two wireline providers, as outlined in W. Va. Code § 31-15-8, et seq.

The most significant federal program undertaken to date for the expansion of broadband service is the Federal Communication Commission’s Rural Digital Opportunity Fund (“RDOF”) program. The RDOF program rules were announced by a January 2020 FCC order. The phase I RDOF auction concluded on November 24, 2020.

The FCC announced that it would award over \$362 million to nine winning bidders to extend broadband service in West Virginia. One of the requirements of the RDOF process is for winning bidders to post a letter of credit with the FCC for up to 30% of the award amount to secure performance.

Governor Justice issued Executive Order 66-20 on September 3, 2020 pursuant to his authority to suspend statutory regulations during a state of emergency. That Executive Order mentioned the RDOF program, suspended the per recipient and program dollar limits in the BLINS program and directed the WVEDA to make modifications to the BLINS program consistent with the Executive Order.

The WVEDA, in consultation with the Council, has undertaken modifications to its guidelines for the BLINS program. The revised guidelines allow the BLINS program to be used to provide insurance to the banks that will be providing letters of credit to winning RDOF bidders.

When the state of emergency lifts, Executive Order 66-20 will no longer be effective. Statutory changes were implemented in the 2021 Legislative Session to enable the BLINS program to support applicants proposing broadband expansion in West Virginia using funds from RDOF and other federal programs.

Under the BLINS program prior to the Governor's Executive Order, the WVEDA could insure up to 80 percent of a bank loan for a broadband infrastructure or development project. The insured portion could not exceed \$10 million and could be for a maximum term of 20 years. The WVEDA's revised guidelines issued November 2020 permit the BLINS program to insure up to 100 percent of a letter of credit, and the cap of \$10 million per recipient has been eliminated.

Prior to the Governor's Executive Order, the program required the certification of eligibility by the Council. Since the FCC and other federal programs have extensive vetting processes, the Council will not certify eligibility to applicants that have been determined to be eligible under a federal broadband expansion program.

Public notice is required for all projects, except those that plan to provide a downstream data rate of at least one (1) Gigabyte per second throughout the proposed project service area. The process for funding has detailed requirements for as-built plans, mapping, modifications, project completion, and closeout.

15.2 WEST VIRGINIA ATTORNEY GENERAL CONSUMER COMPLAINT PROCEDURE

As directed by House Bill 2002, and in compliance with *W.Va. Code* §31G-1A-2(b)(9), the West Virginia Office of Broadband has coordinated with the West Virginia Attorney General Consumer Complaint Division to establish procedures for consumer complaints related to broadband service.

Consumers who believe that they have been the victim of unlawful practices in the purchases of goods and services are first encouraged to fill out the appropriate form and return it to the West Virginia Attorney General's (WVAGO's) Consumer Protection Division. The office provides three options for submitting complaints:

- Option 1: Download and print the forms, complete and mail (with any copies of documents related to the complaint) to: Office of the Attorney General, Consumer Protection Division, P.O. Box 1789, Charleston, WV 25326-1789.
- Option 2: Download and fill out the appropriate PDF form and email the form and any additional documents related to the complaint in PDF format to complaint@wvago.gov. (25MB limit on attachments)
- Option 3: Complete an online version of the General Consumer Complaint form.

Individuals who need assistance may call the WVAGO Consumer Protection Hotline at 1-800-368-8808. Clicking the links below will download a PDF of the form in a separate tab.

- [Instructions for Filing a Consumer Complaint Form](#)
- [Documents Needed for Filing a General Consumer Complaint Form](#)
- [Broadband Complaint Form](#)

15.3 Dig Once Policy

In 2018, the West Virginia Legislature enacted a Dig Once Policy, passing legislation that will create incentives over the long term to create spare conduit or opportunities to lay fiber in a joint trench. HB 4447 created a new article of code, §17-2E-1 et seq., that established the “Dig Once” policy. It directed the West Virginia Division of Highways (WVDOH) to install vacant broadband conduit during highway construction projects. Interested ISPs apply to the Council for approval to use the conduit. Conduit is leased at cost-based rates.

