Digital Equity Plan

Draft for Public Comment – July 2023

State of West Virginia

West Virginia Department of Economic Development

INTERNET FOR ALL West Virginia

1. Executive Summary

West Virginia is ready to conquer the digital divide. For far too long, many West Virginia communities have lacked affordable, high-speed broadband internet access, a necessity for access to healthcare, education, civic and social engagement, and economic opportunity. West Virginia residents have voiced the urgent need to address this issue. West Virginia's leaders understand that broadband is essential to West Virginia's economic future.

With the highest percentage of covered populations nationwide, and over 35%[1] of its citizens living in unserved or underserved areas as designated by the Bipartisan Infrastructure Investment and Jobs Act, digital equity initiatives will be noteworthy in the Mountain State. Understanding the importance of digital equity, Congress passed the Digital Equity Act (DEA) as part of the Infrastructure Investment and Jobs Act (IIJA) in 2021. The IIJA includes three key broadband grant programs managed by the National Telecommunications and Information Administration (NTIA):

1. The $42.5 billion Broadband Equity, Access, and Deployment (BEAD) program, and
2. The $2.75 billion Digital Equity Act (DE) programs, including:
    a. $60 million for a State Planning Program,
    b. $1.44 billion for a State Capacity Program, and
    c. $1.25 billion for a Competitive Grant Program.

According to NTIA, digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is necessary for access to essential services, civic and cultural participation, employment, and lifelong learning.

West Virginia notes that the BEAD and Digital Equity programs are strategically linked in the IIJA and by NTIA. Indeed, broadband infrastructure development and digital equity are essential to unlocking local potential, built upon broadband connectivity, throughout West Virginia. West Virginia understands and embraces the link between broadband access and digital equity.

West Virginia has traditionally emphasized community involvement in its broadband development initiatives, understanding that communities and individuals must be empowered to fully utilize technology in order to access its many benefits. Since 2018, West Virginia has successfully utilized other federal funding sources to complete community and regional broadband planning, setting the stage for greater understanding of the opportunities presented by BEAD and Digital Equity programs. With this experience, West Virginia's communities are well positioned to achieve the benefits of broadband connectivity.

Equally important, West Virginia's leaders strongly value digital equity. Upon the announcement of IIJA programs in May 2022, Governor Justice designated the West Virginia Department of Economic Development, Office of Broadband (WVDED), as the lead applicant for NTIA programs. Upon making this designation, the Governor said,

> "As Governor of the State of West Virginia, I have made broadband a top priority by launching West Virginia's Billion Dollar Broadband Strategy. I am absolutely committed to ensuring that every West Virginian has access to high-speed internet connectivity. The Broadband Equity, Access, and

[1] Calculated using National Broadband Availability Data provided by the Federal Communications Commission, available at https://broadband477map.fcc.gov/#/data-download.

Deployment and Digital Equity programs will help us achieve that goal. We look forward to working with the U.S. Department of Commerce, NTIA, and many stakeholders throughout West Virginia to implement this historic program. I have directed the West Virginia Department of Economic Development and its Office of Broadband to make sure that broadband connectivity is available everywhere throughout our great state. Working together, we will achieve internet connectivity for all West Virginians."

To begin the digital equity planning process, NTIA awarded grants to states and territories to develop State Digital Equity Plans designed to identify barriers to digital equity and implement strategies to overcome these barriers. **West Virginia's Digital Equity Planning Grant application was submitted on July 1, 2022, in advance of the July 12, 2022, deadline. West Virginia's Digital Equity Planning Grant was approved by NTIA on September 30, 2022.** Digital Equity Plans must be submitted within one year of receiving Digital Equity Planning Grant funds. States that do not complete a Digital Equity Plan cannot obtain BEAD funding or Digital Equity Funding. The Digital Equity plan constitutes a required companion piece of the Five-Year Action Plan for BEAD funding.

Throughout the research, collaboration, and drafting process, WVDED has ensured that it meets the Digital Equity Plan requirements outlined in the Notice of Funding Opportunity (NOFO) provided by NTIA.[2] To quickly find where each NTIA guidance requirement is addressed in this document, see the Appendix A.7 Crosswalk with Guidance Document.

Under the BEAD and Digital Equity programs, NTIA awarded initial planning funds to the WVDED as follows:

Program	Amount	Date of Award	Due Date
BEAD Planning Grant	$5,000,000	Nov. 14, 2022	Aug. 11, 2023
Digital Equity Planning Grant	$728,065	Sept. 30, 2022	Oct. 2023

In addition to the requirements established by NTIA, West Virginia's Digital Equity Planning Grant deliverables will include:

1. a printed Digital Equity Plan, with an electronic version hosted on the Internet for All WV website;[3]
2. an open access, interactive online dashboard and downloadable map displaying the data collected to inform the measurable objectives, and
3. a digital equity asset inventory and community resource library.

West Virginia's Digital Equity Plan has three areas of emphasis through which the State will:

1. Realize Affordable Connectivity
2. Secure Device Access and Affordability
3. Elevate Digital Skills and Accessibility to Public Service and Economic Opportunity

The NTIA digital equity planning process places a strong emphasis on public involvement and partner collaboration. WVDED shares this commitment to the development of locally driven strategies that will empower West Virginia residents to effectively engage in an economy driven by broadband connectivity.

[2] National Telecommunications and Information Administration (NTIA), Notice of Funding opportunity, State Digital Equity Planning Grant Program, May 2022, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/DE%20PLANNING%20GRANT%20NOFO.pdf.

[3] West Virginia Internet for All, Home Page, https://internetforallwv.wv.gov/, Accessed July 10, 2023.

1.1 Vision and Goals

In shaping the Digital Equity Plan, WVDED actively solicited input from stakeholders, citizens, and state government leaders to define the state's vision. Concurrently, three goals and six objectives were derived from a comprehensive needs assessment to guide the state towards realizing that vision.

West Virginia Vision for Digital Equity

Ensure that all West Virginians have the resources they need to participate in the digital world and achieve the economic benefits of digital equity

Goal 1: Realize Affordable Connectivity	**Objective 1.1**: Increase enrollment in the Affordable Connectivity Program (ACP), contingent on the continued funding for the program	**Objective 1.2**: Complete broadband deployment as a part of the BEAD Five-Year Action Plan to increase the number of available internet service providers, increase the pool of their customer sizes, and increase competition
Goal 2: Secure Device Access and Affordability	**Objective 2.1**: Create a program to provide device distribution, lending, and recycling	**Objective 2.2**: Ensure citizens receive technical assistance for their newly acquired devices
Goal 3: Elevate Digital Skills and Accessibility of Public Services	**Objective 3.1**: Make digital literacy training in cybersecurity, privacy, telehealth, and more, available to all West Virginians, including all covered populations	**Objective: 3.2**: Ensure websites and online services hosted by state agencies are accessible for all West Virginians

Achieving digital equity is an iterative process, and the specific key performance indicators for these objectives are discussed in Section 2.1. Indeed, digital equity must be constantly developed, reinforced, assessed, and incorporated into multiple facets of society.

To aid execution of these goals, WVDED will work with stakeholders across West Virginia who possess similar goals and plans.

1.2 Digital Equity Assets and Needs

West Virginia already has many programs that address gaps in digital equity. WVDED performed an asset inventory of these with respect to the eight covered populations set forth in the NOFO.

Aging Individuals	Aging individuals access digital literacy training, online safety courses, and public computer labs through West Virginia's senior centers, libraries, and Pendleton Senior and Family Services. The Older Adults Technology Services (OATS) also plays a crucial role, providing curated resources and programs such as the Senior Planet.
Racial and Ethnic Minorities	Racial and ethnic minorities in West Virginia interested in digital equity resources benefit from the Grow with Google Program, which partners with local institutions to provide free digital skills workshops, resources, and Google Career Certificates in tech-related fields. Additionally, West Virginia State University's Historically Black Colleges and Universities (HBCU) Career Readiness Program offers Black students digital skills training to excel in their careers.
Rural Residents	Rural residents are also supported by the Grow with Google initiative that collaborates with key community institutions, including libraries, such as the Mary H. Weir Public Library, chambers of commerce, and universities to provide professional training. The Mary H. Weir Public Library also collaborates with local colleges and Goodwill to provide technical software and hardware support.
Incarcerated Individuals	Both the West Virginia Schools of Diversion & Transition and Workforce West Virginia's Digital Inclusion Program offer digital skills training to incarcerated individuals. These programs also help support successful reintegration, which assists in reducing recidivism rates.
Veterans	West Virginia Veterans Upward Bound and Tech for Troops help veterans transition into civilian roles by providing digital skills classes, certification programs, and equipment donations.
Individuals with Disabilities	Individuals with disabilities can access assistive technology, training, and device loans through the West Virginia Division of Rehabilitation Services and the WVU Center for Excellence in Disabilities. These programs empower disabled individuals to live and work independently. The West Virginia Schools for the Deaf and Blind focus on programs that encourage students to, "achieve, challenge, and thrive."
Individuals with Language Barriers	Both Summers County Adult Education and the West Virginia Department of Education offer comprehensive digital equity services to individuals with language barriers. These include English learning courses, literacy programs, and digital skills training, helping to boost literacy and digital competence among adult English Language Learners and low-literacy adults.
All Covered Populations	The State of West Virginia offers several digital equity assets and resources to all West Virginians. These include extensive digital literacy and skills training programs offered through state education institutions, public computing programs available at community centers, libraries, and senior centers, and low-cost device acquisition and maintenance programs in collaboration with Internet Service Providers and federal entities. The State also offers a Digital Navigator Program, which provides personalized assistance for securing internet service and devices. Additionally, the state recycles technology through the secondlaunchWV program, refurbishing and

donating unused equipment from state agencies to early childhood programs and K-12 schools.

The ACP is also available to many eligible members of all covered populations.

WVDED created a Core Planning Team and a Digital Equity Steering Committee to coordinate its digital equity planning process. For a list of Digital Equity Steering Committee members and the committee rules, refer to Appendix A.4 Digital Equity Steering Committee Details. The Core Planning Team gathered community insights through listening sessions and an ongoing statewide survey. Initial results point to common issues across target populations in West Virginia such as high-speed internet affordability, access to low-cost internet-enabled devices, availability of technical support, and digital literacy skills. These insights provided guidance for the goals outlined above.

WVDED partnered with the State's 11 Regional Planning and Development Councils (RPDCs) to conduct listening sessions in each of West Virginia's 55 counties. Several themes emerged from the listening sessions. These compelling results are summarized on the following pages and additional details are provided in Appendix A.6 Detailed Covered Population Needs Assessment.[4]

Access and Adoption

Poor internet quality and reliability are major barriers to internet access in West Virginia.

100% of Listening Session Participants (LSPs) in RPDC #1 reported poor internet quality as a top barrier, while **80%** reported poor reliability as a significant issue.

High cost for broadband internet and a lack of competition among Internet Service Providers prevent many West Virginians from adopting internet services.

In listening sessions hosted by the RPDC #7, **85%** of participants reported that the high cost of services presented a major barrier for access and adoption

Devices and Accessibility

Public resources, including state and federal websites, pose challenges for individuals with disabilities and those with low literacy levels or English learning needs.

50% of LSPs participating in listening sessions led by the RPDC #10 cited physical disabilities as a barrier for effective internet usage.

Lack of knowledge and lack of access to internet-capable devices are major barriers to access. Almost **67%** of formerly incarcerated individuals and those who attended sessions led by the RPDC #10 reported lack of knowledge as a top barrier for getting online.

[4] The data detailed herein comes from the RPDC listening sessions. Each statistic is more clearly cited in the appropriate appendix; see Appendix A.6 Detailed Covered Population Needs Assessment.

Telehealth and Emergency Services

Internet connectivity issues prevented participants from accessing telehealth and contacting emergency services.

33% of LSPs who were previously incarcerated reported that limited internet prevented them from accessing online medical or government services.

Many participants have gone without methods of communication for long periods of time, including without access to emergency services—a dangerous situation.

LSPs who participated in a session hosted by the RPDC #7 stated that they have gone up to **three weeks** without any way to communicate with the outside world or the ability to call 9-1-1.

Education and Economic Opportunities

Lack of internet access significantly affects learning and economic opportunities in West Virginia.

50% of LSPs who attended RPDC #9 listening sessions reported that lack of internet access significantly prevented their region's ability to create economic opportunity.

The digital divide has created hardships for families, students, and businesses, especially during the COVID-19 pandemic.

One county estimates that **50%** of the children in their county were left behind because of the lack of access to the internet during COVID-19, according to an LSP.

Civic and Social Engagement

Lack of affordable, reliable internet connectivity limit social engagement opportunities, particularly for aging individuals.

Almost **31%** of those who attended RPDC #7 listening sessions stated that their inability to procure internet access reduced their ability to access information and entertainment.

Slow internet speeds and data caps restrict usage of online resources for entertainment or informational purposes.

LSPs reported that it can take **30 minutes** for a website to load, **one hour** to download a file, or as much as **a full day** to send a photo.

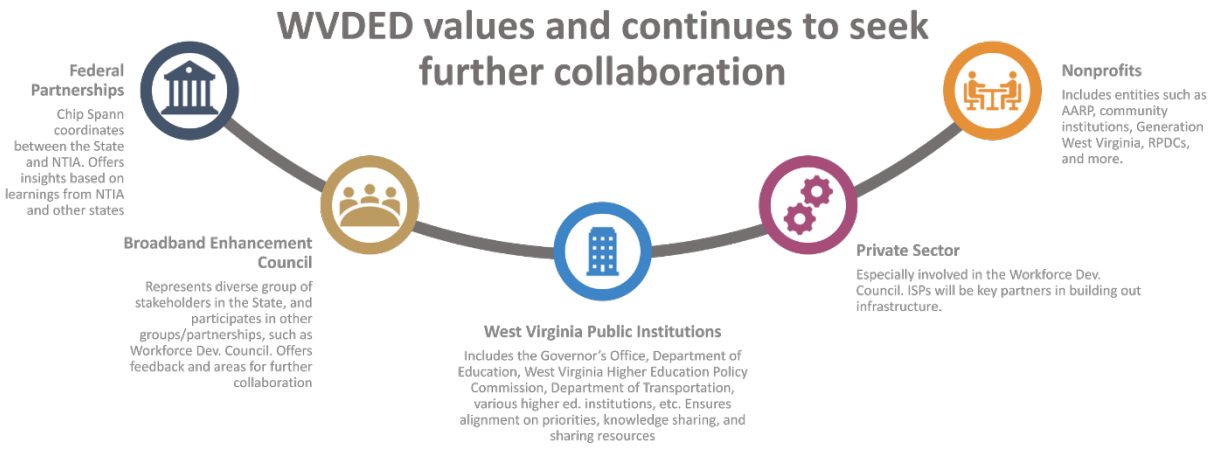
1.3 Collaboration and Stakeholder Engagement

The State of West Virginia believes that bridging the digital divide is a collaborative effort between partners in the public and private sectors. As such, WVDED has sought to engage with stakeholders throughout every step of the process, benefiting from their knowledge, input, and resources. This includes stakeholders at the federal, state, and local level. As WVDED executes its Digital Equity Plan, it will continue partnering with these entities whenever possible. Figure 1 details some of the entities with which the WVDED will continue the implementation of its Digital Equity Plan.

West Virginia's Regional Planning and Development Councils, nonprofit organizations, and key stakeholders 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. The WVDED values and continues to seek further collaboration. These partnerships are briefly described below:

1. **Federal Partnerships**: West Virginia has worked closely with NTIA and its Federal Program Officer throughout the DE planning process to ensure compliance with all federal requirements.
2. **West Virginia Broadband Enhancement Council**: The West Virginia Broadband Enhancement Council represents constituencies throughout West Virginia and acts in an advisory capacity to the WVDED. In addition, the monthly public meetings of the Council provide a venue for regular updates on the DE planning process as well as an opportunity for public engagement.
3. **West Virginia Public Institutions**: WVDED has solidified partnerships with key state agencies, including but not limited to, the Office of the Governor, West Virginia Higher Education Policy Commission, West Virginia Department of Transportation, West Virginia Department of Education, Marshall University, West Virginia University (WVU), and many more. This partnership ensures alignment of priorities, collaboration, and resource sharing.
4. **Private Sector**: Discussion of broadband access and digital equity would not be complete without consultation with Internet Service Providers. WVDED has established working relationships with broadband providers through its administration of other state and federal grant programs. The WVDED has established participation in the Affordable Connectivity Program (ACP) as a requirement for funding awards. In addition, these private sector partners participate in the West Virginia Broadband Workforce Council to ensure industry insights in the state's plans.
5. **Nonprofits**: Throughout the development of the Digital Equity Plan, WVDED engaged with nonprofits such as AARP, Generation West Virginia, the RPDCs, a variety of community institutions, and more. These organizations understand the needs of their constituents and members, providing valuable insight to WVDED.

Figure 1: Examples of WVDED Stakeholders and Collaborative Partners



As a part of its collaboration efforts, WVDED:

1. Formed the Core Planning Team and Digital Equity Steering Committee to develop a Digital Equity Plan
2. Hosted an Internet for All West Virginia Kickoff Conference to raise awareness of the Digital Equity Act and BEAD Programs
3. Conducted outreach to community organizations and state agencies
4. Developed a marketing and communications plan
5. Created an Internet for All West Virginia website
6. Collected input from West Virginians through online and paper surveys
7. Identified key topics and recommendations for plan implementation

8 Organized a 30-day public comment period on the Digital Equity Plan

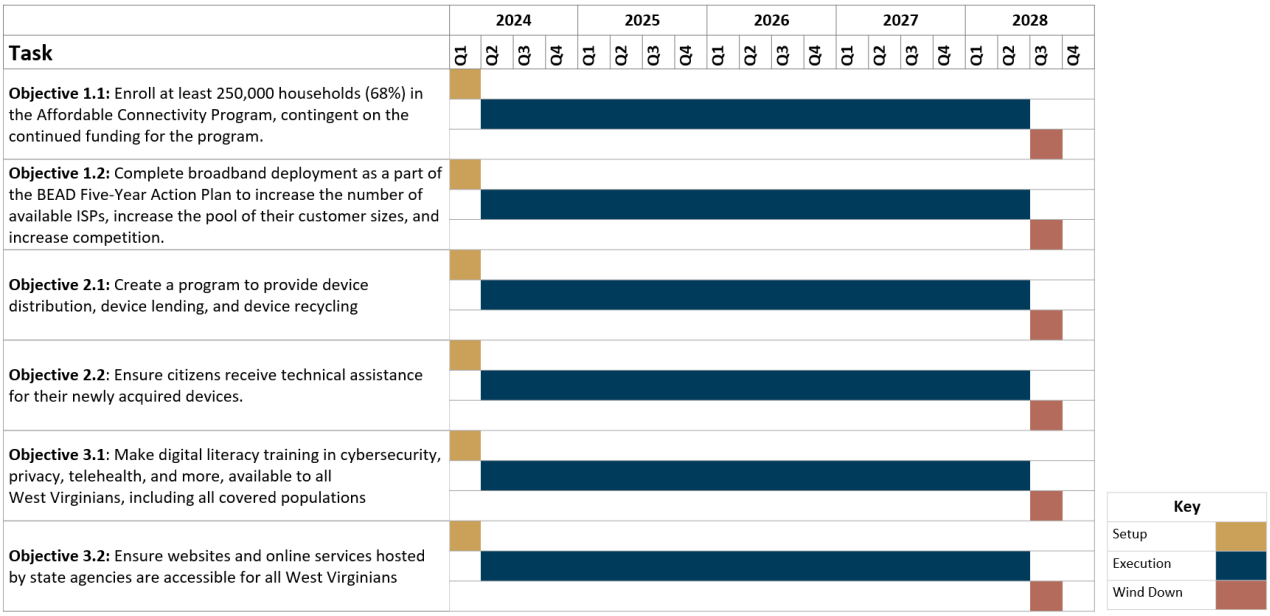
9 Identified potential partners for implementation of the Digital Equity Plan

1.4 Implementation

WVDED will accomplish the three goals laid out in Section 1 by executing its implementation plan, discussed in Section 5. Figure 2 provides the timeline for execution of the plan in three distinct phases:

1. **Setup**: Setup includes developing requests for proposal (RFP), creating formal partnerships with organizations and government entities, developing reporting forms and satisfying requirements for partners, developing monitoring systems for the full set of activities, and any other preparatory steps to execute the strategies outlined in this plan.
2. **Execution**: After selecting partners either through an RFP or assigning them duties based on agreements, all partners involved will execute the strategies outlined in this document. All partners will report the necessary information for WVDED to monitor the status of these programs.
3. **Wind Down**: This stage does not entail a stop to the digital equity efforts. Rather, it represents completion of the program's primary stages and provides a period of review, assessment, and recalibration if necessary.

Figure 2: Timeline for the Implementation of the Digital Equity Plan



2. Introduction & Vision for Digital Equity

Far too many communities in West Virginia lack access to, or cannot afford, high-speed broadband internet service. Those with service often do not have access and/or cannot afford internet-enabled devices or do not have the digital skills to benefit fully from it. This deficit exacerbates existing social inequalities and prevents West Virginians from accessing healthcare, essential services, and social, educational, and economic opportunities.

97% of West Virginians are considered members of covered populations, the highest percentage of any state in the nation.[5] West Virginia faces a **significant challenge** in expanding internet coverage, speed, and availability. 35% of broadband serviceable locations (BSLs)[6] in West Virginia are either unserved, meaning individuals have access to broadband speeds below 25/3 Mbps, or underserved, meaning individuals have access to speed above 25/3 Mbps but below 100/20 Mbps.[7] At the same time, the cost of broadband is unaffordable for many.

In 2021, the U.S. Congress passed the DEA as a part of the bipartisan IIJA, aiming to promote the achievement of digital equity and support digital inclusion activities. The Act supports three main grant programs, all of which are administered by NTIA:

1. State Digital Equity Planning Grant, which enables states and territories to develop State Digital Equity Plans or similar plans.
2. The State Digital Equity Capacity Grant Program, which will award $1.44 billion over five fiscal years to states, territories, and tribal entities for the purpose of implementing their State Digital Equity Plans (or similar plan).
3. The Digital Equity Competitive Grant Program, which makes available $1.25 billion in grant awards over five fiscal years for private sector, public sector, and not-for-profit entities to advance digital equity and engage in digital inclusion activities.[8]

West Virginia received funds to begin Digital Equity Planning in late 2022. In response, West Virginia began outreach and data collection efforts by launching the "Internet for All West Virginia" website. This website offered users a background on the BEAD and Digital Equity programs, a link to the West Virginia Digital Access and Equity Survey that is discussed in Section 3.2, and dates, times, and locations of community listening sessions held by West Virginia's Regional Planning and Economic Development Councils, as discussed in Section 4.2.4.