The Council is also charged with creating a strategy to facilitate the timely and efficient deployment of broadband infrastructure on state-owned lands and buildings, and to assist local governments with development of similar Dig Once and deployment policies.

The West Virginia Division of Highways (WVDOH) has updated [guidance](#) to implementing the State’s Dig Once Policy Act. [The Dig Once Application Submission Checklist](#) is now available online.

In 2019, Senate Bill 270 amended the Dig Once Policy, W. Va. Code § 17-2E-1 et seq., in addition to W. Va. Code § 17-2A-17a, which governs utility accommodation leases. Section 17-2A-17a provides that the Commissioner (Commissioner) of the WVDOH may lease real property held by the Division to accommodate any utility providing telecommunications or broadband services if the Commissioner finds that entering said lease is in the public interest.

The utility is required to pay fair market value for the real property interest under the lease. Senate Bill 270 amends this section to provide that the fair market value of such property interest shall be \$0 in monetary compensation. However, the legislation does not prohibit in-kind compensation if the lease concerns multiple districts within the Division.

Senate Bill 270 amended § 17-2E-3 of the Dig Once Policy to provide that the fair market value of the Division’s spare conduit or related facilities shall be \$0 in monetary compensation. It also amends the Dig Once Policy by eliminating the newspaper notice requirements, and by reducing the notice period from thirty (30) days to fifteen (15) days.

This legislation also provided new exemptions from the Dig Once Policy’s requirements, including:

- ❖ Projects that are less than 1,000 feet in length,
- ❖ Projects that use the direct bury of cable or wire,
- ❖ Projects that are solely for the service of entities involved in national security matters, and

- ❖ Projects where the carrier installs an amount of spare conduit or innerduct equal to what is being installed for its own use and which is made available for lease to competing carriers on a nondiscriminatory basis at rates established by the FCC.

Finally, the legislation permits the WVDOH, with the Governor’s written approval, to transfer or assign ownership, control, or any rights related to any in-kind compensation received by the Division to any other state agency.

15.4 West Virginia Policy Concerning Bridge Attachments

Bridge Attachments are governed by the WVDOH Utility Manual, available at the following link: https://transportation.wv.gov/highways/engineering/files/ACCOMMODATION_OF_UTILITIES.pdf

15.5 West Virginia Public Service Commission: One-Touch Make-Ready

In 2019, 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. Senate Bill 3 amended the Make Ready Pole Access Statute. Senate Bill 3 is codified at W. Va Code §31G-4-1 *et seq.* One-Touch Make-Ready requires the pole owners to allow a single crew to make changes to multiple wires, rather than having the owner of each wire or strand send its own crew to move it separately.

The West Virginia Public Service Commission (WVPSC) conducted a proceeding, *General Investigation into Adopting and Implementing Rules Governing Pole Attachments and Assumption of Commission Jurisdiction Over Pole Attachments*, Case No. 19-0551-T-GI, to implement the changes to the Make Ready Pole Access Statute. Providing an affordable and timely pathway for attachment of infrastructure to utility poles has proven to be one of the most effective ways to speed broadband deployment.

The WVPSC adopted new rules implementing One-Touch Make-Ready based on the FCC’s rules on December 5, 2019, 2019.25F25F25F[1].

15.6 West Virginia Public Service Commission: Trench Sharing Rules (150 C.S.R. 40)

On June 16, 2022, the Public Service Commission of West Virginia (“PSC”) entered a Commission Order proposing **Trench Sharing Rules** for the adjudication of trench sharing disputes arising under the Dig Once Policy. The Legislature established the Dig Once Policy in Chapter 17, Article 2E of the West Virginia Code in 2018. A 2021 amendment to the Dig Once Policy requires the PSC to adjudicate trench sharing disputes

between telecommunications carriers. The Commission Order supports this mandate by ordering the Trench Sharing Rules attached thereto and designated as 150 W. Va. C.S.R. to be filed with the West Virginia Secretary of State and promulgated as proposed rules for comment.