[5] United States Census Bureau, Digital Equity Act of 2021, "Total Covered Populations under Digital Equity Act of 2021," https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html, last accessed July 7, 2023.

[6] BSLs are defined by NTIA as a business or residential location in the United States at which fixed broadband Internet access service is, or can be, installed.

[7] Calculated using National Broadband Availability Data provided by the Federal Communications Commission, available at https://broadband477map.fcc.gov/#/data-download.

[8] National Telecommunications and Information Administration, "Digital Equity Act: State Capacity Grant Program, Planning Grants, and Competitive Grant" https://broadbandusa.ntia.doc.gov/sites/default/files/2022-06/DE-FAQs.pdf

West Virginia's Digital Equity Plan is a five-year, action-oriented roadmap for the WVDED—in collaboration with statewide partners—to ensure that every West Virginian can participate in today's increasingly digitally connected society.

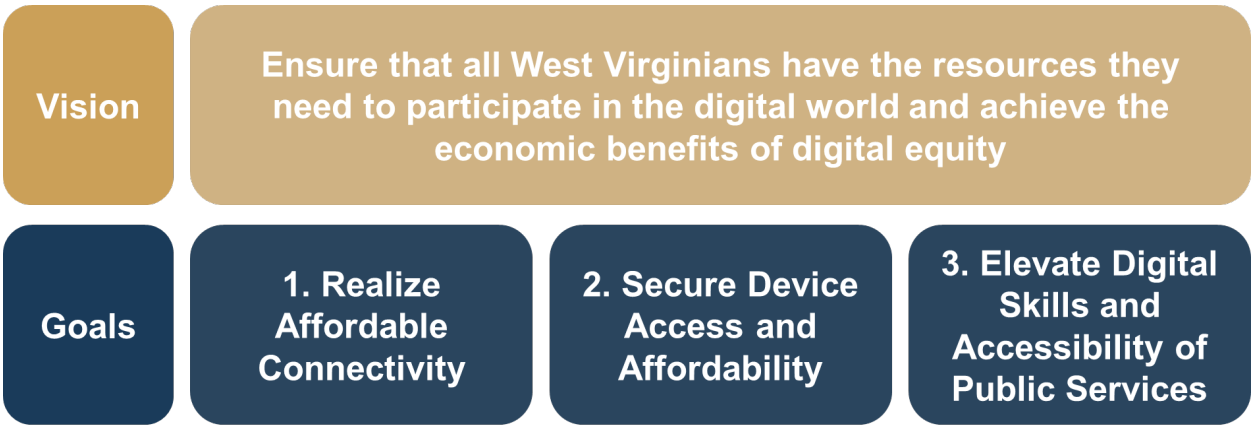
The WVDED will convene, facilitate, and champion digital equity and inclusion efforts in the state. Collectively, the strategies outlined in this plan – which were developed with significant input from West Virginia residents and communities – will promote the achievement of digital equity, support digital inclusion activities, and build capacity for efforts to increase broadband adoption, particularly among the state's eight covered populations.

West Virginia's Digital Equity Plan is designed to be a living document. As such, the information collected through this plan is based on a set of early, preliminary findings that will continue to be refined and updated throughout the implementation of the plan.

2.1 Vision and Goals

WVDED collaborated with stakeholders, citizens, and state government leaders to develop a holistic vision for digital equity in West Virginia. In parallel, and because of the needs assessment, WVDED developed a set of three goals and six objectives that can lead the State to achieving its vision.

Figure 3: West Virginia's Digital Equity Vision and Goals



Achieving digital equity is an iterative process, and to accomplish these goals, the State developed the following high-level, key performance indicators to measure and track the success of each strategy.

1 Realize Affordable Connectivity

Objective 1.1: Increase enrollment in the ACP, contingent on the continued funding for the program.

KPI

Contingent on continued funding for the program, increase enrollment in ACP. Approximately 368,000 households are eligible for ACP.

Baseline: 103,000 households.[9]

Near-term target: Increase enrollment by approximately 50% to reach 150,000 households.

Long-term target: Increase enrollment to reach a total of 68% of eligible households covered, or 250,000 households.

Objective 1.2: Complete broadband deployment as a part of the BEAD Five-Year Action Plan to increase the number of available Internet Service Providers, increase the pool of their customer sizes, and increase competition.

KPI

Accomplish broadband infrastructure deployment goals included in the Five-Year Action Plan.

2 Secure Device Access and Affordability

Objective 2.1: Create a program to provide device distribution, lending, and recycling.

KPI

Increase the number of individuals in West Virginia who have access to a device that can connect to the internet.

Baseline: 85.6% of the State has access to a computing device at home[10].

Near-term target: Increase baseline by 10%.

Long-term target: 95% of West Virginias have access to a computing device that can connect to the internet.

[9] Universal Service Administrative Co. ACP Enrollment and Claims Tracker: https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker.
[10] U.S. Census Bureau, "American Community Survey 2021 5-Year Data (2009-2021)", https://www.census.gov/data/developers/data-sets/acs-5year.html.

Objective 2.2: Ensure citizens receive technical assistance for their newly acquired devices.

KPI

Increase the number of Community Anchor Institutions (CAI) that offer digital navigator programs.

Baseline: To be determined based on an assessment of CAIs that offer digital navigator programs.

Near-term target: Increase the baseline figure by 20%.

Long-term target: Increase the near-term target by 30%.

3 Elevate Digital Skills and Accessibility of Public Services and Economic Opportunity

Objective 3.1: Make digital literacy training in cybersecurity, privacy, telehealth, and more, available to all West Virginians, including all covered populations

KPI

Increase the percentage of individuals in West Virginia with beginner-level digital skills.

Baseline: West Virginia will create a baseline through a randomized survey across the State

Near-term target: Increase the baseline figure by 15%

Long-term target: Increase the baseline figure by 25%

Objective 3.2: Ensure websites and online services hosted by state agencies are accessible for all West Virginians

KPI

Increase the number of public services in West Virginia that meet the Web Content Accessibility Guidelines (WCAG) and Section 508 Standards.

Baseline: To be determined based on an assessment of all government websites and services.

Near-term target: Ensure that at least 75% of state-agency-operated websites are compliant.

Long-term target: Ensure that 100% of state-owned websites are compliant.

2.2 Alignment with Existing Efforts to Improve Outcomes

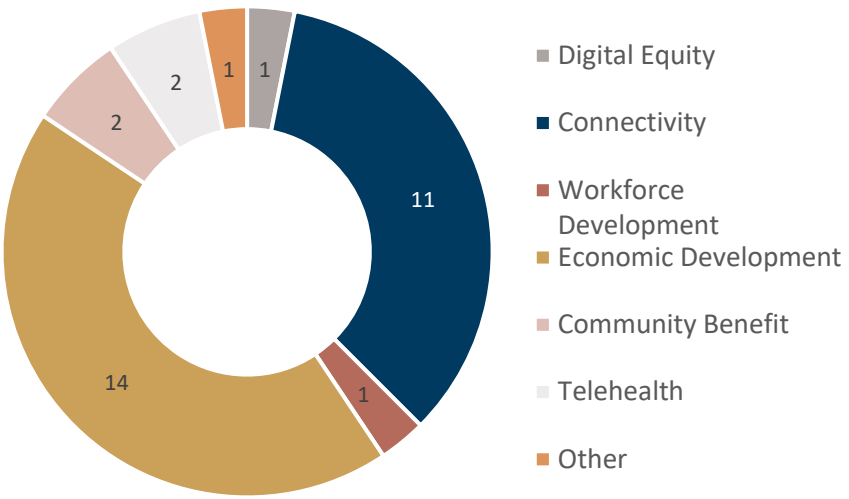
Through its research, the WVDED did not find stand-alone Digital Equity Plans among its municipal or county governments, or regional entities. However, of the 160 plans, programs, and initiatives reviewed, many included elements related to digital equity, indicating that West Virginia understands the concept of digital equity as an emerging, and increasingly important, element of comprehensive planning.

West Virginia's Digital Equity Plan offers a unique opportunity for statewide entities that support covered populations to unite under a single vision for achieving digital equity. The five goals and strategies outlined in the previous section were developed to coordinate with state, local, and regional plans, programs, and initiatives related to digital equity. The WVDED reviewed 160 plans, programs, and initiatives. Of these, 35 included elements relating to digital equity. Figure 4 illustrates the number of plans that addressed each of the following primary digital equity elements or subjects:

- Digital Equity
- Connectivity
- Workforce Development
- Economic Development
- Community Benefit
- Telehealth
- Other Digital Equity or Broadband-related concepts

For instance, 11 plans discussed the topic of "Connectivity" to some degree.

Figure 4: Number of State, Local, and Regional Plans that Addressed Select Digital Equity Subjects



West Virginia's Digital Equity Plan aligns with existing state priorities while stimulating new efforts in economic and workforce development, health, education, civic and social engagement, and other essential services.

The following subsections detail the state, local, and regional priorities that align with West Virginia's Digital Equity Plan:

1. Economic Development
2. Workforce Development
3. Education
4. Healthcare, and
5. Civic and Social Engagement

The remainder of this section provides a summary of the takeaways from reviewing the plans, including key subjects related to digital equity. For detailed information about the plans and strategies reviewed, please refer to Appendix A.3 Complete List of Relevant Plans & Strategies.

Economic Development

State of West Virginia 2020-2024 Consolidated HUD Plan: The U.S. Department of Housing and Urban Development (HUD) requires the State of West Virginia to produce a five-year strategic plan detailing housing, community needs, and how funds are to be used:

- Support the development of viable infrastructure systems (such as water, sewer, storm water, and broadband) to improve living conditions and bolster economic development.[11]
- Provide ready access for household connections, in low- and moderate-income households and neighborhoods, which can help expand connectivity to the residents and communities with the greatest need.[12]

West Virginia FY 2022 Appalachian Regional Commission (ARC) Development Plan: The State of West Virginia submits a four-year State Development Plan to the Appalachian Regional Commission, which provides an overview of WV's economy, needs and opportunities in the state, and the governor's goals for the West Virginia ARC program.

- Increase access and adoption of broadband.[13]

[11] West Virginia Development Office, West Virginia Housing Development Fund, "State of West Virginia 2020-2024 Consolidated Plan," https://www.wvhdf.com/wp-content/uploads/2020/08/2020-2024-ConsolidatedPlan-and-FY-2020-Annual-Action-Plan.pdf, page 3

[12] Id., page 152

[13] West Virginia Department of Economic Development, "West Virginia FY 2022 Appalachian Development Plan," https://www.arc.gov/wp-content/uploads/2022/02/West-Virginia-ARC-4-YR-Plan-FY-2022.pdf, page 11

- Increase access of broadband for individuals by creating or enhancing existing community computer and digital learning centers.[14]
- Support e-commerce initiatives that educate businesses about the benefits of broadband.[15]
- Deliver training to increase use of technology by businesses and residents, and support technology education to increase the adoption of broadband by businesses and residents.[16]

Regional Planning and Development Councils Comprehensive Economic Development Strategies: Each year, West Virginia's 11 RPDCs must prepare or update its Comprehensive Economic Development Strategy (CEDS) for submission to its members: ARC, the U.S. Economic Development Administration, WVDED, and the public. The CEDS offers strategic planning, focusing on factors critical for economic advancement in the regions.

- The RPDC CEDS include goals and objectives related to improving affordable high-speed internet access in underserved communities, supporting public service campaigns promoting enrollment in low-income internet affordability programs, and publishing and promoting wireless Wi-Fi hotspot locations.
- Several RPDCs have developed Broadband Strategic Plans with detailed strategies for developing network infrastructure to close regional broadband gaps and drive broader community and economic development.

A Shared Agenda for Growing West Virginia's Agricultural Economy: The West Virginia Department of Agriculture and the WVU Extension Service partnered to publish a long-term plan for maximizing West Virginia's agricultural economy including:

- "….. with technological improvements and access to new markets, there is a huge opportunity to better support farmers, including by supporting efforts to increase broadband access."[17]
- Strategic actions outlined in the report include becoming involved with various groups advocating for and advising on broadband initiatives and partnering with other organizations for funding opportunities.[18]

[14] Ibid.
[15] Ibid.
[16] Id., page 15
[17] West Virginia Department of Agriculture, West Virginia University Extension Service, "A shared agenda for growing West Virginia's Agricultural Economy," http://www.wvagadvisory.org/wp-content/uploads/2020/10/WVAg-Full-Report-Version-03.2020.pdf, page 5
[18] Id., page 59

Workforce Development

West Virginia's Apprenticeships in Motion Program (AIM): The AIM Program promotes and expands registered, nontraditional apprenticeship activity in West Virginia. This collaborative group of partners identifies, standardizes, and develops courses for registered apprenticeship programs.

- Provides technical education and hands-on training from experienced professionals.
- Offers graduates a National Certification of Completion of Apprenticeship and an associate degree.

Education

West Virginia Department of Education 2021 Strategic Plan: Goal 1, Objective 3 of the West Virginia Department of Education's 2021 strategic plan highlights the necessity to address students' broadband-related needs. This will involve providing ways for students without home access to connect to the internet and developing innovative practices for device training.

- Develop a Statewide Technology Survey to determine students' and school staff members' current home technology access.[19]
- With KidsConnect[20], provide internet access by placing hotspots in outdoor areas near schools and other public areas.
- Assist counties with the E-Rate application process to maximize funds for school connectivity costs.[21]
- Systems training offered to students and educators to ensure readily available resources and accessibility for the West Virginia education system.[22]
- Recycle and upgrade technology from state agencies to donate to schools through the secondlaunch Program.[23]

West Virginia's Climb: West Virginia's Climb is a collaborative campaign to equip 60% of West Virginians with a Certificate or Degree by 2030.

- Access to no- or low-cost course materials from Open Learning West Virginia.
- Savings to date are over half a million dollars, impacting 4000 students.

[19] West Virginia Department of Education, "West Virginia Department of Education 2021 Strategic Plan," https://wvde.us/wp-content/uploads/2022/03/WVBE-StrategicPlan-MARCH2022-Update-Goal1-Obj3-v4.pdf, page 3
[20] Id., page 6
[21] Id., page 6
[22] Id., page 7
[23] Id., page 7

West Virginia Emergency Connectivity Fund: The Federal Communications Commission's (FCC) Emergency Connectivity Fund Program covers 100% of the reasonable costs of laptops, tablets, Wi-Fi hotspots, modems, routers, and broadband connectivity purchases for off-campus use by students, school staff, and library patrons. West Virginia Emergency Connectivity Fund supports:

- 93,129 total connections and
- 23,750 total devices.[24]

Healthcare

West Virginia Health Information Infrastructure (HIT): Broadband Availability for Health Care Programs in West Virginia: The West Virginia Healthcare Authority published a report on broadband infrastructure for health care programs in West Virginia. The report recognizes the value of broadband for:

- remote diagnosis, treatment, monitoring, and consultations with specialists through telemedicine[25]
- health care interventions and treatments in areas lacking advanced diagnostic capabilities and specialty services[26]
- leveling the playing field between urban and rural medical capabilities[27]
- remote access to electronic health records for providers which will improve patient health outcomes[28]

Maternal and Child Health Services Title V Block Grant: This report includes information about the components of the Fiscal Year 2020 Application and Fiscal Year 2020 Annual Report Maternal and Child Health Services Title V Block Grant. The Children with Special Health Care Needs (CSHCN) Program Director of Nursing and the WV CSHCN Registered Dietician are developing procedures for a blended model of virtual telehealth and direct clinics. West Virginia's rurality and topography impede the healthcare access of many; telehealth assuages this major health care inequity.[29]

[24] Federal Communications Commission, "Emergency Connectivity Fund", "total ECF broadband connections and connected devices by state", https://www.fcc.gov/emergency-connectivity-fund. Accessed July 7, 2023.
[25] West Virginia Healthcare Authority, "West Virginia Health Information Infrastructure (HIT): Broadband Availability for Health Care Programs in West Virginia," https://hca.wv.gov/policyandplanning/br/Documents/Broadband_Report_11.pdf, page 1
[26] Ibid.
[27] Ibid.
[28] Id., page 12
[29] West Virginia Office of Maternal, Child, and Family Health, "Maternal and Child Health Services Title V Block Grant," http://www.wvdhhr.org/mcfh/files/MCFH_Block_Grant_2022.pdf, page 165

Civic and Social Engagement

West Virginia Library Commission Annual Report 2022: The Commission's mission is to enhance the capacity of public, academic, and school libraries to deliver resources, programs, and services that support learning for West Virginians. The report describes the goals and programs currently underway.

- Ensures library staff, state employees, and all citizens have access to reliable information in various formats.[30]
- Annual Summer Learning Programs offering both in-person and online options for additional learning opportunities.[31]
- West Virginia libraries provide residents access to employment, education and other essential internet-based services and resources to foster ongoing success across the community.[32]

West Virginia University, Reed College of Media NewStart: WVU's NewStart program seeks to "recruit, train, and support the next generation of community newspaper owners across the county." The program offers a fellowship that matches people interested in owning local publications with sellers. Through the program, buyers are trained in how to manage, operate, and grow the business. This program can contribute to digital equity since accessing local newspapers online is an effective way for individuals to engage with their community using digital skills.

[30] West Virginia Library Commission, "West Virginia Library Commission Annual Report 2022," https://librarycommission.wv.gov/Who/Documents/2022%20Annual%20Report.pdf, page 3
[31] Ibid.
[32] Id., page 8

3. Current State of Broadband and Digital Inclusion

West Virginia's Digital Equity Plan provides an inventory of existing digital equity related assets. Assets are identified as current resources, programs, and strategies—both public and private. The WVDED intends to leverage existing resources as it pursues its digital equity mission. The inventory was conducted in parallel with an analysis of broadband infrastructure, as detailed in Section 3 of the BEAD Five-Year Action Plan. Section 3 of the Five-Year Action Plan should be viewed as complementary to this section and read in parallel for further information about broadband deployment.

For this section, digital equity and "digital inclusion" should be considered interchangeable in the same manner that NTIA does in its Digital Equity Plan Guidance document.

This chapter is divided into two subsections. Subsection 3.1 analyzes current broadband affordability and adoption in West Virginia, examining it in the aggregate rather than looking at individual populations. Section 3.2 details the current state of digital equity as it relates to specific populations, as well as the methodology for information collection informing much of Section 3. Section 3.1's analyses of affordability, adoption, digital skills, and accessibility were all informed by the aforementioned "information collection." Additionally, Section 3.2 examines the state of digital equity on a population-by-population basis and notes the impact on West Virginia as a whole.

3.1 Broadband Access, Adoption, and Affordability

Broadband access, adoption, and affordability form the foundation of digital equity. All other facets of digital equity are dependent on these three pillars. This section examines the three pillars' impact on West Virginians.

The data analysis in subsection 3.1 uses state and federal sources, accompanied by interpretations based on modeling the underlying information. For example, the WVDED utilized data from the ACP to create a likely minimum number for statewide affordability estimates. To model adoption estimates, the WVDED relied, in part, on data from the American Community Survey, 2021.

3.1.1 Adoption and Access

Broadband adoption and access are closely related. For the purpose of Digital Equity planning, this section will focus on the barriers to broadband adoption in West Virginia. Access to a Broadband connection is detailed thoroughly in the BEAD Five-Year Action Plan, Section 3. This section will focus on the conditions of access that prevent or reduce broadband adoption.

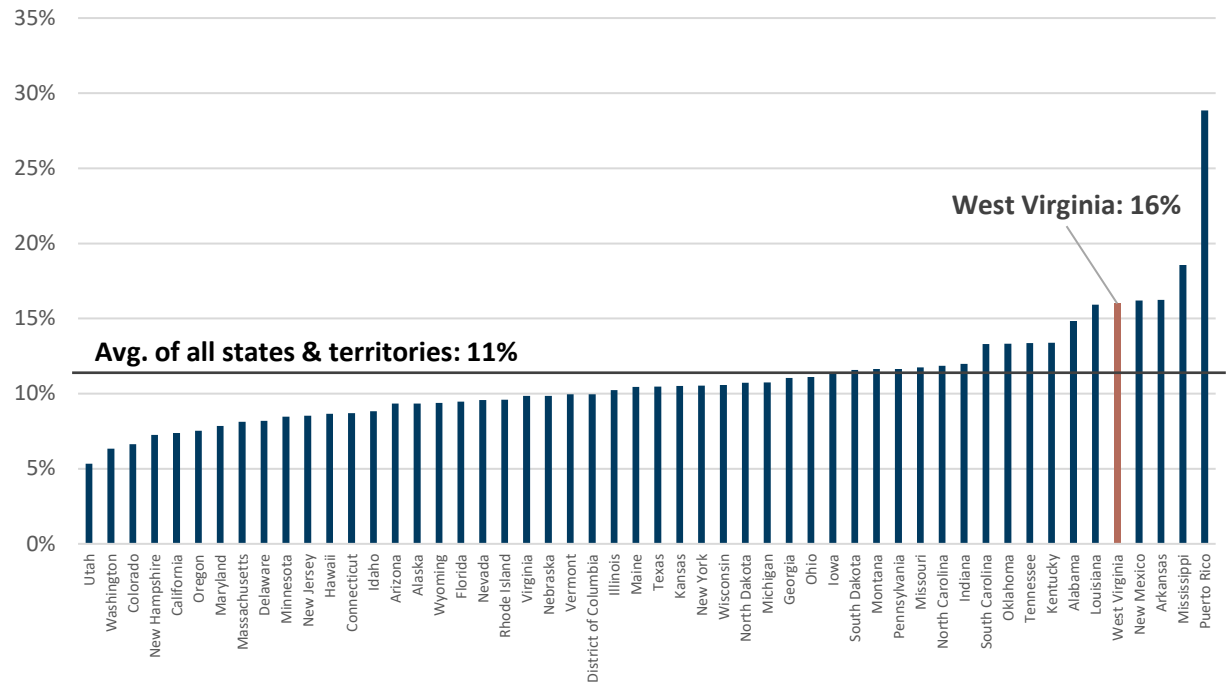
Granular data regarding broadband adoption, such as having access to a broadband connection but choosing not to use the service, is not readily available in West Virginia. Therefore, the WVDED has developed some modeling (described in subsequent sections) to detail barriers to broadband access and adoption.

Access to a Broadband Connection (Summary of the Five-Year Plan Section 3)

Approximately 311,953 Broadband Serviceable Locations in the State are considered unserved or underserved.[33] Of these, 146,462 are considered part of a project with an enforceable federal, state, or local commitment and therefore, may not be eligible for BEAD funding.[34] This leaves the remaining 16% of all Broadband Serviceable Locations underserved.

West Virginia ranks 47th out of 52 states and territories in terms of the percentage of population with internet access, highlighted in Figure 5. The State has committed significant effort and resources to bridge the access gap by funding the expansion of broadband infrastructure. (Please refer to the Five-Year Action Plan for additional BEAD-related planning details.)

Figure 5: Calculated Percentage of Households Without Internet Access (by state)



Source: B28002. American Community Survey 2017-21. ACS 5-Year Estimates Detailed Tables

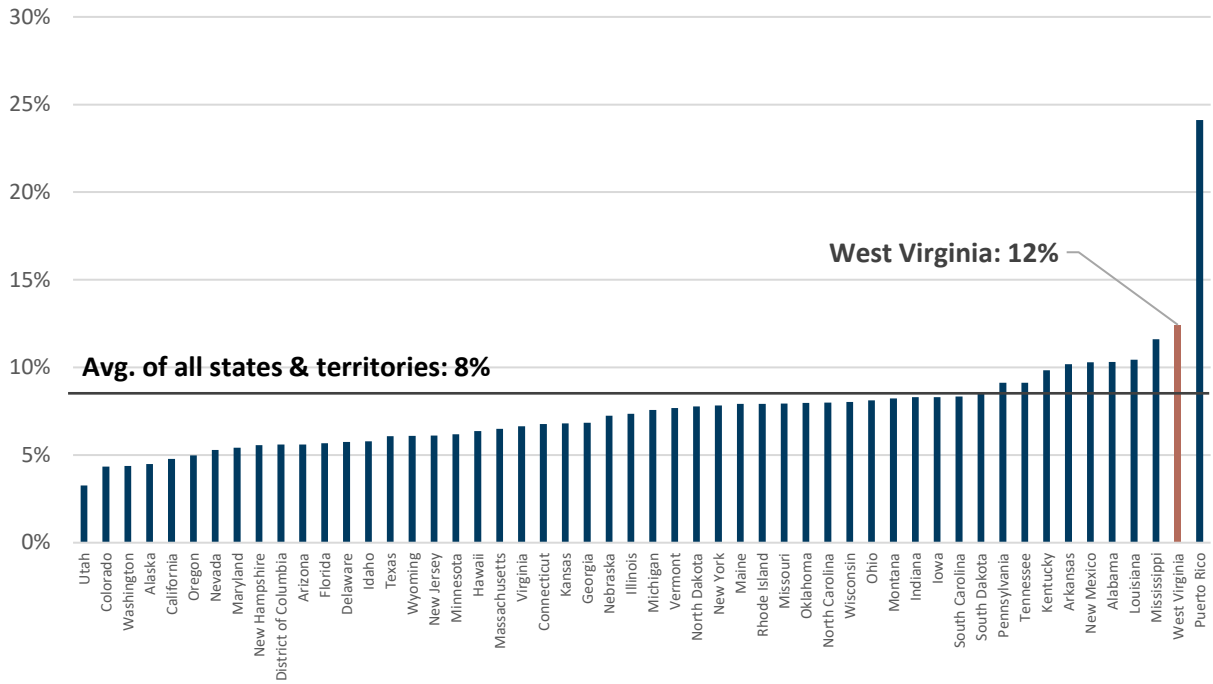
Access to an internet-enabled device

The U.S. Census Bureau's American Community Survey (ACS)[35] provides insight into the types of computing device(s) West Virginians own. For the purpose of this plan, laptops, desktops, smartphones, tablets, and other wireless computing devices will be referred to as a "computer." According to the 2021 estimates, only 88% of West Virginians own a computer, which leaves 12% without a computer. West Virginia is far behind the rest of the country; the average percentage of a state or territory with

[33] Calculated using National Broadband Availability Data provided by the Federal Communications Commission, available at https://broadband477map.fcc.gov/#/data-download.
[34] Ibid.
[35] U.S. Census Bureau, "American Community Survey 2021 5-Year Data (2009-2021)", https://www.census.gov/data/developers/data-sets/acs-5year.html.

access to a computer is 92.4%, and the average without computer access is 7.6%. Figure 6 demonstrates this data.

Figure 6: Calculated Percentage of Households Without a Computer (by state)



Source: B28003. American Community Survey 2021. ACS 5-Year Estimates Detailed Tables

Access to a computer with an internet connection in West Virginia is 79.5% versus the national average of 86.3%. These and other analyses of computer ownership are detailed in Table 1. Additionally, Table 2 in Appendix A.2 Supplementary Tables provides an expanded set of these figures, including differentiation between types of computing devices.

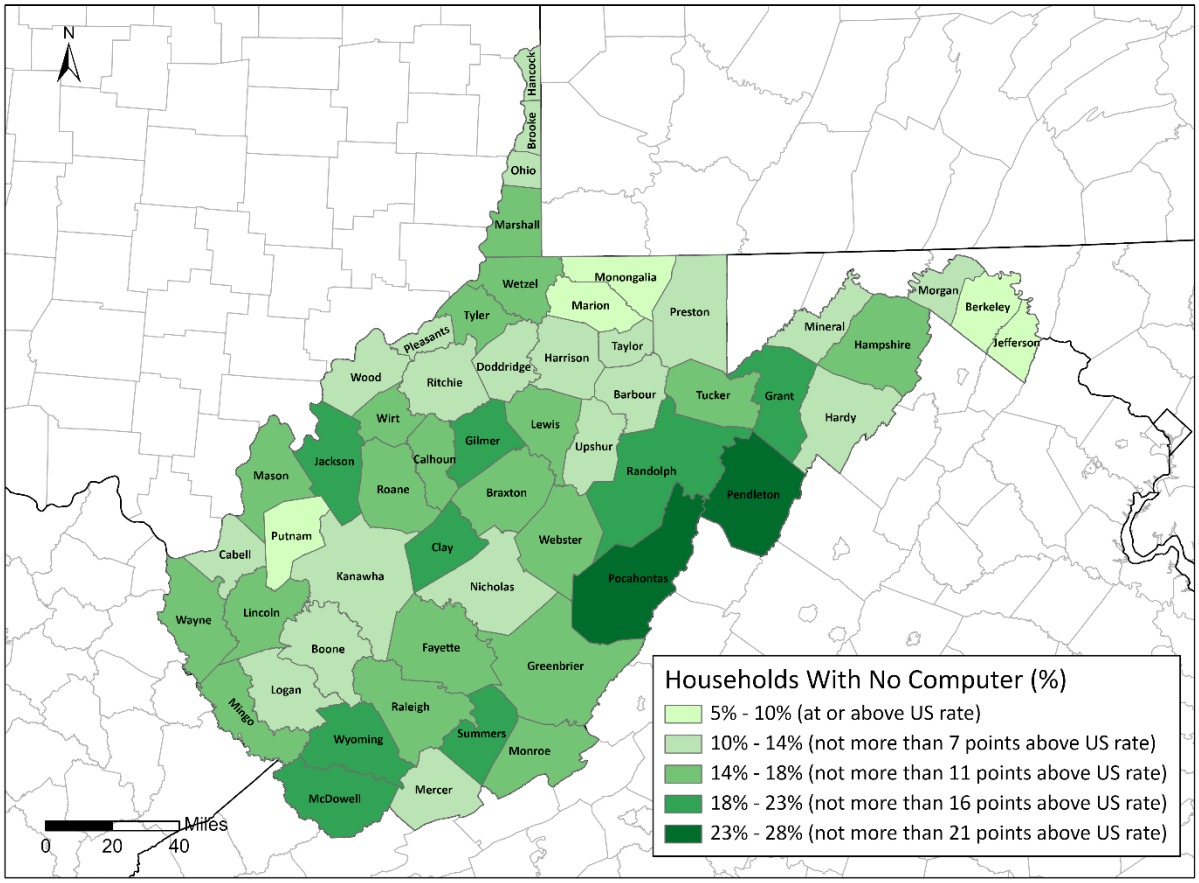
Table 1: People Who Own a Computer in West Virginia and the United States

Category	United States Estimate	United States %	West Virginia Estimate	West Virginia %	Difference in %
Total:	**124,010,992**		**711,352**		
Has a computer:	115,397,459	93.05	622,923	87.57	-5.48
With dial-up Internet subscription alone	265,164	0.21	2,236	0.31	0.10
With an Internet subscription	106,957,995	86.25	565,270	79.46	-6.79
Without an Internet subscription	8,174,300	6.59	565,270	79.46	72.87
No computer	8,613,533	6.95	88,429	12.43	5.48

Source: B28003. American Community Survey 2021. ACS 5-Year Estimates Detailed Tables

Computer and computing device ownership is not evenly distributed across the State. Based on anecdotal evidence, rural areas typically lack access to a computer more often, as highlighted by Figure 7. The data does not provide details about whether individuals in these areas access computers through other means, such as CAIs.

Figure 7: Households with No Computer or Computing Device in West Virginia by County

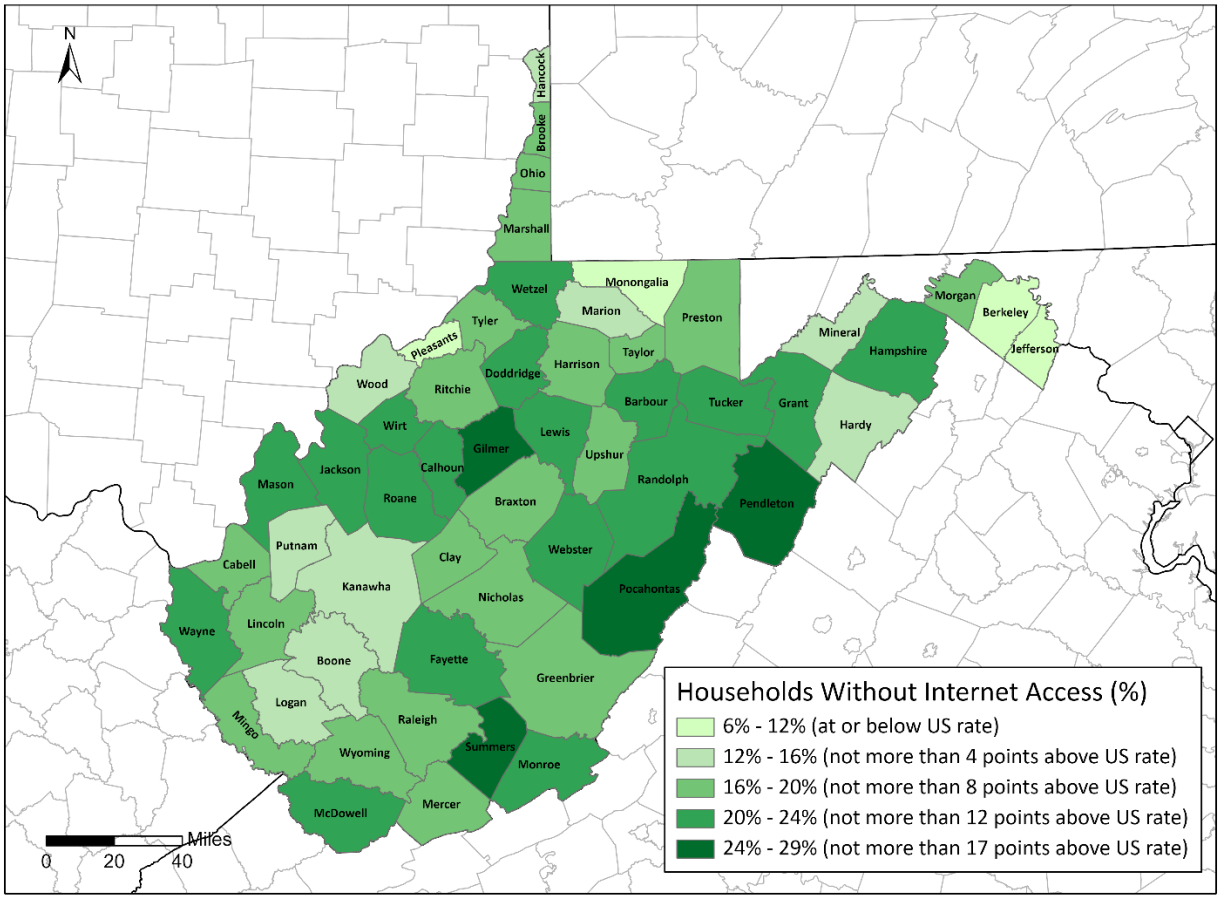


Source: B28003. American Community Survey 2021. ACS 5-Year Estimates Detailed Tables; Map generated by Tilson Technology.

Data on lack of household access to a computer in rural areas paints a similar picture to data on households that lack internet access (Figure 8). For expanded discussion on this data, see Section 3 of West Virginia's BEAD Five-Year Action Plan. It is not clear which specific factors are barriers to adoption. Although, potential factors may include cost of computer ownership, cost of internet access, lack of interest in owning a computer, and/or an absence of digital skills. To better understand all the factors impacting adoption, WVDED is undertaking an initiative to survey citizens.[36]

[36] WVDED has procured service from Thomas P. Miller & Associates (TPMA) to conduct the survey. As of the drafting of this plan, the survey is still under development and being planned for distribution.

Figure 8: Households Without Access to Internet in West Virginia by County



Source: B28003. American Community Survey 2021. ACS 5-Year Estimates Detailed Tables; Map generated by Tilson Technology.

Access and Community Anchor Institutions

Community Anchor Institutions (CAIs) play an important role in providing internet access until service and devices are available and affordable for West Virginians.

In West Virginia, CAIs often serve as internet access points, technology hubs, and training centers. However, not all CAIs are conveniently located. They also may not be equipped with computers, gigabit internet service, or skilled staff to provide training and technical support.

West Virginia's Digital Equity Plan will rely on CAIs for access and skills development. WVDED will work with communities to identify the organizations that meet their needs and evaluate how they fit the CAI categories identified by NTIA: public schools, public or multi-family housing authorities, libraries, medical or healthcare providers, community colleges and other institutions of higher education, the state library agency, and other nonprofit or governmental community support organizations.

3.1.2 Affordability

Despite West Virginia's significant progress in broadband deployment, the cost of high-speed broadband internet service remains a significant barrier to adoption. According to a national survey by The Pew Research Center, 45% of people without home broadband service mention the cost of connection as a barrier to access. 37% of this same demographic similarly mentioned the cost of a computer.[37] This is more pronounced in households earning less than $30,000 annually: 43% report no broadband service.[38] The lack of affordable internet access limits opportunities for education, healthcare, employment, and social connection, worsening the digital divide between the haves and have-nots. West Virginia's affordability gap is particularly pronounced in rural areas, where high deployment costs and limited competition have driven prices beyond affordability for the area's lower-than-average income households.

The ACP provides subsidy payments for internet subscriptions and internet-enabled devices for eligible, low-income households. The ACP is currently the primary program addressing affordability in West Virginia.

ACP eligibility requirements include:

1. households currently receiving Lifeline benefits
2. households with a child participating in the National School Lunch Program
3. households with a total yearly income less than or equal to 200% of the poverty line – equivalent to a yearly income equal or less than $60,000 for a family of four
4. household with at least one member participates in SNAP, WIC, SSI, or FPHA
5. households with a member currently receiving a Veterans Pension or Federal Pell Grant

The following lists some of the Internet Service Providers that operate in West Virginia, many of which participate in ACP:

Entity	ACP participant?
Armstrong	Yes
Arx Web	No
Blue Devil Cable	No
Breezline	Yes
Charter	Yes
Citynet	Yes
Comcast	Yes
Community Antenna Services (CAS)	No
Frontier	Yes
Gigabeam	Yes
Glo Fiber	Yes

[37] Anna Read, "How Can the United States Address Broadband Affordability?," Pew Charitable Trust, https://www.pewtrusts.org/en/research-and-analysis/articles/2022/04/29/how-can-the-united-states-address-broadband-affordability, April 29, 2022

[38] The Pew Charitable Trust, "Broadband Challenges and Opportunities in Affordable Rental Housing," https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2023/04/broadband-challenges-and-opportunities-in-affordable-rental-housing April 2, 2023. Accessed: June 5, 2023

Hardy Telecommunications	Yes
HughesNet	Yes
Lynx	No
MCTV	Yes
Micrologic	Yes
Morgan Wireless	No
Optimum (Altice, Suddenlink)	Yes
Point Broadband	No
Prodigi	Yes
Shentel	Yes
SkyPacket	Yes
Spruce Knob Seneca Rocks Telephone	Yes
Starlink	Yes
Telegia	No
T-Mobile	No
USCellular	Yes
Verizon	No
Viasat	No

A lack of available data on household broadband pricing and adoption rates prevents the WVDED from precisely estimating the number of West Virginian households for whom broadband is unaffordable. However, WVDED sought to understand this issue by analyzing two data sets: existing affordability data primarily from the Affordability Connectivity Program (ACP) and information developed from statewide listening sessions organized and hosted by Regional Planning and Economic Development Councils (RPDCs) on behalf of the WVDED (discussed in greater depth in Section 3.2).

To better understand West Virginia's affordability challenges, the WVDED estimated the number of households qualifying for ACP by examining ACP income requirements and state income data. As of May 2023, over 103,000 eligible households are enrolled in the program.[39] WVDED expects to have 250,000 eligible households enrolled in ACP by 2028 (contingent on continued program funding). The 2028 goal represents 68% of the State's eligible households (368,000)[40] or seven percentage points above the national best practice, as defined by EducationSuperHighway.[41]

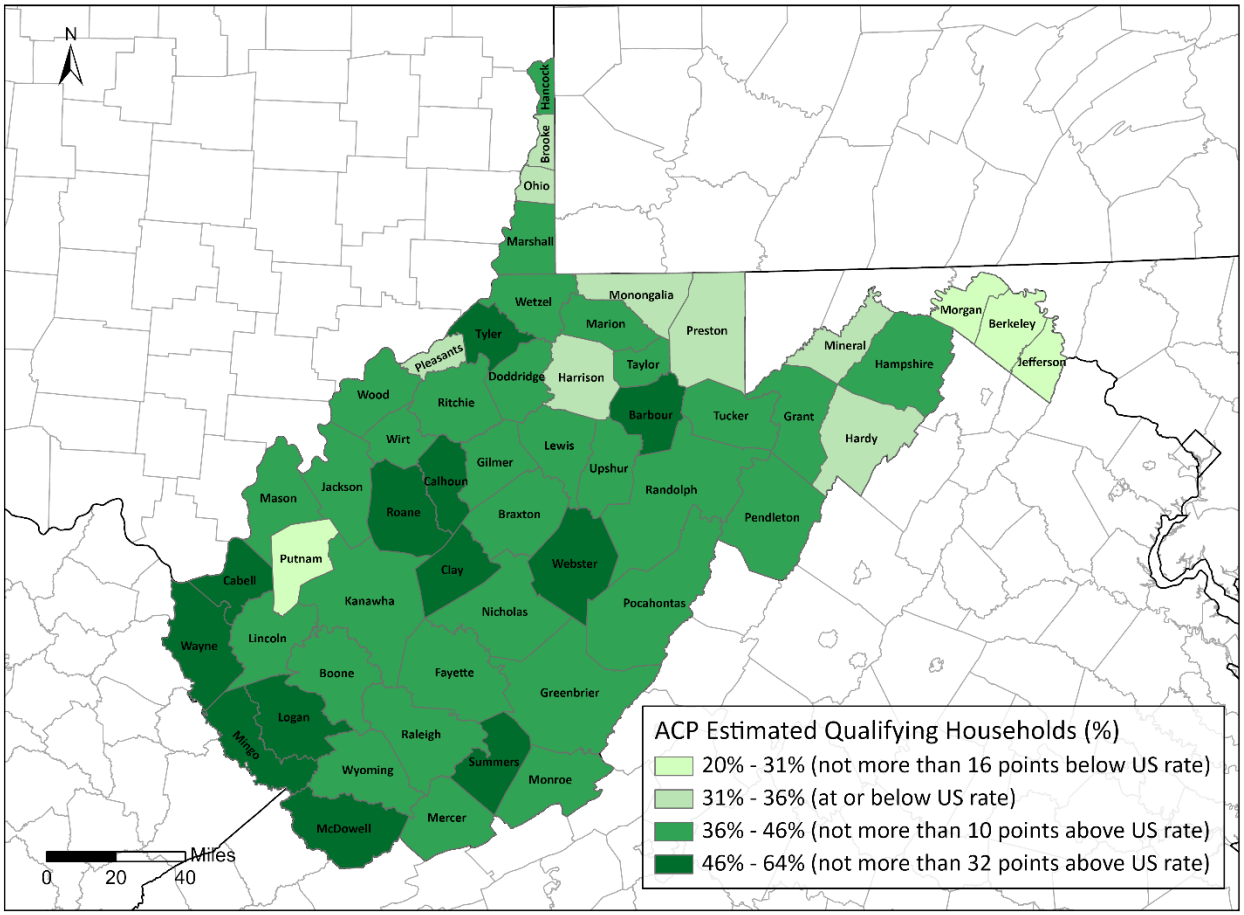
Data shows approximately 39% of West Virginian households qualify for ACP. This compares to 36% of qualified households nationwide. The 39% statistic provides a lower bound to the number of West Virginian households for whom broadband is unaffordable. Figure 9 provides a county-level estimate of West Virginian households with incomes that qualify them for ACP.

[39] Universal Service Administrative Co. ACP Enrollment and Claims Tracker: https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/.

[40] In January 2023, using a method developed by the Institute for Local Self Reliance, WVDED calculated a lower bound of the number of West Virginian households qualifying for the Affordable Connectivity Plan. This estimation uses the household income qualification for ACP alone.

[41] EducationSuperHighway, Home Page, https://www.educationsuperhighway.org/, Accessed July 10, 2023.

Figure 9: Households Qualifying for ACP Benefits in West Virginia by County



Source: Tilson Technology

RPDC Listening Service Participants (LSPs) echoed these findings. LSPs cited the cost of quality internet service as a significant barrier to adoption, especially for individuals living on fixed incomes or the per capita state average household income.[42] LSPs also emphasized poor internet quality relevant to cost, reporting service below the speeds to which they subscribed.