The Commission Order advises that the proposed Trench Sharing Rules were developed with feedback received from a PSC-appointed Task Force consisting of representatives from utilities, telecommunications carriers, the Broadband Enhancement Council, the Broadband Office, and the West Virginia Cable Telecommunications Association. The Commission Order reflects the Task Force's unanimous support for the proposed Trench Sharing Rules.

15.7 West Virginia Public Service Commission: Trench Sharing Rules (150 C.S.R. 38)

The June 16, 2022, Commission Order also proposes revisions to the **Rules for the Government of Pole Attachments**, which Rules appear at 150 W. Va. C.S.R. 38. The revisions were necessitated by 2021 legislative amendments to the **Make-Ready Pole Access Act** in Chapter 31G, Article 4 of the West Virginia Code. Among other things, the amendments require the PSC to promulgate rules to address “abandoned cable, conductor, and related facilities attached to utility poles.” They also require the promulgation of rules governing the “timely transfer of facilities from an old pole to a new pole and the removal of utility poles that have had electric facilities moved to new poles but continue to have other facilities attached in the telecommunications space on the old existing poles.” Further, the amendments require the rules to include “the right and mechanism of the pole owner itself to transfer the facilities to the new pole, to remove the old pole, and to recover its costs fully and timely from the owner of the facilities transferred.”

The PSC's proposed revisions to the Rules for the Government of Pole Attachments are attached to the Commission Order, which directs the revised Rules to be filed with the West Virginia Secretary of State and promulgated as proposed rules for comment. The Commission Order notes that the revised Rules do not enjoy the unanimous support of all members of the Task Force with respect to one issue. That issue is whether pole owners are *mandated* by the legislative amendments to the Make-Ready Pole Access Act to transfer abandoned attachments or facilities on an old pole.

The Commission Order notes that PSC staff interprets the amendments to *require* pole owners to make such a transfer, whereas certain telecommunications carriers and utilities on the Task Force read the amendments as being *permissive*. The PSC accepts the view of its staff, and this is reflected in the Commission Order and in the revised Rules for the Government of Pole Attachments attached thereto.

Following the conclusion of the comment periods on the proposed rules, on November 14, 2022, the Commission adopted the rules proposed in its June 16, 2022 orders without modification.

15.8 West Virginia Public Service Commission: Show Cause Petition (Case No. 22-0885-E-T-SC)

On November 30, 2022, the West Virginia Public Service Commission entered a Commission Order in Case No. 22-0885-T-E-SC, a show cause proceeding initiated by PSC staff to require Frontier West Virginia, Inc. (“Frontier”) to show cause why the PSC should not prohibit Frontier from requiring duplicative pole attachment applications, timelines, and fees.

The proceeding arose out of telecommunication carrier complaints about the time and cost impediments they face attempting to attach to poles that are jointly used by Frontier and Monongahela Power Company/Potomac Edison Company (“MP/PE”). These “joint use poles” are subject to a 1988 Joint Use Agreement. The Joint Use Agreement gives Frontier the right to license space on the poles to third-parties for the installation of telecommunications facilities, including broadband fiber. Frontier and MP/PE require the third-party telecommunication carriers to submit applications for attachment to both Frontier and MP/PE, and to pay associated costs and fees to both Frontier and MP/PE. The carriers assert that this duplicative application process, and the duplicative costs and fees, are unreasonable, unnecessary, and are delaying the efficient deployment of broadband.

The Commission Order grants staff’s Petition and requires Frontier and MP/PE to file a proposed new or amended joint use agreement expediting the pole attachment process and reducing the costs and fees imposed on third-party attachers. The Commission Order also requires MP/PE to file with the PSC their policies and procedures for the review of pole attachment applications, and it directs Frontier and MP/PE to file with the PSC information on, among other things, the number of joint use poles the companies operate. Additionally, the Commission Order grants Citynet, LLC’s (“Citynet”) petition to intervene as a third-party telecommunication carrier that has been prejudiced by the 1988 Joint Use Agreement and Frontier’s ineffective responses to Citynet’s pole attachment requests.

On December 15, 2022, MP/PE filed with the PSC proposed amendments to the Joint Use Agreement, amended policies and procedures for the review of pole attachment applications, and the pole count information requested by the PSC.