83.3% of RPDC #7 listening session attendees and 80% of RPDC #10 session attendees cite the high cost of service as a barrier to access and adoption.

Some LSPs, struggling with housing insecurity, stated lack of a stable home as a deterrent to adoption. One LSP commented that it was more expensive to pay for high-speed internet services than TV, phone, and cable services combined.

Many LSPs expressed the belief that Internet Service Provider monopolies and lack of competition prevent them from receiving the service they want. They also noted that in many regions, the number of subscribers is capped due to limited capacity on the Internet Service Provider's infrastructure. In these

[42] Per capita income in past 12 months (in 2021 dollars), 2017-2021 $28,671, Quick Facts West Virginia, U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/WV/INC910221#INC910221.

regions, there is a waiting list; an existing subscriber would have to cancel their subscription before the Internet Service Provider will accept a new customer.

LSPs also stated that data caps—a limit imposed on the amount of data that can be transferred over a network over the course of a certain time period—is a barrier to internet access. In many cases, data caps force households to closely monitor who uses the internet and for how long.

Listening Session feedback also noted the lack of Internet Service Provider technical support and technician retention as barriers.

3.2 Asset Inventory

The WVDED, in collaboration with the Core Planning Team, conducted an inventory of existing digital equity programs and services. Methods for collecting and validating this information include:

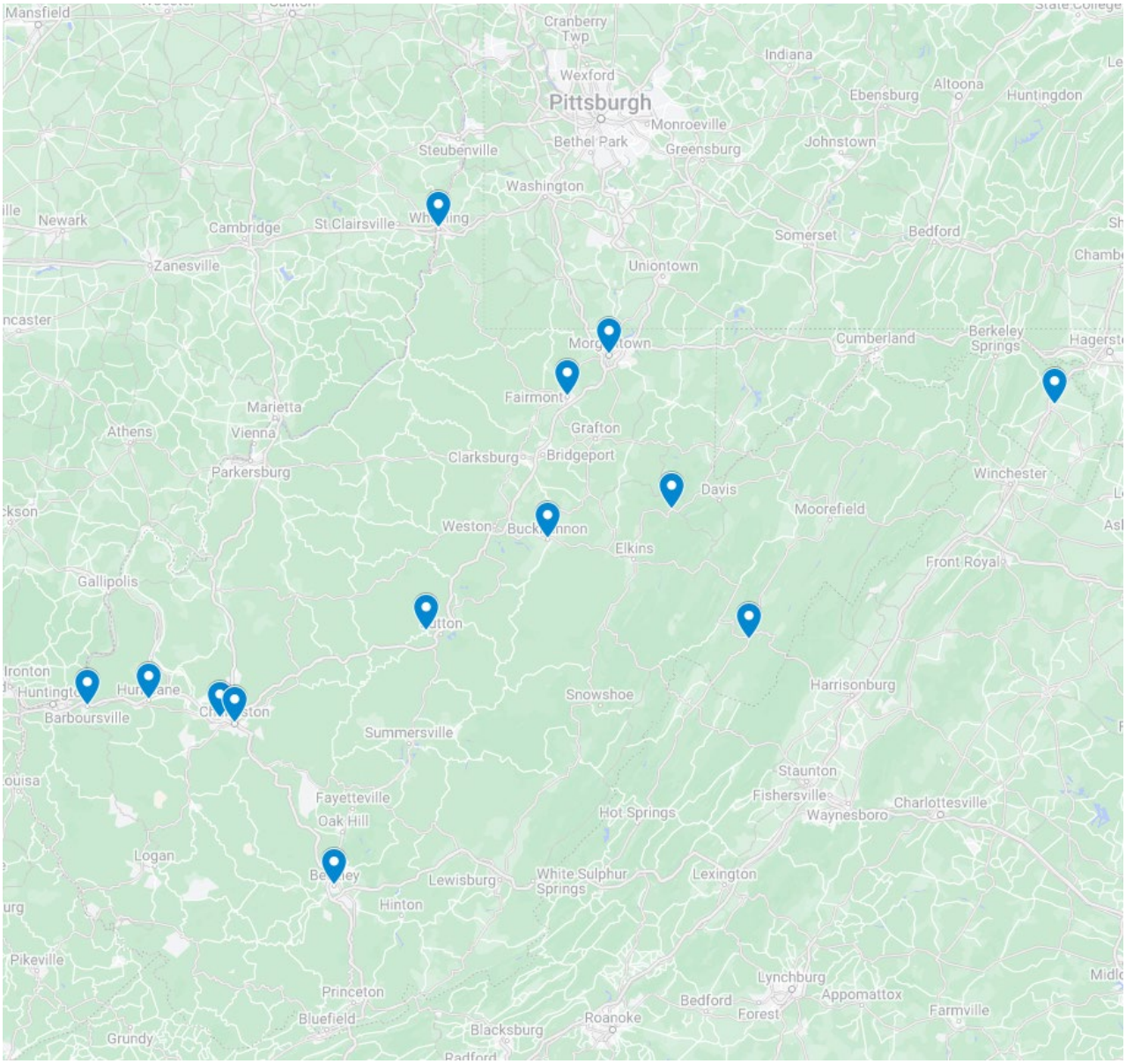
1. statewide listening sessions
2. one-on-one meetings with state cabinet secretaries, commissioners, and agency directors
3. members of the Digital Equity Steering Committee
4. outreach to organizations serving covered populations and
5. paper and electronic surveys, including the West Virginia Digital Access and Equity Survey (DAE Survey)

The DAE survey is designed to collect information regarding existing programs, activities, and skill-development opportunities in West Virginia. The survey was targeted to organizations representing or serving at least one of the eight covered populations.

Nineteen respondents completed the survey from mid-January 2023 to May 12, 2023. The 60-question survey included questions regarding digital literacy, plans that overlap with the goals and objectives of the BEAD and Digital Equity programs, and broadband service subsidies. Please note that depending on the type of respondent, the survey asked different questions to reduce length and complexity. West Virginia rigorously marketed the survey but acknowledges the barriers preventing individuals from completing it. However, West Virginia was able to supplement the survey results with other data collections methods, for example: discussions with organizations that included the survey material. Importantly, these included meetings with Internet Service Providers of various sizes that operate in West Virginia, including Armstrong, Micrologic, Citynet, Prodigi, GigaBeam, Comcast, and Frontier, as well as other stakeholders such as Appalachia Power, the West Virginia Department of Education, NTIA, EducationSuperHighway, and more. Barriers to data collection are detailed in Section 4 of the Five-Year Action Plan.

Figure 10 maps the locations of the respondents. Most respondents are in or near urban areas, which may be a result of them having both access to broadband and communication channels.

Figure 10: West Virginia DAE Survey Respondents by Location



Source: WVDED

WVDED asked all non-Internet Service Provider DAE survey respondents for information on programs or services they offer, and which covered populations they target. They were provided the following list of potential services to choose from:

- Digital literacy and digital skills training
- Subsidized or low cost-devices (e.g., computers, tablets) with affordable maintenance costs
- Awareness and outreach activities related to digital inclusion
- Public computer labs
- Digital Navigator programs
- Loaner computer/hotspot programs
- Computer refurbishing programs

- Discount or subsidized broadband service and equipment programs
- Public Wi-Fi and networks (public access points)
- One-to-one computer training programs

Figure 11 depicts the types of services these entities provide. This figure includes services that are offered on a formal, regular basis and ones that are offered on an ad-hoc basis.

Figure 11: West Virginia DAE Survey Responses: Distribution of Services by Population Groups

Type of program \ Population served	Persons who belong to the following groups: Anyone	Low-income	Veterans	Aging	Disabilities	Rural	Racial or ethnic minority	Incarcerated	With a language barrier	Other
Digital literacy and skills training	6	3	1	3	3	3	2	0	2	0
Subsidized or low-cost devices	1	2	0	1	1	1	1	0	1	0
Digital inclusion awareness or outreach activities	8	5	2	4	4	4	2	0	2	0
Public computer labs	4	2	1	2	2	2	1	0	1	0
Digital navigators	2	0	0	0	0	0	0	0	0	0
Loaner computer/hotspots	3	1	0	1	1	1	1	0	1	0
Computer refurbishment	0	0	0	0	0	0	0	0	0	0
Discount or subsidized broadband service or equipment	0	0	0	0	0	0	0	0	0	0
Public Wi-Fi and networks	5	3	1	2	2	2	1	0	1	0
One-to-one computer programs	1	1	0	1	1	1	1	0	1	0

47% of respondents did not respond regarding programs/services, 37% identified formal program(s) they offer, and the remaining 16% of respondents offer programs informally on an ad-hoc basis. The table in Appendix A.8 Complete List of Digital Equity-Related Programs in West Virginia lists the programs, both those offered on a regular basis or ad-hoc, provided by entities in West Virginia. Note that a few entities and programs may be missing because of missing or unprovided data.

The following subsections examine the current state of digital equity regarding covered populations, including existing programs and needs. Detailed breakdowns of each of the programs are provided in Appendix A.5 Detailed List of Assets by Covered Population.

1 Aging Individuals

Skills	**Senior Centers and Libraries** in West Virginia provide digital skills training for older adults, assisting with tasks like emailing, online bill payments, internet navigation, online form filling, driver's license renewal, and benefit requests or renewals through public websites.
	Pendleton Senior and Family Services offers digital literacy and skills training, conducts digital inclusion awareness and outreach activities, and provides public computer labs and Wi-Fi networks.
	Older Adults Technology Services (OATS), an AARP West Virginia affiliate, helps aging individuals learn and use technology to improve their quality of life through their program, Senior Planet, which offers free virtual training lessons, best practices for engaging older adults in virtual programming, in-person training plans, and guides for developing train-the-trainer network resources to build local organization capacity
	CyberGenerations, also known as the Senior Citizens' Cyber Safety Initiative, teaches aging adults the skills to protect themselves from cybercrimes either through workshops or a self-paced course.

2 Racial and Ethnic Minorities

Skills and career training	**Grow with Google** is a national initiative providing free digital skills workshops, tools, resources, and one-on-one coaching. The initiative is considering partnering with West Virginia's Community and Technical Colleges to offer free Google Career Certificates for students in cybersecurity, IT support, digital marketing, and e-commerce. It enrolled over 330 West Virginians in its IT Support program in 2020, with 60% of attendees being Black, Latino, women, or veterans.
	West Virginia State University, an HBCU, has partnered with Grow with Google through its HBCU Career Readiness Program. This program provides digital skills training and career workshops to Black students at over 30 institutions, equipping them for meaningful careers. It also provides funding to HBCU Career Centers for a semester-long digital skills program, which includes virtual and in-person training sessions and workshops, guest speakers, and a cloud-compatible Rocketbook Panda Planner for each participant.

3 Rural Residents

Skills and career training	**Grow with Google** collaborates with numerous community institutions in rural West Virginia for digital skills development, including libraries, commerce chambers, workforce organizations, schools, and more. Some of the participating entities include Brooke County Economic Development Authority, Cabell County Public Library, Goodwill Industries of KYOWVA Area, Inc., and West Virginia Northern Community College.
	Mary H. Weir Public Library, in partnership with Goodwill and West Virginia Northern Community College, offers an initiative where computer science students provide tech support as interns. Goodwill also offers training on the library's electronic resources.

4 Incarcerated Individuals

Skills and career training	**The West Virginia Schools of Diversion & Transition Adult Educational Programs (AEP)** support currently incarcerated individuals and those transitioning out of the system. AEP provides career readiness initiatives, academic education classes, and technical skills training. Participants earn industry-recognized credentials, partake in U.S. Department of Labor apprenticeships, and get connected to jobs through local community agencies and partners.
	Workforce West Virginia, a state agency, oversees a 12-month pilot called the Digital Inclusion Program, designed to support the state's reentry population. The program loans smartphones to help these individuals conduct online job searches and communicate with employers. It offers digital inclusion orientation, a career readiness assessment, job search activities, ongoing career coaching, assistance with participation in federal programs, high-school equivalency courses, and connections to substance use disorder treatment resources.

5 Veterans

Skills and career training	**West Virginia Veterans Upward Bound** provides Digital Equity programs for veterans, offering six-week basic and intermediate computer skills classes. Upon completion, veterans receive a Computer Skills Certificate. The organization also recently donated 10 computers to the Shepherd University Martinsburg Center for veterans and students.
Device access	**Tech For Troops** helps veterans develop computer skills and provides them with refurbished computers. They offer three types of programs: IT Training, Electronics Recycling, and Hardware Upcycling. Their Veteran Improvement Program provides low-cost refurbished computers, up-to-date software, and scholarships to qualifying Veterans and Veterans Assistance Organizations.
	The West Virginia Department of Veterans Assistance manages the West Virginia Veterans Home program, providing displaced veterans with a temporary home, meals, nursing care, housekeeping, and recreational services, along with assistance in securing permanent housing, stable income, and educational services. A technology lab is also included in the program.

6 Individuals with Disabilities

Skills and device access	**The West Virginia Division of Rehabilitation Services (WVDRS)** is a state agency providing Digital Equity programs for individuals with disabilities, offering comprehensive and individualized skills training. They also offer access to low-cost devices through the Technology-Related Assistance Revolving Loan Fund, allowing for the purchase of computers with assistive software and hardware.
	The West Virginia Schools for the Deaf and Blind (WVSDB) offer comprehensive educational programs for children with hearing and visual impairments. The WVSDB Career and Technical Education Department offers Computer Repair Systems courses that focus on hands-on, real-world applications to prepare them for post-graduation employment.[43]

[43] West Virginia School for the Deaf and Blind (WVSDB) https://www.wvsdb2.state.k12.wv.us, Accessed July 5, 2023

Devices and materials access	**The Library for the Blind and Print Disabled** provides library services to individuals unable to use traditional print materials due to various impairments. Services include assistive technology loans, braille books, descriptive videos, talking book players, and talking magazines.
	The WVU Center for Excellence in Disabilities operates the West Virginia Assistive Technology System (WVAST) Loan Library, a device loan and reuse program for individuals with disabilities. WVAST allows users to borrow assistive technology for 30 days, procure used devices for free, and participate in device demonstrations.

7 Individuals with a Language Barrier

Skills	**The West Virginia Department of Education**, through West Virginia Adult Education and the Adult Education/Literacy Programs, offers services to improve literacy skills of adults with low-literacy levels and English Language Learners (ELLs). Many counties in West Virginia have local volunteer literacy programs.
	Literacy Volunteers of Monongalia and Preston Counties, an affiliate of ProLiteracy, offers free, confidential support services to native English speakers and ELLs to improve reading, writing, listening, speaking, and computer skills.
	Summers County Adult Education (SCAE) provides in-person or online classes to help individuals with low-literacy levels and ELLs improve their English language, reading, writing, and technology skills. The program offers weekly computer classes at the Summers County Public Library and provides Digital Badges, a Computer Certificate of Achievement, and Microsoft Office Specialist and Internet and Computer Core Certificates (IC3) upon completion of training.

8 Assets Relevant to All Populations

Affordability	**The Affordable Connectivity Program (ACP)**, overseen by the Federal Communications Commission (FCC), provides eligible households in West Virginia with up to $30 per month toward internet service and up to $100 to purchase a computer or laptop from participating providers.

	West Virginia is taking steps to increase ACP enrollment by partnering with higher education institutions, conducting listening sessions, and using FCC broadband maps to identify and reach areas with coverage gaps. Internet Service Providers in West Virginia actively promote ACP enrollment, with some offering specific programs for qualifying households, such as Comcast's Internet Essentials, providing discounted internet service packages.
Skills	**The West Virginia Department of Education** offers a range of digital literacy courses and has pioneered a statewide Computer Science K-12 pathway to ensure students have access to computer science education from an early age. The West Virginia Department of Education also provides professional development opportunities for teachers in digital skills.
	CodeWV at WVU, in partnership with the West Virginia Department of Education, Code.org, and Apple, provides training for West Virginia educators to teach coding and computer science in classrooms. As of 2021, it has trained 905 teachers at 328 schools.
	The **NASA IV&V Educator Resource Center (ERC)** offers professional development opportunities for West Virginia educators in coding, robotics, and other technologies.
	The West Virginia Department of Education provides a three-credit hour online course called Digital Citizenship to active West Virginia teachers/educators and administrators, covering nine elements of digital literacy.
	West Virginia's Career Technical Education (CTE) programs, provided by WVDE, offer hands-on technical training in various fields including Information Technology (IT). Students can earn various industry-recognized certifications upon completion.
	Several **higher education institutions in West Virginia**, such as Marshall University and Eastern West Virginia Community and Technical College, offer basic, intermediate, and advanced digital literacy courses.
Skills and digital navigator programs	**The Randolph County Housing Authority and Homeownership Center**, in partnership with Highland Community Builders and Rural LISC, have launched a Digital Navigator Program. This initiative provides individualized support to community members in North Central West Virginia, assisting them in securing affordable internet service and devices, and helping them develop fundamental digital skills.
	The Morgantown Public Library System is planning to train its library staff to become Digital Navigators. This train-the-trainer model aims to equip library

	staff with the skills necessary to aid West Virginians in enhancing their digital literacy.
Device affordability	**The Federal Communications Commission**, the **WVU Center for Excellence in Disabilities**, and the **West Virginia Division of Rehabilitation Services** offer programs that provide a subsidy payment for securing an internet-capable device, devices for loan, and a low-interest loan to secure devices. These programs cover households and individuals with disabilities. WVDED is exploring partnering with Digitunity, a national organization focused on eliminating the technology gap, to see how it might align with West Virginia's efforts.
Device access	Public libraries and senior centers provide access to computers and devices
Broadband access	The **West Virginia Broadband Enhancement Council**, the **West Virginia Office of Technology**, and the **West Virginia National Guard** have developed a public, interactive map of public Wi-Fi hotspots across the state. The map was created in collaboration with local education boards, libraries, and Internet Service Providers.
	The **WV Kids Connect Initiative** was established to support K-12 students without home internet access by providing connections to a network of 1,000 Wi-Fi hotspot locations across the state. The program is a collaboration between the West Virginia Department of Education, the West Virginia Office of Technology, the West Virginia Higher Education Policy Commission, and West Virginia Network.
	WVU provided Wi-Fi hotspot resources to students and community members during the COVID-19 pandemic.
	Comcast, in collaboration with 10 not-for-profit organizations in West Virginia, established Lift Zones. These zones provide free high-capacity internet connectivity and digital educational content to communities, and according to Comcast, they have significantly contributed to increasing digital equity in the state.
	Bluefield State University, an HBCU in West Virginia, hosted a "Kids Connect" Wi-Fi hotspot at Bluefield State College in one of its field parking lots.[44] The hotspot was created for southern West Virginia public school students who may not otherwise have internet access. The "Kids Connect Initiative" offered

[44] Bluefield State University, "WiFi Hotspot for Southern WV Public School Students Now Available at Bluefield State College," https://bluefieldstate.edu/community/news-and-events/wifi-hotspot-southern-wv-public-school-students-now-available-bluefield.

	by West Virginia Governor Jim Justice's office was developed to expand broadband internet availability.
Device refurbishment	The **West Virginia Department of Education** has been running the secondlaunchWV initiative since 2015. This program collects and refurbishes unused equipment from state agencies and other partners like the West Virginia National Guard, Toyota Motor Manufacturing, and Mountaineer Gas. The updated equipment is then donated to early childhood programs and K-12 schools. As of now, almost $7 million in technology savings has been realized through the donation of 19,843 refurbished items.[45]
Digital Equity Coalition	Organizations such as Black by God participate in national coalitions like the Black Churches for Digital Equity (BC4DE). BC4DE advocates for digital equity in under-represented communities by promoting broadband assistance programs, increasing internet connectivity, training leaders for digital equity, and supporting the Affordable Connectivity Program.

3.3 Needs Assessment

The Core Planning Team sought to identify barriers to digital equity under the guiding principle of meeting people where they are. To that end, the Core Planning Team pursued information through community listening sessions and is currently preparing a randomized statewide survey. The listening sessions were completed by June 2023. Preliminary evidence from the listening sessions suggests that the target populations in West Virginia face many of the same issues relating to digital equity. The systemic barriers to digital equity include high-speed internet service affordability, securing a low-cost internet enabled device, technical support opportunities, and acquiring digital literacy skills.

Section 3.3 is organized to illustrate the overlapping nature of the barriers affecting covered populations and will focus on collective need rather than population-by-population. Section 3.3.1 provides an overview of RPDC listening sessions, how they were executed, background information, and the scale of the effort. Section 3.3.2 discusses the evidence and information garnered from these listening sessions.

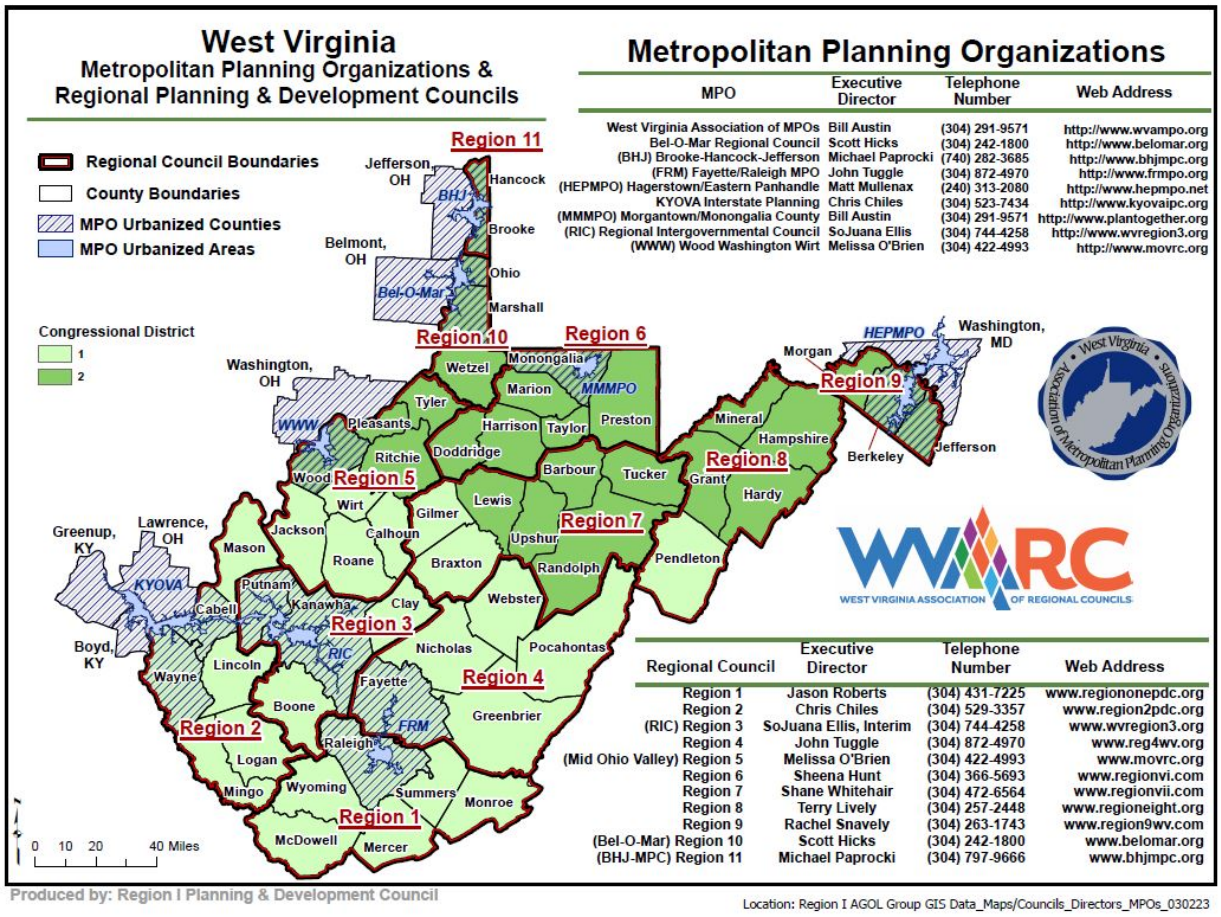
3.3.1 RPDC Listening Sessions Overview

The RPDC listening sessions sought to engage residents and communities with the greatest digital equity, access, and adoption needs. During the sessions, attendees were asked to share information about their experiences with internet and device use, internet service at home, access barriers, and digital skills and cybersecurity. Attendees were also encouraged to provide feedback on the West Virginia Digital Equity Plan draft vision statement. All answers were recorded anonymously through a Google Form.

[45] West Virginia Department of Education, "secondlaunchWV", https://wvde.us/infrastructure-and-network-operations/second-launch/, Accessed July 10, 2023.

When planning data collection, WVDED wanted trusted community partners to engage with citizens. As such, it chose the 11 West Virginia RPDCs as its partners. In 1971, the Regional Planning and Development Act divided the State into 11 regions serving as development districts "to more effectively utilize funding resources and maximize small communities' chances of attracting funds from federal, state, and local organizations to foster community and cooperation throughout the state." As stated by the West Virginia Association of Regional Councils, the RPDCs focus on expanding and improving water and sewer facilities, infrastructure, transportation, employment, industry, housing, health care, education, and recreation. Figure 12 depicts the regional boundaries.

Figure 12: West Virginia Metropolitan Planning Organizations and Regional Planning and Development Councils



Metropolitan Planning Organizations

MPO	Executive Director	Telephone Number	Web Address
West Virginia Association of MPOs	Bill Austin	(304) 291-9571	http://www.wvampo.org
Bel-O-Mar Regional Council	Scott Hicks	(304) 242-1800	http://www.belomar.org
(BHJ) Brooke-Hancock-Jefferson	Michael Paprocki	(740) 282-3685	http://www.bhjmpc.org
(FRM) Fayette/Raleigh MPO	John Tuggle	(304) 872-4970	http://www.frmpo.org
(HEPMPO) Hagerstown/Eastern Panhandle	Matt Mullenax	(240) 313-2080	http://www.hepmpo.net
KYOVA Interstate Planning	Chris Chiles	(304) 523-7434	http://www.kyovaipc.org
(MMMPO) Morgantown/Monongalia County	Bill Austin	(304) 291-9571	http://www.plantogether.org
(RIC) Regional Intergovernmental Council	SoJuana Ellis	(304) 744-4258	http://www.wvregion3.org
(WWW) Wood Washington Wirt	Melissa O'Brien	(304) 422-4993	http://www.movrc.org

Regional Council	Executive Director	Telephone Number	Web Address
Region 1	Jason Roberts	(304) 431-7225	www.regiononepdc.org
Region 2	Chris Chiles	(304) 529-3357	www.region2pdc.org
(RIC) Region 3	SoJuana Ellis, Interim	(304) 744-4258	www.wvregion3.org
Region 4	John Tuggle	(304) 872-4970	www.reg4wv.org
(Mid Ohio Valley) Region 5	Melissa O'Brien	(304) 422-4993	www.movrc.org
Region 6	Sheena Hunt	(304) 366-5693	www.regionvi.com
Region 7	Shane Whitehair	(304) 472-6564	www.regionvii.com
Region 8	Terry Lively	(304) 257-2448	www.regioneight.org
Region 9	Rachel Snavely	(304) 263-1743	www.region9wv.com
(Bel-O-Mar) Region 10	Scott Hicks	(304) 242-1800	www.belomar.org
(BHJ-MPC) Region 11	Michael Paprocki	(304) 797-9666	www.bhjmpc.org

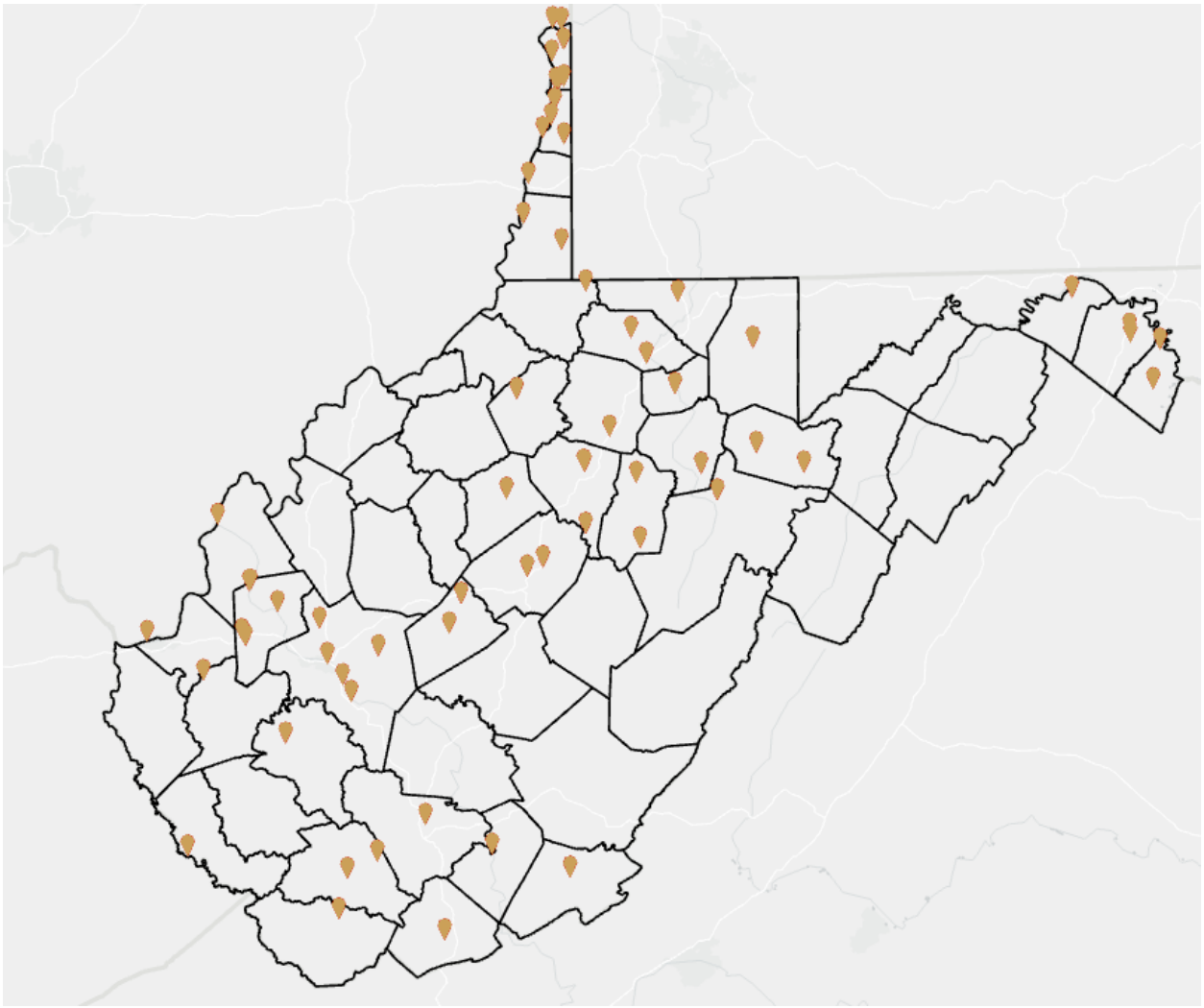
Source: Region I Planning & Development Council, https://cdn.sanity.io/files/2avbnain/production/fc5bb0201dd9e787427927a3920d544fbb16c77d.pdf

The RPDCs began holding their listening sessions in May 2023 and completed them by the first week of June 2023. The format for a listening session requires a representative sample from each of the eight target populations. To achieve this, RPDCs were given the option to either pursue a representative sample or gather a minimum number of attendees. This format nearly guaranteed that at least five individuals from each target population would be in attendance.

Under the RPDC leadership, a total of 88 small-to-mid sized listening sessions were held over a three-month period in 2023 with broad representation from members of covered populations and organizations that serve them. A total of 1,045 West Virginians attended the statewide listening sessions. Attendance

ranged from 1 to 111 community members, with an average of 11.9 attendees per listening session. Figure 13 maps the locations of each of these listening sessions.

Figure 13: Map of Where RPDCs Held Listening Sessions



Source: Data Driven WV

Data collected at listening sessions, revealed consistent themes, which are discussed in Section 3.3.2.

3.3.2 Covered Population Needs Assessment

Access and Adoption

Poor internet quality and poor internet reliability are the main barriers to high-speed internet access in West Virginia, reported across all demographics, including aging adults and veterans.

Weather conditions often disrupt connectivity, resulting in residents losing internet access sometimes for days.

Certain areas lack service entirely, with a significant number of participants reporting no home internet access. In some cases, Internet Service Providers require customers to contribute towards the cost for infrastructure deployment.

The cost of internet service often obstructs access and adoption, particularly for those on fixed incomes, disabled individuals, those experiencing housing instability, and formerly incarcerated individuals.

Participants expressed a desire for internet access in public parks and recreational areas.

Some participants suggested that a lack of local competition increases subscription costs.

Internet Service Providers' limited capacity and data caps present significant obstacles, forcing households to micromanage internet use

Many participants reported challenges with accessing technical support, long wait times for technicians, and difficulties for Internet Service Providers to retain qualified technicians.

Devices and Accessibility

Navigating state and federal websites is challenging for many LSPs, especially those with disabilities or lower literacy levels.

Physical disabilities hinder effective internet use for half of the LSPs in Region 10.

Challenges with public websites include information accessibility, layout issues, and locating updated resources.

Struggles with online resources span from 33.3% to 100% among LSPs, with formerly incarcerated LSPs facing the most difficulties.

Over 94% of LSPs at RPDC #5 sessions struggle with government websites.

Low reading levels and lack of translations exacerbate difficulties for LSPs with low literacy and English learners.

Internet access issues related to language barriers affect approximately 43% of minority LSPs and 40% of LSPs at Region 9 sessions.

Lack of knowledge and access to internet-capable devices are prominent internet access barriers, particularly among older and formerly incarcerated LSPs.

About 67% of formerly incarcerated LSPs and RPDC #10 session attendees cite lack of knowledge as a main obstacle to internet access.

Telehealth and Emergency Services

Limited connectivity hinders LSPs from accessing telehealth appointments, online medical or government services, and contacting emergency services.

Healthcare providers using telemedicine face frequent call disconnections with patients.

Many LSPs lack basic communication means, leading to critical difficulties in reaching Emergency Medical Services (EMS) during emergencies.

Previously incarcerated LSPs and attendees of RPDC #11 sessions particularly report a lack of internet access, which restricts their use of essential services.

Some LSPs have experienced extended periods without any form of communication, hindering their ability to contact the outside world or emergency services.

Due to unreliable services, alternatives like Citizens Band (CB) radio become vital for essential communication, such as with elderly relatives.

Reliable internet, cell phone, radio, and landline services are crucial for first responders, the elderly, and individuals with health conditions.

Education and Economic Opportunities

The digital divide has significant impacts on education and economic opportunities for LSPs.

Limited internet access hampers the creation of economic opportunities and access to essential services for LSPs.

LSPs often need to seek alternative locations, such as parking lots or community institutions, to access the internet.

Unstable internet access during the COVID-19 pandemic resulted in learning losses for children and hardships for parents.

Lack of connectivity poses challenges for businesses, leading to payment difficulties and financial losses.

LSPs face obstacles in working from home and applying for jobs online.

Lack of connectivity diminishes the attractiveness of communities for residents and businesses, restricting investment opportunities.

Civic and Social Engagement

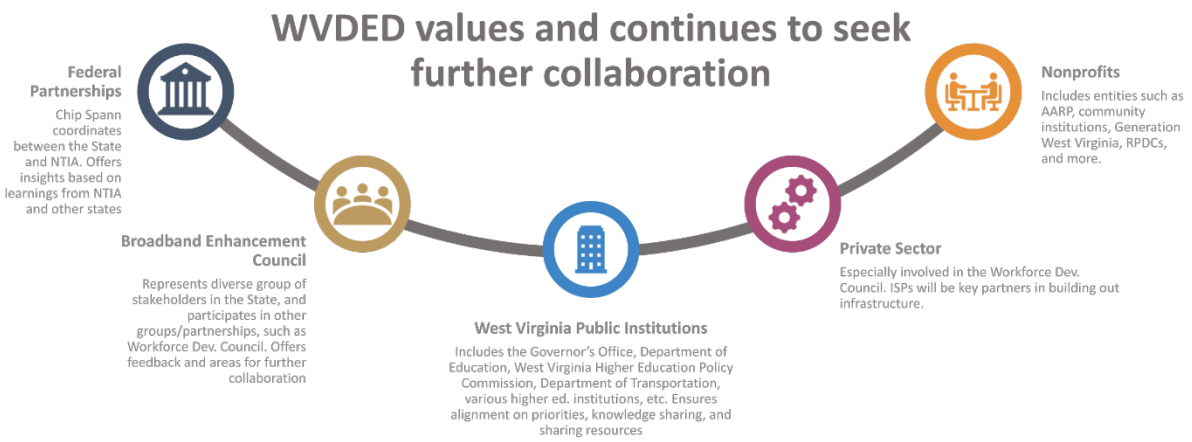
Lack of internet access hampers social and familial connections, especially for aging individuals who cannot connect with children living outside the state.
Inability to procure internet access reduces LSPs' ability to access information and entertainment, as reported by 31% of RPDC #7 session attendees.
Individuals with disabilities and RPDC #3 LSPs also face challenges accessing information and entertainment due to connectivity issues.
Slow internet speeds result in significant delays, with websites taking up to 30 minutes to load and file downloads or photo transfers taking hours or even a full day.
LSPs often need to schedule in-person appointments at government agencies due to the inability to sign up or renew benefits online.
Streaming videos, watching sports online, and playing video games are not possible for many LSPs due to connectivity issues.
Data caps restrict internet usage, preventing LSPs from allowing visitors to access the internet at their homes and requiring micromanagement of online activities, including blocking high-data usage websites.

4. Collaboration and Stakeholder Engagement

4.1 Key Collaborators and Constituencies

As noted throughout this document, West Virginia views bridging the digital divide as a collaborative effort. As such, WVDED has sought to engage with stakeholders throughout every step of the process, benefiting from their knowledge, input, expertise, and resources where possible. This includes stakeholders at the federal, state, and local levels. As WVDED executes its Implementation Plan, it will continue working with these entities. Figure 14 details some of the entities included as key partners in the WVDED's digital equity planning process.

Figure 14: Examples of WVDED Stakeholders and Collaborative Partners



The remainder of this section examines these relationships and WVDED's plans for continuing to engage stakeholders of all types throughout execution of its Digital Equity Plan.

4.1.1 The Core Planning Team and Digital Equity Steering Committee

The WVDED formed the Core Planning Team and Digital Equity Steering Committee at the outset of its digital equity efforts. The Core Planning Team was created to assist WVDED in all aspects of developing and drafting the Five-Year Action Plan and Digital Equity Plan. This included research, outreach, material creation, and drafting as needed. The Steering Committee worked closely with the Core Planning Team to provide guidance, advice, and recommendations. The Committee provided valuable information about digital equity efforts across the state and other organizations that could aid digital equity efforts.

Members of Core Planning Team include representatives from Tilson Technology Management; the Marshall University Center for Business and Economic Research; WVU's Startup West Virginia, Data Driven West Virginia, Land Use and Sustainability Law Clinic, Survey Research Center, and Bureau of Business and Economic Research; and WVDED. Under the guidance of the Steering Committee, WVDED and the

Broadband Enhancement Council are coordinating outreach activities, Digital Equity Plan development, and long-term plan implementation.

The Committee also includes representatives of organizations that serve covered populations including AARP West Virginia, Generation West Virginia, the West Virginia Library Commission, and the West Virginia Broadband Enhancement Council. The Committee meets monthly and provides input on the West Virginia Digital Access and Equity Survey, RPDC Community Engagement Plans, the Digital Equity Subgrantee Pilot Program, and the West Virginia Digital Equity Plan.

4.2 Past Coordination Efforts

The WVDED works closely with the West Virginia Broadband Enhancement Council to expand broadband throughout West Virginia. The West Virginia Broadband Enhancement Council was created in 2017 and is advisory to the WVDED Office of Broadband. The Council has 13 voting members and a Democratic and Republican appointee from both the Senate and House of Representatives. The four additional appointees 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 WVDED utilizes this open meeting to provide regular updates to the Council and the public.

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 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.[46]

4.2.1 Internet for All West Virginia Kickoff Conference

On February 1, 2023, WVDED and the West Virginia Broadband Enhancement Council co-hosted the Internet for All West Virginia Kickoff Conference in collaboration with the Core Planning Team. The event served as the official announcement of West Virginia's Participation in the Digital Equity Act and the BEAD Program. WVDED and the Broadband Enhancement Council designed the conference to build awareness about the Digital Equity Act and BEAD programs, recognize groups that are advancing digital equity and broadband infrastructure in West Virginia, and provide a roadmap for plan development and stakeholder engagement.

A broad range of organizations attended the conference, including the RPDCs; community action groups, community-based organizations, and community services providers; statewide public libraries; senior centers and organizations that serve aging individuals; civil rights organizations and groups that support

[46] West Virginia Code, § 31G-1-1, et seq, http://www.wvlegislature.gov/WVCODE/code.cfm?chap=31G&art=1.

racial and ethnic minorities; rural health organizations; groups that serve English learners, low-literacy populations, youth, and covered households; and statewide re-entry councils.

The Conference also provided an opportunity for the WVDED to recognize the leadership efforts of organizations to bridge the digital divide and enhance broadband infrastructure. Eight entities received the 2023 Champions of Connectivity Award, which recognizes entities that have taken notable steps in bridging the digital divide. This year's awarded were:

- **Black By God**
- **The West Virginian**
- **Generation West Virginia**
- **Innovative Community Solutions**
- **Morgantown Public Library System**
- **Mountain State Digital Literacy Project**
- **Region 1 and Region 4 Planning and Development Councils**

4.2.2 Collaborating with State Agencies

As part of plan development, the Core Planning Team conducted a series of meetings with key representatives of state agencies that serve one or more covered population. The intent of the meetings was to create a joint strategy to catalyze the state agencies' goals for the BEAD and Digital Equity Plans.

Participating Agencies

- West Virginia Department of Veterans Assistance
- West Virginia Department of Transportation
- West Virginia Department of Environmental Protection,
- West Virginia Department of Homeland Security
- West Virginia Department of Tourism
- West Virginia Bureau of Senior Services
- Herbert Henderson Office of Minority Affairs
- West Virginia Department of Health and Human Resources
- West Virginia Department of Education

4.2.3 Outreach to Community Organizations

Working with its partners, listed in Figure 15, the Core Planning Team provided an overview of the Digital Equity Act and BEAD Programs which included the overall funding goals of both programs, alignment between the Digital Equity and Five-Year Action Plans, and the status of the development of each plan; shared information about accomplishments to date; and strategies for stakeholder and community engagement. In addition to the programs update, the Core Planning Team requested a collaboration with state agencies to help share information about ACP, the Digital Access and Equity Survey, and upcoming listening sessions. In many cases, leaders at each of the state agencies connected the Core Planning Committee to the appropriate individuals within the agencies to provide feedback or disseminate information about ACP, the DAE Survey, or listening sessions on behalf of WVDED. The exchange of ideas resulted in suggestions by agency representatives about how best to connect with the covered populations the agencies serve. Conversations with agency members also provided insight into the challenges faced by covered populations—further informing WVDED's efforts.

Under the direction of the WVDED, the Core Planning Team conducted outreach to local, regional, federal, and national organizations that directly or indirectly serve covered populations. These organizations provided insight for the development of the Digital Equity Plan. Below is a comprehensive list of organizations that have provided strategic guidance to the Core Planning Team.

Figure 15: Organizations that Provided Guidance to the Core Planning Committee

Organizations That Provided Guidance to the Core Planning Committee

- Morgantown Public Library System
- Appalachian Regional Commission
- Herbert Henderson Office of Minority Affairs
- West Virginia Department of Education
- West Virginia's 11 RPDCs
- Innovative Community Solutions
- Mountain State Digital Literacy Project and Learning.com
- West Virginia Community Health Worker Workforce Advisory Consortium
- Digitunity
- EducationSuperHighway and 50 State
- ConnecTrain Corp and U.S. Economic Development Administration
- Housing and Urban Development Charleston Field Office
- West Virginia Economic Justice Project
- Communication Service for the Deaf
- National Skills Coalition
- Comcast

4.2.4 Statewide Listening Sessions

The WVDED and the Broadband Enhancement Council recognize the value of engaging West Virginia's 11 RPDCs. The RPDCs are multi-county organizations that focus on facilitating and coordinating community-driven, regionally-driven economic development. The RPDCs are trusted community partners with a statewide reach, close community connections, and extensive experience in hosting community conversations.