15.9 Vertical Real Estate Management and Availability Act

In 2020, HB 4015 created a new article of the W. Va Code, § 31G-1-3; §§ 31G-5-1 – 4 , known as the **Vertical Real Estate Management and Availability Act**, which requires the West Virginia Department of Administration to request proposals to manage state-owned Vertical Real Estate. “Vertical Real Estate” is defined as towers or other structures mounted on rooftops or other prominent places, and any facilities associated with that structure, including ground facilities.

All funds in excess of management fees will be deposited by the West Virginia Office of Technology (WVOT) as follows: 50 percent to the Technology Infrastructure Reinvestment Fund for reinvestment in Vertical Real Estate or other infrastructure supporting broadband on state-owned property, and 50 percent to the Broadband Expansion Fund established in § 31G-1-5 and under the control of the Council.

The West Virginia Office of Technology (WVOT) is currently researching opportunities and potential relationship links of the vertical real estate initiative with other state technology initiatives, such as modernization of the State Interoperable Radio Network (SIRN) and the state's Wide Area Network (WAN). A professional services firm has been procured to address the full range of requirements to be completed as part of this project.

15.10 Wireless Technology Business Property Valuation Act

This act of the Legislature creates a new article of the West Virginia Code, designated as § 11-6L-1 *et seq.* and known as the **Wireless Technology Business Property Valuation Act**. It provides for the valuation of towers constructed or erected between July 1, 2019, and July 1, 2024, that host antenna or other equipment used for transmitting cellular or wireless communications signals.

Under this new article, for the five years immediately following the tower's erection, the value of the tower is its "salvage value," or five percent of its original cost. Thereafter, the value of the tower is determined in accordance with existing West Virginia Code § 11-6-1 *et seq.*

Small Wireless Facilities Deployment Act

Senate Bill 3 also creates a new chapter of the West Virginia Code, designated as § 31H-1-1 *et seq.* and known as the **Small Wireless Facilities Deployment Act**. The Legislature found that small wireless facilities, also known as small cells and distributed antenna systems, are often deployed most effectively in public rights-of-way. Therefore, this chapter allows wireless providers to collocate small wireless facilities and install, modify, or replace utility poles for such facilities in public rights-of-way.

This chapter also sets rates for the occupancy and use of the rights-of-way and provides some zoning and permitting guidelines.

15.11 Establishment of Broadband Cooperatives

West Virginia also provides a statutory mechanism for residents, businesses, and political subdivisions in West Virginia who have no good options for service providers to create a cooperative association to address connectivity problems. These coops are authorized to establish a provider focused on their communities, bond or finance the building of infrastructure, and engage in other related activities. W. Va. Code § 31G-2-1 *et seq.*

The West Virginia University Entrepreneurship & Innovation Law Clinic has developed a Broadband Cooperative Toolkit. The toolkit contains a diagram detailing the way a broadband network could be established in West Virginia. The Council will continue its partnership with the Law Clinic to assist communities in the formation of cooperatives.

15.12 Permitting Microtrenching

West Virginia Code § 31G-3-1 *et seq.* establishes the ability of fiber network builders to utilize microtrenching in the State of West Virginia, an innovative lower-cost, lower-impact option for installing underground fiber facilities. It also requires the installation of vacant conduit when a provider is performing microtrenching operations.

15.13 Nonregulation of VoIP Services

West Virginia also has legislation clarifying that the Public Service Commission does not have jurisdiction over companies that offer Voice over Internet Protocol (VoIP) telephony services. W. Va. Code § 24-2-1(e).

15.14 Oversight of Cable Franchising

Cable franchising in West Virginia is subject to licensing by the State or municipality under W. Va. Code § 24D-1-1 *et seq.* The Commission determines the appropriate authority for issuance of a license, prescribes the standards for construction, operation, and safe, adequate, and reliable service to subscribers. The municipality in which the cable system will be located usually serves as the permitting authority.

2022 County Target Address Maps

Appendix A

Available Upon Request

2022 County Speedtest Maps

Appendix B

Available Upon Request

For more information, visit broadband.wv.gov.

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