The RPDCs were trained to facilitate virtual and in-person listening sessions for West Virginia's covered populations and communities. The listening sessions were designed to provide the Core Planning Team with critical information for West Virginia's Digital Equity and Five-Year Action Plans.

Each RPDC was provided with training and a Listening Session Toolkit. This ensured that facilitators had a shared understanding of session goals, and that feedback was recorded uniformly. The toolkit included:

Components of the Toolkit

- Information about West Virginia's Digital Equity Plan and Five-Year Action Plan
- A list with key terms and definitions
- A contact list of digital equity organizations in West Virginia
- A scope of work and a best practices document
- Frequently asked questions (FAQ)
- A listening session questions document
- A link to the listening session reporting form

Listening session feedback was recorded anonymously and submitted by the RPDCs through a Google Form.

The RPDCs hosted a total of 88 listening sessions over a three-month period in 2023. A total of 1,045 West Virginians attended the listening sessions – all members of one or more covered populations – with an average of 11.9 participants per session (attendance ranged from 1 to 111 participants). Many members of the Core Planning Team also attended the listening sessions.

4.2.5 Marketing and Communications Plan

The West Virginia Department of Commerce Communications (Commerce Communications) team worked with the Core Planning Team to develop a marketing and communications plan to broadly share information about the Digital Equity Act and BEAD Programs. Commerce Communications also assisted with disseminating the schedule and locations of listening sessions, instructions about how to complete the Digital Equity Asset Inventory Form, shared information about Digital Equity Grant opportunities, invited participation in the online and paper survey, and more. Importantly, Commerce Communications facilitated ongoing dialogue with the Governor's Office, managing press releases and proclamations for media release to elevate the importance of West Virginia's digital equity initiative.

The marketing and communications plan capitalized on multiple communications channels to reach West Virginia's covered populations and communities, including the Internet for All West Virginia website, social media, radio advertising, and traditional print. The Core Planning Team also leveraged the networks and dissemination channels of partner organizations that work with covered populations, including the Digital Equity Steering Committee.

4.2.6 Internet for All West Virginia Website

The Internet for All West Virginia website, which was launched in February 2023, was developed to disseminate information about West Virginia's participation in the Digital Equity Act and BEAD Programs and provide a centralized location to engage with stakeholders and communities. The website includes information about how to enroll in the Affordable Connectivity Program, upcoming events and listening sessions, guidance on completing Consumer Complaint with the West Virginia Office of the Attorney General, the Core Planning Team and Digital Equity Steering Committee membership, and a link to the West Virginia Digital Access and Equity Survey.

The DAE Survey, as detailed in Section 3.2, was designed to collect information from statewide organizations, agencies, offices, and businesses that improve digital equity in West Virginia. This information helped inform the State's digital equity asset inventory. The Core Planning Team, in collaboration with the West Virginia Department of Commerce Communications Team, will continue to update the Internet for All website throughout the implementation of the Digital Equity Act and BEAD Programs.

4.2.7 Online and Paper Surveys

In addition to the statewide listening sessions, the Core Planning Team is in the process of gathering input from West Virginia's covered populations and communities through online and paper surveys developed by Thomas P. Miller and Associates (TPMA). The Core Planning Team engaged with TPMA to collect responses that would add additional context to previous findings and contact individuals that might not have been able to attend the RPDC listening sessions. As with the rest of the data collection plan, this process is in line with WVDED's focus on meeting people where they are. The Digital Equity Steering Committee and the WVU Survey Research Center provided feedback during the creation of the survey. TPMA worked with the WVDED, the Core Planning Team, and the Digital Equity Steering Committee to identify potential distribution lists and strategies for reaching unconnected West Virginians, including through U.S. Mail surveys. The survey closing date is July 30, 2023. Results from this survey are forthcoming and will further inform West Virginia's BEAD and Digital Equity initiatives.

4.3 Key Topics and Recommendations from Outreach Activities

The Core Planning Teams outreach efforts resulted in a robust list of key topics and recommendations for plan implementation.

Digital Navigator Programs

Expand Digital Navigator Programs to leverage public library staff to provide technology training and access to online services.

Additional Targets for Outreach

- Aging individuals that raise their grandchildren
- Health departments
- Housing authorities
- Food banks
- West Virginia Human Rights Commission
- The Partnership for African American Churches
- The REACH Initiative/West Virginia Reentry Councils
- Workforce West Virginia
- West Virginia Alliance of Recovery Residences
- Jobs and Hope West Virginia
- The Appalachian Prison Book Project
- Catalyst Ministries

Coordinate with Existing Programs

- Align with the West Virginia Department of Education's effort to collect digital equity data
- Outreach to programs supporting justice impacted individuals and the families of the incarcerated
- Establish connections and partnerships with free, low-cost, and refurbished internet device providers
- Work with the West Virginia Commission for the Deaf and Hard of Hearing to encourage the use of online accessibility functions to the private sector
- Capitalize on the state's housing authority's bi-annual conferences for ACP education
- Expand participation in ACP with outreach to USDA Supplemental Nutrition Assistance program recipient households and by engaging with West Virginia Department of Education Title I coordinators
- Engage with Reentry Resources supporting formerly incarcerated individuals

4.4 Public Comment

WVDED is organizing and coordinating a 30-day public comment period upon completion of a full draft Digital Equity Plan. Through social media and traditional outreach methods, such as physical postings, WVDED is inviting West Virginians to provide public comment prior to the publication of the final plan. The draft Digital Equity Plan is being linked to the Internet for All West Virginia website and physical copies of the Plan provided to the public by select Community Anchor Institutions and the Regional Planning and Development Councils.

4.5 Plan Implementation: Partners

The Digital Equity Steering Committee and the Core Planning Team have identified many groups in West Virginia that have either demonstrated interest in partnering with the WVDED or have committed to be engaged in different phases of the plan's implementation. Below is a preliminary working list of entities the WVDED plans to engage in the execution of the Digital Equity Plan. The WVDED anticipates that additional implementation partners will be identified throughout this process, including through the West Virginia Digital Equity Pilot Program

Groups That Serve Covered Populations and Lead Digital Equity and Inclusion Initiatives

As detailed in Section 3.2, there are many groups in West Virginia that provide Digital Equity programs to members of covered populations, including digital literacy and digital skills training, public computer labs, public networks, digital navigator programs, subsidized or low-cost devices, and loaner/computer hotspots programs.

A preliminary list of state agencies and organizations that the WVDED has identified, through its digital equity asset inventory, as potential collaborators for implementation of the West Virginia Digital Equity Plan follows:

Covered Households

- West Virginia Department of Health and Human Resources: ACP awareness, promotion, and enrollment
- FCC's Affordable Connectivity Program: Subsidy for the payment of an internet subscription; subsidy for purchasing an internet-enabled device.
- EducationSuperHighway: ACP awareness, promotion, and enrollment

Incarcerated Individuals

- West Virginia Division of Corrections and Rehabilitation: Outreach to incarcerated individuals; ACP awareness and promotion.
- Workforce West Virginia: Access to internet-enabled devices; digital literacy training (Google's Career Readiness for Reentry).
- WVDE West Virginia Schools of Diversion & Transition: Outreach to incarcerated and formerly incarcerated individuals; digital skills training.
- The REACH Initiative/West Virginia Reentry Councils: Outreach to incarcerated and formerly incarcerated individuals; ACP awareness and promotion.

Individuals with Disabilities

- West Virginia Division of Rehabilitation Services: Outreach to individuals with disabilities; ACP awareness and promotion; internet-enabled devices; digital skills training
- WVU Center for Excellence in Disabilities: Internet-enabled devices

Rural Residents

- Mountain State Digital Literacy Project: Digital literacy training to K-8, adults, and older adults
- Morgantown Public Library System: Digital navigator program; access to public computers; access to Wi-Fi hotspots/networks
- Putnam County Library System: Access to public computers, Wi-Fi hotspots/networks, mobile Wi-Fi hotspot, and internet enabled-devices
- Gassaway Public Library: Digital skills training; access to public computers; access to Wi-Fi hotspots/networks
- Mary H. Weir Public Library: Access to public computers; access to Wi-Fi hotspots/networks; technical support
- Career Tech West Virginia: Digital skills training
- Grow with Google Initiative West Virginia Participants: Digital skills training.
- Randolph County Housing Authority, Homeownership Center, Highland Community Builders, and Rural LISC: Digital navigator program
- Community Centers: Access to public computers; access to Wi-Fi hotspots/networks

Aging Individuals

- West Virginia Bureau of Senior Services: Outreach to aging individuals; ACP awareness and promotion
- AARP West Virginia: ACP awareness and promotion; OATS/Senior Planet free one-year licenses
- Senior Centers: Digital literacy training; internet-enabled devices; access to Wi-Fi hotspots/networks
- Public Libraries: Digital literacy training; access to public computers; access to Wi-Fi hotspots/networks

Veterans

- West Virginia Department of Veterans Assistance: Outreach to veterans; ACP awareness and promotion
- CyberGenerations: Internet-enabled devices; digital skills training
- West Virginia Veterans Upward Bound: Digital skills training; access to public computers
- Tech For Troops: Internet-enabled devices; digital skills training
- West Virginia Veterans Home: Access to public computers; access to Wi-Fi hotspots/networks

Individuals with a Language Barrier

- West Virginia Department of Education Adult Education/Literacy Programs: Outreach to individuals with a language barrier; digital skills training
- Literacy Volunteers of Monongalia and Preston Counties: Digital skills training; access to public computers; access to Wi-Fi hotspots/networks
- Summers County Adult Education: Digital skills training; access to public computers; access to Wi-Fi hotspots/networks

Racial or Ethnic Minorities

- Herbert Henderson Office of Minority Affairs: Outreach to racial or ethnic minorities; ACP awareness and promotion
- Black by God: Outreach to racial or ethnic minorities; ACP awareness and promotion
- Innovative Community Solutions: Digital skills training
- West Virginia State University: Digital skills training (Grow with Google Career HBCU Career Readiness Program)
- West Virginia NAACP Chapters: Outreach to racial or ethnic minorities; ACP awareness and promotion

5. Implementation

WVDED and its stakeholders have developed an implementation plan to successfully meet the goals outlined in this document. This strategy takes a holistic approach and includes activities that address the identified barriers to digital equity. Section 5.1 outlines the overall strategies for accomplishing the objectives outlined in Section 2.1 and discusses the major variable cost identified for completing many of these efforts: drive time and distance. Section 5.2 then offers a timeline for these activities.

5.1 Implementation Strategy and Key Activities

5.1.1 Strategies

Upon completion of the Digital Equity Plan, WVDED will continue working with its existing partners, including the Core Planning Team and Digital Equity Steering Committee. In addition, the WVDED will continue outreach to additional agencies and organizations as new initiatives are developed.

Through its involvement in organizations and groups that promote digital equity, the WVDED will also undertake an analysis of relevant case studies and pilot programs from other states and municipalities throughout the nation. International programs will also be considered for new perspectives and frameworks. For instance, a growing body of literature exists on the domains of digital skills from the European Union. One such publication is the Digital Competence Framework for Citizens (DigiComp) that provides a common understanding of digital competence. The latest publication from the Publications Office of the European Union provides more than 250 new examples of knowledge, skills, and attitudes that help citizens engage confidently, critically, and safely with digital technologies.[47]

In the near term, the rest of the section outlines the basic steps that WVDED and other stakeholders will take to accomplish the goals referenced throughout this document. This work is already underway through the WVDED Digital Equity Pilot Program. The WVDED launched the Digital Equity Pilot Program to help support and expand digital equity initiatives in West Virginia. Applications were accepted until June 15, 2023. This program will be expanded and continued upon receipt of additional funding.

Funds Available: A total of $25,000 is available for this pilot program. Applicants may apply for grants of $2,500 or $5,000. Eligible applicants include units of local government, libraries, community and economic development agencies, educational institutions and programs, and nonprofit organizations.

Eligible Activities: To address West Virginia's internet service gaps and its digital divide, funds will be used to support innovative programs that support, promote, and enhance digital equity in West Virginia. Applications under this announcement will be evaluated on the following criteria:

a. The degree to which the project will increase economic development in an underserved or unserved area will receive higher priority.
b. Projects that demonstrate adequate capacity to administer the project will receive higher priority.

[47] Vuorikari, R., Kluzer, S. and Punie, Y., DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes, EUR 31006 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-48882-8, doi:10.2760/115376, JRC128415.

c. Projects that demonstrate detailed and measurable outcomes will receive higher priority.
d. Projects that demonstrate a high degree of demand from end users for the project services will receive higher priority.

The WVDED has also applied to the FCC Affordable Connectivity Outreach Grant Program and National Competitive Outreach Program (NCOP) Round 2 to secure funds that will support additional outreach activities.

Each of the boxes below expands on the goals listed in Section 2.1 by providing the key steps required to accomplish them.

Goal 1: Realize Affordable Connectivity

Objective 1.1: Increase enrollment in the Affordable Connection Program, contingent on the continued funding for the program
1.1.1 Because WVDED will have information on what houses will receive broadband connections through the BEAD program, it will generate a list of homes in the affected areas and distribute mailers with information on ACP. These mailers will be distributed in tranches leading up to service availability. WVDED will pursue additional funds for these efforts through the FCC's NCOP.
1.1.2 WVDED will create standardized procedures from Internet Service Providers to use when individuals sign up for service to ensure that those who qualify for ACP are at least aware of it. WVDED will then meet with the Internet Service Providers to ensure buy-in and that these procedures are carried out.
1.1.3 Scale the West Virginia 211 to provide information about the ACP to all callers.
1.1.4 Work with State Government Partners to develop a process for automatically enrolling qualified citizens in ACP as recipients of other income-based assistance programs.
Objective 1.2: See BEAD Five-Year Plan
See BEAD Five-Year Plan.

Goal 2: Secure Device Access and Affordability

Objective 2.2: Create a program to provide device distribution, lending, and recycling
2.1.1 Break down the number of individuals who do not have a computing device into more granular figures, such as by age and which of the target population categories they belong to.
2.1.2 Work with existing partners that have experience managing programs to bring free or low-cost devices to individuals who need them and develop a comprehensive plan that addresses device procurement, advertisement, distribution, and maintenance.
2.1.3 Establish channels for procuring devices, such as donations from businesses and individuals, low-cost devices from manufacturers, and avenues for subsidies and Learn to Earn-style programs.
2.1.4 Create device distribution channels by partnering with a minimum number of entities in localities with individuals who need devices. For instance, work with the Department of Education to create pathways to device ownership after graduation.

2.1.5 Explore avenues for device lending programs to fill gaps that ownership cannot.

2.1.6 Form device recycling program for end-of-life devices and tie this to other state and county-level recycling efforts.

2.1.7 Develop a campaign to advertise the availability of these devices to individuals who need them.

2.1.8 Execute and adjust the plan, as necessary.

Objective 2.2: Ensure citizens receive technical assistance for their newly acquired devices

2.2.1 Improve access to technical support by collaborating with libraries and other community organizations to implement a statewide Digital Navigator Program.

2.2.2 Consider implementing a Digital Natives model in collaboration with higher education institutions with student volunteers to assist residents with use of internet-enabled devices.

2.2.3 Conduct technology fairs and engage government IT and students studying computer science to provide basic device-use skills.

Goal 3: Secure Device Access and Affordability

Objective 3.2: Make digital literacy training in cybersecurity, privacy, telehealth, and more, available to all West Virginians, including all covered populations

3.1.1 Work with public libraries to launch a statewide Digital Navigator Program for library staff to provide introductory digital skills training to residents

3.1.2 Partner with Digital Navigators to provide digital skills training through senior centers (WV Bureau of Senior Services, etc.) and other community organizations working with covered populations

3.1.3 Explore partnerships with organizations that are conducting related work including the Mountain State Digital Literacy Project

3.1.4 Study models to launch a Peer Learning Program (digital natives to empower West Virginians to educate their family members and friends on digital literacy

3.1.5 Collaborate with West Virginia Navigate to include digital literacy training providers in the Aging and Disability Resource Network

3.1.6 Collaborate with relevant organizations and training and education providers to (1) help residents acquire a foundation in technology through digital skills training and (2) offer intermediate technology courses and advanced computer certifications

3.1.7 Partner with an organization to create a user-friendly Digital Citizenship Guide/West Virginia Guide to Technology, in digital and hard-copy formats, tailored to each covered population

3.1.8 Leverage existing funds/annual allocations to advance digital equity and inclusion

Objective 3.2: Ensure websites and online services hosted by state agencies are accessible for all West Virginians

3.2.1 The Governor's Office should request that each state agency report on the status of compliance with WCAG and Section 508 standards

3.2.2 Based on the above findings, each state entity that either does not comply with established standards or is not sure should have the Office of Technology audit their websites and service pages for compliance and gaps

3.2.3 Using the list of gaps, the Office of Technology should procure an entity to ensure compliance with the aforementioned standards

5.1.2 Prioritizing Need Through Analysis of Drive Time

West Virginia has the highest percentage of covered populations in the nation, 97%, as defined by the Digital Equity Act.[48] Given the large proportion of residents belonging to covered populations, it is critical to determine where the need for digital equity resources is most acute. Resources are finite, so funding must be keenly directed. The Core Planning Team, supported by the leadership of Data Driven WV, pursued a method of accurately, objectively, and comprehensively categorizing areas of need for digital equity in West Virginia. Note that this will not be the only method that WVDED uses to determine how funds should be allocated. Rather, it will provide a tool to look at possible allocation models from a more objective vantage.

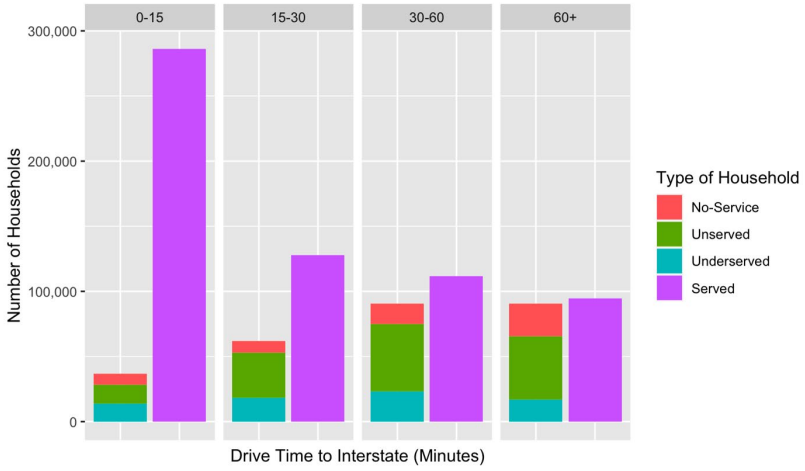
Methodology

Quickly, the State determined that simply using census data or the funding formula used by NTIA to determine state funding allocations would not suffice. The federal formula's reliance on household-level census data presents a critical limitation, as such granular data is not readily available for West Virginia. Moreover, the State's abundant covered populations skew the formula's effectiveness since rural residents account for a large portion of the covered populations. Attempts to use clustering models based on census data yielded results primarily segregated by population density, which prompted exploration of measures that describe rurality more accurately.

After a significant amount of data exploration and analysis, the Core Planning Team identified the "Drive Time to an Interstate" (DTI) as a primary metric for prioritizing areas for investment. Defined more precisely, DTI means the amount of time it takes for an individual to drive from their home, or any other BSL, and reach an interstate highway. Interstate drive times offer a robust measure of rurality and can highlight areas with higher variable costs for digital equity programs. For instance, digital skills training, device distributors, computer labs, and more are all more likely to grow scarcer the more distance individuals must drive to reach an interstate. This holds true for broadband access as well, and Figure 16 shows the inverse relation between drive time from the interstate and broadband access.

[48] United States Census Bureau, Digital Equity Act of 2021, "Total Covered Populations under Digital Equity Act of 2021," https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html, last accessed July 7, 2023.

Figure 16: Count of Household Type by Drive Time to Interstate



Source: Data Driven WV

In effect, DTI can act as a proxy for variable costs to provide services. These drive times capture the geographical and infrastructural challenges of broadband access. Yet, drive times inversely correlate with minority populations and non-native English speakers, necessitating the inclusion of additional metrics. To account for the factors poorly addressed by DTI, Data Driven WV sought proxies for these other factors. The number of multi-unit buildings and the relative veteran population are other significant metrics that can inform funding allocation. Multi-unit buildings correlate with the covered population in areas with short interstate drive times. By allocating funding to initiatives that aid multitenant buildings, it is possible to help many people needing digital equity services. Including the relative veteran population ensures an equitable distribution of resources for this unique demographic group. Additionally, a portion of the funding is dedicated to inmate initiatives, considering the unique challenges incarcerated individuals face in digital equity and inclusion. The distribution of this allocation will be based on relative inmate populations.

Resulting Theoretical Formula

The proposed formula for allocating digital equity funding can be formulated as follows:

$$DigitalEquityAllocation =$$
$$\left[\frac{1}{2}\cdot(\text{Relative Population})+\frac{1}{32}\cdot(\text{Relative Veteran Population})+\frac{1}{16}\cdot(\text{Relative Multi-Tenant Buildings})+\frac{3}{8}\cdot(\text{Relative Interstate Drive Time Score})\right]$$
$$\times\text{Total State Digital Equity Allocation}$$

Where the following ratio provides the Relative Interstate Drive Time Score:

$$\frac{4\cdot(\text{Households in Region 60+ min})+3\cdot(\text{Households in Region 30-60 min})+2\cdot(\text{Households in Region 15-30 min})+1\cdot(\text{Households in Region 0-15 min})}{4\cdot(\text{Households in WV 60+ min})+3\cdot(\text{Households in WV 30-60 min})+2\cdot(\text{Households in WV 15-30 min})+1\cdot(\text{Households in WV 0-15 min})}$$

Conclusion

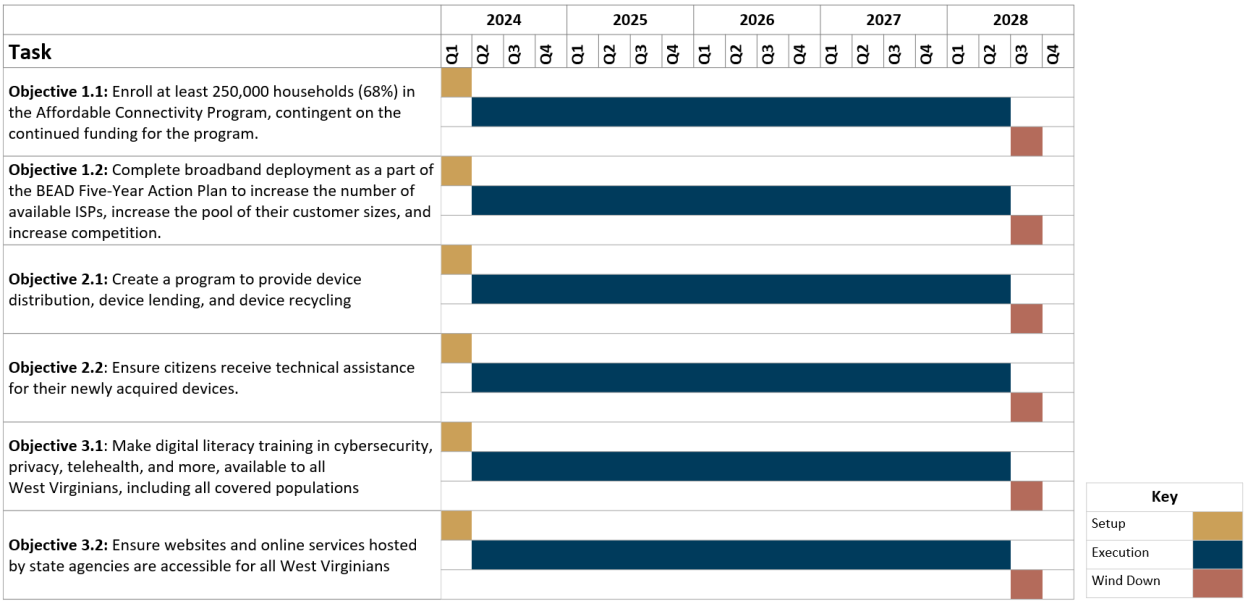
This new approach offers a more targeted and cost-effective strategy to address digital equity in West Virginia by prioritizing interstate drive times and considering the variable costs of implementing Digital Equity programs. It presents a fair and sensible method of allocating funding, considering the unique challenges and costs of service delivery in different geographical and demographic contexts.

5.2 Timeline

This section provides a proposed timeline for the implementation of West Virginia's Digital Equity Plan broken down by goals, objectives, and strategies, based on the Key Performance Indicators included in Section 2 of the Plan. Strategies, in this context, are the core activities to achieve goals 1 through 5 and their related objectives. The strategies outlined below will be carried out by a Digital Equity Coalition, which will be created and launched in the second half of 2024 under the leadership of the West Virginia Department of Economic Development and the Core Planning Team. During plan implementation, WVDED will act as a convenor, facilitator, connector, and champion of digital equity and inclusion efforts in the state.

The proposed timeline (Figure 17) begins with a ramp up phase (gold) followed by execution (gray) and windup process (red), from the third quarter of 2024 through the third quarter of 2028. Although the time between the ramp up and execution phases may shift based on revised needs and capacity.

Figure 17: Timeline for the Implementation of the Digital Equity Plan



6. Conclusion

For the purposes of this draft, please see Section 1 Executive Summary for the Conclusion and pertinent details.

Appendices

A.1 Definitions

Key Terms and Definitions

Below is a list of key terms used throughout West Virginia's Digital Equity Plan together with their definitions. This Plan adopts the definitions provided by the National Telecommunications and Information Administration – a federal agency that is principally responsible for advising the President on telecommunications and information policy issues – and the National Digital Inclusion Alliance – a national not-for-profit organization that advances digital equity by supporting community programs and equipping policymakers to act.

Affordability: The ability of a consumer to access a good or service at a cost not damaging to their overall financial wellbeing.

Community Anchor Institution: Community Anchor Institution means a public school, a public or multi-family housing authority, a library, a medical or healthcare provider, a community college or other institution of higher education, a state library agency, and any other nonprofit or governmental community support organization.

Digital Divide: The Digital Divide is the gap between those who have affordable access, skills, and support to effectively engage online and those who do not. As technology constantly evolves, the digital divide prevents equal participation and opportunity in all parts of life, disproportionately affecting people of color, Indigenous peoples, households with low incomes, people with disabilities, people in rural areas, and older adults.

Digital Equity: Digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is necessary for access to essential services, civic and cultural participation, employment, and lifelong learning.

Digital Inclusion: Digital Inclusion refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs), including:

- Reliable fixed and wireless broadband internet service
- Internet-enabled devices that meet the needs of the user
- Applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration
- Access to digital literacy training and quality technical support
- Basic awareness of measures to ensure online privacy and cybersecurity

Digital Literacy: Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information. A person with digital literacy skills:

1. possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats

2. can use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information
3. understands the relationship between technology, lifelong learning, personal privacy, and stewardship of information
4. uses these skills and the appropriate technology to communicate and collaborate with peers, colleagues, family, and on occasion, the public
5. uses these skills to actively participate in civic society and contribute to a vibrant, informed, and engaged community

Disability: Disability means, with respect to an individual:

1. a physical or mental impairment that limits one or more major life activities of such individual
2. a record of such an impairment
3. being regarded as having such an impairment

Rural Area: Rural Area means any area other than:

1. a city or town that has a population of greater than 50,000 inhabitants
2. any urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants
3. in the case of a grant or direct loan, a city, town, or incorporated area that has a population of greater than 20,000 inhabitants

Veteran: Veteran means a person who served in the active military, naval, air, or space service, and who was discharged or released under conditions other than dishonorable.

West Virginia Covered Populations: West Virginia's Covered Populations means:

1. individuals who live in covered households (households with incomes at or below 150% of the poverty level)
2. aging individuals (60 years of age or older)
3. incarcerated individuals, other than individuals who are incarcerated in a federal correctional facility
4. veterans
5. individuals with disabilities
6. individuals with a language barrier, including individuals who:
    i. are English learners
    ii. have low levels of literacy
7. Individuals who are members of a racial or ethnic minority group
8. Individuals who primarily reside in a rural area.

A.2 Supplementary Tables

Table 2: Expanded People Who Own a Computer in West Virginia and the United States

	United States		West Virginia		Difference between %s
	Estimate	%	Estimate	%	
One or more types of computing devices:	115,397,459	93.05	622,923	87.57	-5.48
Desktop or laptop	97,830,488	78.89	490,022	68.89	-10.00
Desktop or laptop with no other type of computing device	4,705,149	3.79	41,284	5.80	2.01
Smartphone	107,227,652	86.47	543,797	76.45	-10.02
Smartphone with no other type of computing device	10,793,298	8.70	76,443	10.75	2.05
Tablet or other portable wireless computer	78,367,808	63.19	396,700	55.77	-7.42
Tablet or other portable wireless computer with no other type of computing device	1,085,378	0.88	13,615	1.91	1.03
Other computer	3,237,976	2.61	12,540	1.76	-0.85
Other computer with no other type of computing device	30,800	0.02	210	0.03	0.01
No Computer	8,613,533	6.95	88,429	12.43	5.48
Total	**124,010,992**		**711,352**		

A.3 Complete List of Relevant Plans & Strategies

Plan Level	Entity	Plan/Strategy	Related Concept
State	WV Dept. of Education	WV's State Plan for the American Rescue Plan Elementary and Secondary School Emergency Relief Fund, 2021	Digital Equity
State	WV Dept. of Education	West Virginia's Strategic Plan, July 6, 2021	Connectivity
State	Governor's Office; WV Dept. of Economic Development; Community Advancement and Development Division	The West Virginia ARC Program, January 7, 2022	Workforce Development
State	WV Dept of Commerce		
State	WV Forward		Economic Development
State	West Virginia Agricultural Advisory Board	A shared agenda for growing West Virginia's Agricultural Economy, 2018, A Shared Agenda for Growing West Virginia's Agricultural Economy – Five Year Strategic Plan	Community Benefit
State	West Virginia Department of Transportation	2050 Multimodal Long-Range Transportation Plan (LRTP), September, 2021	
State	The State of West Virginia, WVU, and Marshall University	West Virginia Forward: Strategy for Economic Development and Job Growth	Economic Development
State	West Virginia Department of Health and Human Resources	Maternal and Child Health Services Title V Block Grant, September, 2021	Telehealth
State	West Virginia Geological and Economic Survey Office of GIS Coordination	State Broadband Initiative Program, West Virginia Broadband Mapping Program, Technical Assistance Grant Program	Economic Development
State	West Virginia Library Commission	West Virginia Library Commission: Annual Report 2022	Community Benefit

Regional	Region 1 Planning and Development Council	Region 1 Broadband Strategic Plan, 2013	Connectivity
Regional	Design Nine Broadband Planners	Broadband for Clay, Calhoun, and Roane Counties: Improving Broadband Access, 2019	Other
Regional	Citynet	Broadband Feasibility Study	Connectivity
Regional	Thompson & Litton and Blue Ridge Advisory Services Group	Broadband Development and Implementation Study For West Virginia Regional Planning & Development Councils Regions 1 & 4 and Regional Optical Communications (ROC), February 28, 2020	Connectivity
Regional	Magellan Advisors, LLC	Brooke-Hancock Area Broadband Development Plan, September 15, 2022	Connectivity
Regional	Design Nine Broadband Planners	Technical Broadband Development Plan Jefferson County, West Virginia, Fall 2020	Connectivity
Regional	Design Nine Broadband Planners	Morgan County Broadband: Improving Broadband Access	Connectivity
Regional	Citynet	Broadband Feasibility Study Completed by Citynet for Northern Panhandle Broadband Network, November 20, 2022	Connectivity
Regional	Design Nine Broadband Planners	Phased Broadband Plan: Clay, Calhoun, and Roane Counties, 2019	Connectivity
Regional	Region 4 Planning and Development Council	Broadband Strategic Plan, 2013	Connectivity
Regional	Regional Intergovernmental Council (Region 3 PDC)	Regional Broadband Strategic Plan, 2014	Connectivity
Regional	Region 1 Planning and Development Council	Comprehensive Economic Development Strategy, 2022	Economic Development
Regional	Region 2 Planning and Development Council	Comprehensive Economic Development Strategy, 2020-2024	Economic Development
Regional	Region 3 Planning and Development Council	Comprehensive Economic Development Strategy, 2022	Economic Development
Regional	Region 4 Planning and Development Council	Comprehensive Economic Development Strategy, 2020	Economic Development

Regional	Region 5 Planning and Development Council	Comprehensive Economic Development Strategy, 2021	Economic Development
Regional	Region 6 Planning and Development Council	Comprehensive Economic Development Strategy, 2022-2026	Economic Development
Regional	Region 7 Planning and Development Council	Comprehensive Economic Development Strategy, 2021-2025	Economic Development
Regional	Region 8 Planning and Development Council	Comprehensive Economic Development Strategy, 2022	Economic Development
Regional	Region 9 Planning and Development Council	Comprehensive Economic Development Strategy, 2019-2023	Economic Development
Regional	Region 10 Planning and Development Council	Comprehensive Economic Development Strategy, 2019-2023	Economic Development
Regional	Region 11 Planning and Development Council	Comprehensive Economic Development Strategy, 2020-2025	Economic Development
State	West Virginia Health Care Authority	West Virginia Health Information Infrastructure: Broadband Availability for Health Care Programs in West Virginia, October 2011	Telehealth
State	West Virginia Broadband Enhancement Council	Broadband Development Guide: Cites several WV broadband plans	

A.4 Digital Equity Steering Committee Details

Digital Equity Steering Committee Members

Angela Vance	Associate State Director, Advocacy, WV AARP
Roger Calhoun	Member, Rural Residential User, West Virginia Broadband Enhancement Council
Angela Vance	Volunteer, AARP WV
Alex Weld	Executive Director, Generation WV
Annie Stroud	Broadband Coordinator, Generation WV
Donna Calvert	Director, Special Services, WV Library Commission

Digital Equity Steering Committee Rules:

Come prepared and be present.

Everyone participates.

Listen respectfully and with an open mind.

Stay on point and on time.

Have one conversation.

Adopt a problem-solving orientation.

Work toward consensus decisions. This means all views should be heard and concerns addressed.

A.5 Detailed List of Assets by Covered Population

Aging Individuals

Senior Centers and libraries are the primary providers of digital skills training for older adults in West Virginia. Senior center staff assist clients in answering emails, paying bills online, navigating the internet, filling out online forms, renewing their driver's licenses, and redeeming benefits through public websites. For example, Pendleton Senior and Family Services offers digital literacy and digital skills training, conducts digital inclusion awareness and outreach activities, and provides public computer labs and Wi-Fi networks to members of the public.

The Older Adults Technology Services (OATS) program, an AARP West Virginia affiliated organization, helps aging individuals learn and use technology to improve their quality of life. OATS provides curated resources to support seniors' use of technology through a program called Senior Planet. OATS offers the Senior Planet program exclusively through its branch offices and affiliate organizations. Senior Planet resources include:

- free virtual training lessons on topics such as smartphone use, video meeting services, cloud storage, internet privacy, and digital tools for advocacy
- best practices for engaging aging adults in virtual programming
- plans for in-person training
- guides for train-the-trainer network resources which build the capacity of local organizations serving older adults[49]

Currently, Senior Planet is only offered through OATS. However, the organization is interested in offering free, one-year Senior Planet licenses to upskill trainers in other organizations serving older adults.

The CyberGenerations program, also known as the Senior Citizens' Cyber Safety Initiative, provides aging adults with the skills to protect themselves from cybercrimes. The CyberGenerations program can be completed either as a group workshop or a self-paced course. Program topics include Introduction to Cybersecurity, Password Management, Common Internet Threats, Internet Scams and Fraud, and Social Media Safety.

Racial and Ethnic Minorities

Grow with Google is a national initiative that offers free digital skills workshops, tools, and resources, as well as one-on-one coaching to local communities. Grow with Google is interested in partnering with West Virginia's Community and Technical Colleges to offer free Google Career Certificates for students completing two-year degree courses in cybersecurity, IT support, digital marketing, and e-commerce. In 2020, more than 330 West Virginians enrolled in the IT Support program and, on average, 60% of those who took the courses are Black, Latino, women, or veterans. Students who obtain a certificate can also earn up to 15 college credits.

[49] Older Adults Technology Services, "Senior Planet Licensing Program," https://oats.org/licensing/, accessed June 16, 2023

West Virginia State University (WVSU) is a HBCU located in Institute, West Virginia. WVSU's HBCU Career Readiness Program recently partnered with the Grow with Google Program for digital skills training to advance business and careers. The HBCU Career Readiness Program offers Black students at over 30 colleges and universities digital skills training and career workshops to ensure that these students are well-positioned to compete for meaningful careers. The program provides HBCU Career Centers with funding and a semester-long digital skills program. In addition to digital skills training sessions and workshops with guest speakers, each WVSU student in the program receives a cloud compatible Rocketbook Panda Planner, a reusable planner that allows students to scan, save, and share notes through their cloud service of choice.

Bluefield State University, an HBCU in West Virginia, hosted a "Kids Connect" Wi-Fi hotspot at Bluefield State College in one of its field parking lots.[50] The hotspot was created for southern West Virginia public school students who may not otherwise have internet access. The "Kids Connect Initiative" offered by West Virginia Governor Jim Justice's office was developed to expand broadband internet availability.

Rural Residents

Grow with Google is a frequent CAI partner in rural West Virginia. Referenced in Section 3.2, Grow with Google works with local libraries, chambers of commerce, workforce development organizations, veteran-focused organizations, state and local government, schools and universities, and other key community anchor institutions. Some of the organizations in West Virginia that currently participate in the initiative include:

- Brooke County Economic Development Authority
- Business Development Corporation
- Cabell County Public Library
- Goodwill Industries of KYOWVA Area, Inc.
- Huntington Area CVB
- Huntington Regional Chamber of Commerce
- Mary H. Weir Public Library
- Northern Panhandle Workforce Development Board
- Unlimited Future Inc.
- West Virginia Northern Community College

As another initiative of Mary H. Weir Public Library (MHWPL), it partners with Goodwill and the West Virginia Northern Community College. Computer science students enrolled at the West Virginia Northern Community College can serve as interns at the MHWPL as part of their coursework and offer technical software and hardware support to library staff. Goodwill, in turn, sends employment skills trainers to MHWPL to provide training on the use of the library's electronic resources, including business software.

[50] Bluefield State University, "WiFi Hotspot for Southern WV Public School Students Now Available at Bluefield State College," https://bluefieldstate.edu/community/news-and-events/wifi-hotspot-southern-wv-public-school-students-now-available-bluefield.

Incarcerated Individuals

The West Virginia Schools of Diversion & Transition (WVSDT) offers Adult Educational Programs for individuals who are incarcerated in state-operated facilities and those who have transitioned out of the system. Adult educational programs provide career readiness initiatives, classes, and technical skills training designed to support a successful transition back into the community. WVSDT offers courses including HiSET (high school equivalency), Microsoft Office, C-Tech (Copper/Fiber), and Bridging the Gap. Participants earn industry-recognized credentials, take part in U.S. Department of Labor apprenticeships, and get connected to jobs in the state through local community agencies and partners.

Workforce West Virginia, a state agency that oversees a network of workforce development services, has a 12-month pilot called the Digital Inclusion Program. The program is designed to provide coordinated services and resources for the State's reentry population. Workforce West Virginia, in partnership with a consortium of organizations including the West Virginia Division of Corrections and Rehabilitation, Parole Services, Probation Offices, and regional Reentry Councils, is working to identify 100 individuals to participate in the pilot program supporting justice-impacted individuals. Potential participants must have been released or scheduled for release from incarceration. The pilot program will loan smartphones with voice, text, and data plans to help justice-impacted individuals conduct online job searches and communicate with prospective or current employers. Upon successful completion of the program, Workforce West Virginia will give the device to the individual.

The pilot program offers digital inclusion orientation through Google's Career Readiness for Reentry, a career readiness assessment, job search resources, and ongoing career coaching. The Digital Inclusion Program also offers customized career services to assist individuals who wish to participate in federal programs and complete high-school equivalency courses, and it connects individuals struggling with substance use disorders with treatment resources.

Veterans

West Virginia has one of the highest per capita rates of Armed Forces veterans in the United States. Some former members of the armed forces have acquired technology skills through their military service, while others need opportunities to upskill or reskill into civilian industries that require digital skills.[51]

West Virginia Veterans Upward Bound provides Digital Equity programs for veterans. The organization helps connect West Virginia veterans with skills classes and opportunities to obtain certifications, diplomas, and degrees. West Virginia Veterans Upward Bound offers six-week computer skills classes at the basic and intermediate levels. These often take place at local higher education institutions or community centers, including the Shepherd University Martinsburg Center and the Marion County Adult and Community Education Center. Veterans receive a Computer Skills Certificate of Completion when they complete the course. The organization also recently donated 10 computers to the Shepherd University Martinsburg Center for use by veterans and students taking classes at the Center.

[51] National Skills Coalition, Federal Bank of Atlanta, "Closing the Digital Skill Divide," February 2023, https://nationalskillscoalition.org/wp-content/uploads/2023/02/NSC-DigitalDivide_report_Feb2023.pdf.

Tech For Troops, an organization based in Virginia that focuses on bridging the digital divide through gifting refurbished computers and helping veterans develop computer skills, has provided training to at least 70 veterans in West Virginia. Tech for Troops offers three types of programs:

1. IT Training
2. Electronics Recycling
3. Hardware Upcycling

The Tech for Troops Veteran Improvement Program (VIP) provides low-cost refurbished computers to qualifying Veterans and Veterans Assistance Organizations. The computers include an up-to-date operating system and software for tasks such as word processing and browsing the internet. VIP also provides scholarships, which can be applied toward the cost of securing a device.

The West Virginia Department of Veterans Assistance manages the West Virginia Veterans Home program, which provides displaced veterans with a temporary home, meals, nursing care, housekeeping, recreational services, and support securing permanent housing and a stable income. As a part of this, Veterans Home provides former members of the armed forces with educational services, employment assistance, and a technology lab.

Individuals with Disabilities

The West Virginia Division of Rehabilitation Services (WVDRS) is a state agency with a mission to empower individuals with disabilities to work and live independently. WVDRS is one of the State's main providers of Digital Equity programs for individuals with disabilities. WVDRS provides comprehensive and individualized skills training, allowing clients with blindness, visual impairments, permanent or temporary handicaps, or learning disabilities to live independently. The customized three to nine months training program includes computer literacy, assistive technology, access technology training, individual counseling, and career development. WVDRS also provides access to low-cost devices through the Technology-Related Assistance Revolving Loan Fund for Individuals with Disabilities. The loan program can be used to purchase computers with assistive software and hardware. The program offers loans ranging from $500 to $50,00, intending to cover 90% of the device or service cost.

The Library for the Blind and Print Disabled offers direct library services to individuals and groups who cannot utilize traditional print due to visual impairment, blindness, temporary or permanent handicap, or learning disabilities. The library provides assistive technology loans, braille books, descriptive videos, NFB Newsline, talking book players, and talking magazines.

The WVU Center for Excellence in Disabilities operates the West Virginia Assistive Technology System (WVAST) Loan Library a device loan and reuse program for individuals with disabilities and their circles of support. WVAST aims to allow West Virginians of all ages and abilities to make informed decisions about securing accessible devices. WVAST allows users to borrow assistive technology for 30 days, procure used devices for free, and schedule appointments to take part in device demonstrations.

The West Virginia Schools for the Deaf and Blind (WVSDB) offer comprehensive educational programs for children with hearing and visual impairments. The WVSDB Career and Technical Education Department

offers Computer Repair Systems courses that focus on hands-on, real-world applications to prepare them for post-graduation employment.[52]

Individuals with a Language Barrier

The West Virginia Department of Education, through WV Adult Education and the Adult Education/Literacy Programs, offers many services for adults with low-literacy levels and English Language Learners (ELLs). Many counties in West Virginia have local volunteer literacy programs that help adults gain and improve their literacy skills. ELA meets the needs of adult ELLs, including United States citizens, immigrants, temporary residents, and those who live in a family or community where English is not the primary language. For example, Literacy Volunteers of Monongalia and Preston Counties offers free, confidential, and research-driven support services to native English speakers and ELLs. Their support includes helping adults develop reading, writing, listening, speaking, and computer skills. This organization is an affiliate of the largest adult literacy and basic education membership organization in the United States, ProLiteracy.

The Summers County Adult Education (SCAE) also offers in-person and online classes to individuals with low-literacy levels and ELLs who would like to learn English and improve reading, writing, and/or technology skills. Computer classes are offered once a week at the Summers County Public Library and cover topics such as typing practice and online safety standards. Upon completion of training, participants can earn Digital Badges, a Computer Certificate of Achievement, and Microsoft Office Specialist and Internet and Computer Core Certificates (IC3).

Assets Relevant to All Populations

The State of West Virginia has long recognized statewide gaps in broadband access, affordability, and adoption. One of the State's goals through the Digital Equity program will be to unify many of these efforts and capitalize on the existing resources garnered throughout this process. While the preceding text focuses on programs addressing specific target populations, the following text examines the many ongoing programs to improve the state of digital inclusion for a wide range of populations.

Affordability

The Affordable Connectivity Program serves as an example of one of the most successful digital inclusion programs in the State. Congress, through the IIJA, created ACP as a replacement for the Emergency Broadband Benefit program. Overseen by the FCC, ACP provides a discount of up to $30 per month toward internet service for eligible households in West Virginia. Additionally, eligible households can also receive a one-time discount of up to $100 to purchase a desktop computer or laptop from participating providers if they contribute more than $10 and less than $50 toward the purchase.

As discussed in Section 3.1.2, West Virginia has made progress in increasing enrollment of ACP, where 13 of the 55 counties meet or exceed national ACP uptake rates. Like in many states, rural access across West Virginia sees an enrollment rate well below the national average, due to the high marginal outreach

[52] West Virginia School for the Deaf and Blind (WVSDB) https://www.wvsdb2.state.k12.wv.us, Accessed July 5, 2023

cost of reaching rural individuals. West Virginia has and will continue to employ the following strategies to increase ACP enrollment:

1. Working with higher-education institutions to increase awareness of the benefits and availability of the ACP to West Virginians.
2. Conducting listening sessions across the state to understand how residents and other covered populations are using broadband technology.
3. Using broadband maps provided by the FCC to understand where coverage gaps exist and leverage such data to inform residents in such locations about the ACP program.

Internet Service Providers have played a role in ACP's increasing success as well. All of the eight Internet Service Providers WVDED interviewed are actively encouraging and promoting ACP enrollment.[53] Some Internet Service Providers, particularly regional or national Internet Service Providers, offer programs specifically designed for ACP-qualifying households. For instance, Comcast offers Internet Essentials, which offers 50/10 Mbps for $9.95 per month or 100/20 Mbps for $29.95. Both of which may be completely free depending on ACP eligibility.

Digital Literacy and Skills, and Workforce Development

West Virginia has many digital literacy training opportunities, including those provided by the West Virginia Department of Education, Workforce West Virginia, and higher education institutions. The West Virginia Department of Education offers computer skills courses through its statewide network of Adult Education/Literacy Programs, including IC3 & Certiport Testing, Microsoft Office Certification, Basic Computer Skills, Computer Literacy, and WIN Online Courseware, including a Digital Literacy course designed to provide participants with the skills needed to navigate technology in the workplace.

The West Virginia Department of Education is a pioneer in developing a Computer Science K-12 pathway for all students in West Virginia with a focus on expanding the program to schools in rural areas. West Virginia was one of the first states in the nation to enact a law requiring that students have access to computer science education in elementary school and be provided a variety of computer science opportunities during their K-12 education[54]. The law also mandates that teachers have computer science learning opportunities as part of their professional development. The State plans to offer computer science education in all schools in West Virginia. According to the 2022 State of Computer Science Education: Accelerating Action Through Advocacy report, 78% of West Virginia public schools offered foundational computer science courses in the 2021-2022 school year, ranking it nineth in the country.[55]

CodeWV at WVU (CodeWV), a partnership between WVU, the West Virginia Department of Education, Code.org and Apple, provides professional training opportunities for West Virginia educators to teach coding and computer science in the classroom. Offered to elementary, middle, and high school teachers, the program aims to bring computer science courses into schools, improve West Virginia's computer science learning standards, and help define the requirements for computer science teaching certification. CodeWV offers an interactive map of West Virginia Computer Science Trained Educators, which lists the course title and name and address of the school. The free program is self-described as "the highest-rated"

[53] WVDED, "Interviews with ISPs for BEAD and DE," Between April 17 and May 15, 2023.
[35] State of West Virginia Code, Chapter 18 Education Article 2, Department of Education §18-2-12. Computer science courses of instruction; learning standards; state board plan development, 2019
[55] State of West Virginia, "2022 State of Computer Science Education," https://advocacy.code.org/state-handouts/WestVirginia.pdf.

by teachers.[56] As of 2021, CodeWV has trained 905 teachers, including 660 elementary school teachers, 162 middle school teachers, and 83 high school teachers at 328 participating schools. Additionally, the NASA IV&V Educator Resource Center (ERC) provides professional development opportunities for West Virginia educators in coding, robotics, and other technologies.

The West Virginia Department of Education offers a three-credit hour online course called Digital Citizenship to active West Virginia teachers/educators and administrators. Digital Citizenship encapsulates the norms of appropriate, responsible behavior concerning technology use.[57] The course covers nine elements of digital literacy, developed by the International Society for Technology in Education (ISTE), including digital access, digital commerce, digital communication, digital etiquette, digital health and wellness, digital law, digital literacy, digital rights and responsibilities, and digital security.

West Virginia's Career Technical Education (CTE) programs, also known as Career Tech WV, are provided by the West Virginia Department of Education and designed to empower students to explore potential careers in 16 CTE clusters through several hands-on, technical training programs, including one focused on Information Technology.[58] The IT course covers topics including design, development, support, and management of hardware, internet, multimedia, software, and systems integration services. The High School Programs of Study include Coding, App and Game Design, Cisco Networking Academies, Computer Science, Computer Systems Repair Technology, Informatics, Information Management, and Virtual Simulation and Game Development. Upon completion of the Program of Study of choice, students can earn an Autodesk Certification, CCNA/Cisco Certified Entry Level Technician (CCENT), CompTIA A+ 220-901 & 220-902, CompTIA Network +N10-006 & +N10-007, IC3 (Internet Core Competency Certification), or Microsoft Office Specialist (MOS) & Master Certification.

Many West Virginia higher education institutions offer basic, intermediate, and advanced digital literacy courses. Examples include the Marshall University's[59] Intro to Digital Literacy and Advanced Digital Literacy and the Eastern West Virginia Community and Technical College's[60] Digital Literacy course.

Digital navigator programs

The Randolph County Housing Authority and Homeownership Center have partnered with Highland Community Builders and Rural LISC to launch a Digital Navigator Program to serve Randolph, Tucker, Barbour, Upshur, and Lewis Counties. The program offers one-on-one or small group support to

[56] CodeWV, "Curriculum Breakdown," https://codewv.wvu.edu/curriculum-breakdown, accessed June 16, 2023
[57] West Virginia Department of Education, "2022-2023 Three-Credit Hour Course: Digital Citizenship," https://wvde.us/wp-content/uploads/2022/08/Digital-Citizenship-Syllabus.pdf, August 2022; archived version available here: https://web.archive.org/web/20230201092256/https://wvde.us/wp-content/uploads/2022/08/Digital-Citizenship-Syllabus.pdf.
[58] Career Technical Education, "Information Technology," https://wvde.us/wp-content/uploads/2022/10/careertechwv_it.pdf, October 2022
[59] Marshall University, "MARSHALL UNIVERSITY REGISTRAR SCHEDULE OF COURSES Complete Undergraduate Listing, Fall 2022 (AUG 22-DEC 09)," https://mubert.marshall.edu/scheduleofcourses.php?term=202301&subject=%25&showschedule=U&campuses=%7CH%7C&termparts=%7C1%7C2%7C3%7C, accessed June 16, 2023
[60] Eastern Virginia CTC, "Digital Literacy Final Rubric," https://easternwv.edu/wp-content/uploads/Final-DL-Rubric.pdf, accessed June 16, 2023

community members in North Central West Virginia who may need assistance with securing affordable home internet service, affordable internet-enabled devices, and/or learning foundational digital skills to become effective internet users. Digital Navigators help by telephone or through safe, in-person visits; by email, text, video chat; and any other communication method that works best for the community member. Digital Navigators provide an individualized approach to meeting the needs of clients, including assessing their current digital skills level, especially related to what they would like to accomplish online, access to technology, connectivity needs, internet use priorities, and much more.

The Morgantown Public Library System also plans to develop a train-the-trainer model to provide professional development opportunities to library staff statewide so they can become Digital Navigators. The library aims to leverage and enhance the digital skills of library staff so they can continue to play a leading role in connecting with West Virginians. Although not a formal program, librarians and senior center staff already serve as digital navigators to many West Virginia communities, especially for older adults.

Low- and no-cost devices and affordable maintenance

As previously noted, the Federal Communications Commission, the WVU Center for Excellence in Disabilities, and the West Virginia Division of Rehabilitation Services offer programs that provide a subsidy payment for securing an internet-capable device, devices for loan, and a low-interest loan to secure devices. These programs cover households and individuals with disabilities. WVDED is exploring partnering with Digitunity, a national organization focused on eliminating the technology gap, to see how it might align with West Virginia's efforts.

Existing Internet Service Provider adoption programs (e.g., adoption campaigns, Lifeline, ACP)

The West Virginia Department of Commerce' Communications Team has launched a statewide traditional and social media campaign to encourage eligible West Virginians to sign up for the Affordable Connectivity Program. The campaign, which ran throughout May 2023, targeted retired veterans, Supplemental Nutrition Assistance Program (SNAP) recipients, Medicaid recipients, single households making under $29,000, two-person households making less than $38,000, four-person households making less than $50,000, and other relevant groups.

Public computing labs

While the need for public community labs can be expanded, public libraries and senior centers are providing access to users. Other notable providers include the Kanawha City Community Center, the Martin Luther King Jr. Community Center, the Northern Charleston Community Center, the Roosevelt Community Center, and the A. D. Lewis Community Center.

Loaner computer/hotspot programs

The Broadband Enhancement Council, WVDED, and the West Virginia National Guard have developed a public, interactive map (also available as an interactive list) with the location of public Wi-Fi hotspots across the state. The map was created in collaboration with local boards of education, libraries, and Internet Service Providers. The West Virginia Wi-Fi Locations Map web page also includes a list of guidelines and best practices for safely using the statewide Wi-Fi locations as well as a form for communities to submit missing public Wi-Fi locations.

The WV Kids Connect Initiative was created to support the learning needs of K-12 students who do not have access to the internet at home. The program is designed to support children outside of school hours by connecting them to a network of 1,000 Wi-Fi hotspot locations across the state. Wireless connection points include K-12 schools, libraries, colleges, and state parks. The interactive map was produced by the West Virginia Department of Education, WVDED, the West Virginia Higher Education Policy Commission, and West Virginia Network.

During the COVID-19 pandemic, WVU shared Wi-Fi hotspot resources with student and community members.

Additionally, Comcast partnered with 10 not-for-profit organizations in West Virginia including the AD Lewis Center, the Boys & Girls Club of Martinsburg, the North Wheeling Community Youth Center, and Boys & Girls Club Eastern Panhandle to establish Lift Zones. Lift Zones provide free internet connectivity – high capacity, commercial grade Wi-Fi – to communities, as well as hundreds of hours of digital skills and educational content to help communities navigate online learning. According to the results of a survey with Lift Zones consumers and site directors, 92% of respondents indicated that Lift Zones helped to increase digital equity in communities and 40% would not have had internet access without Lift Zones.

Computer refurbishment programs

Since 2015, the West Virginia Department of Education has operated the secondlaunchWV initiative, which collects devices no longer being used by state agencies. The equipment is then donated to early childhood programs and K-12 schools at no cost. The donated equipment is cleaned, wiped of data, and prepared for use in K-12 schools. To date, 19,843 items have been refurbished and donated, generating almost $7 million in savings to the state. While the main donators are state agencies, other groups like the West Virginia National Guard, Toyota Motor Manufacturing, and Mountaineer Gas have partnered with secondlaunchWV to donate devices.

Digital equity/inclusion coalitions

While digital equity/inclusion coalitions haven't yet formed in West Virginia, some organizations like Black by God are members of national coalitions promoting digital equity for covered populations, such as the Black Churches for Digital Equity (BC4DE). BC4DE is a collaborative movement focused on ensuring digital equity for under-represented West Virginia communities. The BC4DE champions efforts to educate members of the community about broadband assistance programs, encourage unconnected households to get online, train and organize leaders and advocates in advancing digital equity, and support digital equity through the ACP.

A.6 Detailed Covered Population Needs Assessment

Access and Adoption

The two most reported barriers to high-speed internet access in West Virginia were poor internet quality and poor internet reliability. Listening Session Participants mentioned that despite the availability of internet service in their area, they were unwilling to pay for services that they felt were slow, spotty, or unreliable. In RPDC #1, 100% of LSPs indicated that poor internet quality was a top barrier for access. 80% cited poor internet reliability as a major barrier. Listening sessions attended by a majority of aging adults reported poor internet quality as a barrier (73.6%) and 67.9% noted that poor internet quality was deterring access. 80% of participants in listening sessions led by RPDC#9 cited that both poor internet quality and poor internet reliability presented significant barriers to internet access. When considering sessions primarily attended by veterans, 73.7% reported poor internet service and poor internet reliability as the main challenges for access. Over 91% of LSPs that attended sessions hosted by Region 3 cited poor internet quality as a top barrier for access. A number of LSPs talked about the significant impact of weather conditions on connectivity, including rain, snow, thunderstorms, and wind, and how these events would make residents lose connection sometimes for days.

Several LSPs could not access the internet because no service is offered in their area. 60% of LSPs who attended RPDC #9 listening sessions indicated that they did not have access to the internet at home, while over 57% of those who participated in RPDC #6 listening sessions reported the same issue. In some cases, LSPs sat just outside areas of service. For instance, a subset of these individuals noted that to receive service, the nearby Internet Service Providers informed them that they would need to bear a portion of the initial costs to deploy infrastructure. In some cases, this amounted to 50% of the initial investment cost. A significant portion of LSPs suggested that they would like internet access in public parks and other outdoor reactional areas throughout the State. For the sessions hosted by RPDC #9 and RPDC #1, 60% and 40% of LSPs, respectively, cited that they would like to have access to the internet in public parks and recreation areas.

LSPs also cited the high cost of—often unreliable—internet services as a significant barrier to adoption, especially for individuals who live on a fixed income. To the latter point, many LSPs reported paying for service that did not meet advertised internet speeds. For the listening sessions hosted by RPDC #7, 84.6% of LSPs reported that the high cost of services presented a major barrier for access and adoption. 75% of LSPs with a disability cited the high cost of the internet as a top challenge for access to internet services. Additionally, almost 70% of LSPs from covered households indicated that the high cost of internet service prevented them from internet access. Housing instability presents its own unique challenge. Some LSPs struggling with housing insecurity stated that they could not sign up for services because they did not have a stable home. Over 66% of LSPs who are English learners or have low levels of literacy, formerly incarcerated individuals, and attendees from listening sessions hosted by RPDC #10 reported that the high price of internet services was a top barrier for access and adoption. One LSP stated that it was more expensive to pay for high-speed internet services than TV, phone, and cable services combined.

A high number of LSPs believe that a lack of competition among Internet Service Providers creates an environment that makes signing up for internet service difficult. For sessions hosted by RPDC #1 and RPDC #7, 40% and 38.5% of LSPs, respectively, cited service provider monopoly as a top barrier for getting access to and paying for internet services. This is only speculation on the part of LSPs, but it illustrates disappointment in the current state of competition in the State. In many regions of the State, given their

current infrastructure, Internet Service Providers only had the capacity to accept a limited number of subscribers. That is, a household would have to cancel their subscription before an Internet Service Provider could accept new customers or connect unconnected homes. LSPs also stated that data caps—a limit imposed on the amount of data a subscriber can transfer in a time period—is a major obstacle for accessing the internet. Almost 43% of LSPs who attended listening sessions led by RPDC #6 reported that data caps were a barrier for access. Over 33% of LSPs who were previously incarcerated also mentioned that data caps significantly impacted their ability to get online. In many cases, as covered in the impacts section, data caps led to households micromanaging who was on the internet and for how long. A high number of LSPs stated that lack of technical support was a major obstacle for access. These LSPs faced long wait times for technician appointments, and trouble with Internet Service Providers failing to retain qualified technicians. Almost 54% of LSPs that participated in RPDC #7 listening sessions stated that they either had no access to or experienced difficulties getting access to technical support to solve connectivity issues. Over 47% of LSPs who attended sessions led by RPDC #5 indicated that they had limited access to technical support.

Devices and Accessibility

Many LSPs reported that public resources, including state and federal websites, were challenging to navigate, including for individuals with learning disabilities and visual impairment. 50% of LSPs that participated in listening sessions led by RPDC #10 cited physical disabilities as a barrier for effectively using the internet. The main reported issues included difficulties finding information on public websites, layout issues when increasing the size of the font, lack of guidance to find forms and resources, and dated information. The percentage of LSPs who faced difficulties using online public resources ranged from 33.3% to 100%. For example, 100% of LSPs who were previously incarcerated mentioned that they experienced challenges using public websites. Additionally, over 94% of LSPs that participated in sessions hosted by RPDC #5 indicated that they had issues using government websites. LSPs with low-literacy levels and English learners reported similar challenges using public resources, but also noted the high reading level of website content and the lack of translations as barriers to access. Over 83% of LSPs who were English learners or had low levels of literacy indicated that they experienced difficulties using online public resources, especially when considering the readability level of websites. Almost 43% of LSPs who identified as a racial or ethnic minority cited language barriers as an obstacle for access while 40% of LSPs who attended sessions hosted by Region 9 reported the same issue. Some LSPs cited lack of knowledge, particularly aging individuals, and lack of access to internet-capable devices, especially formerly incarcerated individuals, as barriers to access. Almost 67% of formerly incarcerated individuals and those who attended sessions led by RPDC #10 reported lack of knowledge as a top barrier for getting online.

Telehealth and Emergency Services

Lack of connectivity also leads to LSPs not being able to attend telehealth/telemedicine appointments or contact emergency services. A third of LSPs who were previously incarcerated reported that limited internet prevented them from accessing online medical or government services. Additionally, a quarter of LSPs who attended RPDC #11 sessions cited that lack of internet access limited their ability to access essential services. At least one medical professional who provides telemedicine services and worked from home reported that calls with patients were often disconnected, sometimes multiple times.

Many LSPs also lack access to landlines, cell service, and the Internet, and find it difficult Emergency Medical Services when necessary. One LSP reported that her sister-in-law had a stroke and almost died because her brother had to drive to find a house with a landline where he could call Emergency Medical Services. Also, if landlines are down, many residents cannot call 9-1-1.

LSPs who participated in a session hosted by RPDC #7 stated that they have gone up to three weeks without any way to communicate with the outside world or call 9-1-1. One noted that they need to use Citizens Band (CB) to communicate with aging parents because they cannot depend on phone or internet service.

In sum, internet access, cell phone, radio, and landline service are major concerns for first responders, aging individuals, and those with health issues.

Education and Economic Opportunities

Many LSPs cited the loss of learning and lack of economic opportunities as major impacts of the digital divide. 50% of LSPs who attended RPDC #9 listening sessions reported that lack of internet access significantly prevented their region's ability to create economic opportunity. Additionally, a third of individuals who were English learners, had low levels of literacy, were formerly incarcerated, and attended RPDC #10 indicated that limited access to the internet decreased access to economic opportunities. A high number of LSPs stated that, due to the lack of availability, quality, or reliability of internet services at home, they frequently need to drive to parking lots with Wi-Fi hotspots so that their children can complete their schoolwork. 50% of LSPs who attended sessions organized by RPDC #10 indicated that due to the lack of internet access they had to resort to community anchor institutions, including schools, to get online. For sessions hosted by the RPDC #7 and RPDC #6, 46.2% and 42.9% of LSPs, respectively, mentioned that they needed to use internet services provided by CAIs due to limited internet access at home. One LSP recounted often seeing six to seven people of all ages sat in a high school parking lot at night to get internet access. Students face further challenges related to unstable internet access, with many getting disconnected during online tests.

Many LSPs faced extreme hardship during COVID-19, particularly because during this period children had to participate in remote learning. One LSP believed that at least 50% of the children in their county were left behind because of the lack of access to the internet during COVID-19. In the Region 9 and Region 10 listening sessions, 50% of LSPs cited loss of learning as a direct impact of the lack of internet access during this period. Over 46% of Region 7 LSPs also reported learning losses because of the lack of connectivity. This created hardships for parents as well. One LSP mentioned that most parents had to pick up paper packets for children during COVID-19. A high number of children missed out on one-on-one lectures with teachers because they did not have a way to participate online. An LSP who attended a session hosted by RPDC #10, stated that children had a hard time navigating the internet for basic life skills, such as submitting a college application, because they never had the opportunity to establish computer literacy skills. Educators and LSPs, who attended a session organized by RPDC #9, stated that if those issues are not addressed, school-aged children will be left behind and lack the necessary digital skills to complete an education or compete in the job market.

Several LSPs reported that their communities have a difficult time attracting business or economic opportunities due to issues with internet access. That is, economic development has been highly restricted because of lack of connectivity. Many communities cited that local businesses struggle with

taking payments from customers because of the lack of reliable internet service, causing long lines and loss of customers. For example, an LSP mentioned that the point-of-sale machines belonging to a business in Region 9 shut down because their online systems could not handle a high influx of customers. Also, a business owner in Region 11 mentioned that internet outages cost their business $15,000 per day. In at least one community, a local company owner had to pay for the full cost of deploying broadband infrastructure from the nearest access point to their business location themselves. Another LSP mentioned that they wanted to open a call center to increase their operations but could not do so due to the lack of internet bandwidth. Additionally, one of West Virginia's Local Development Authorities leased a commercial facility in their industrial park only to find out that it did not have internet access.

Many LSPs stated that they had the option to work from home but could not do so due to the lack of access or reliability. Over 46% of LSPs who attended sessions hosted by RPDC #7 indicated that they could not work from home due to the lack of internet access, reliability, and quality. Almost 38% of LSPs who participated in sessions led by RPDC #11 and over 34% of LSPs who are members of covered households, reported not being able to work from home due to issues with internet access. Those who did work from home reported regularly being disconnected from virtual meetings. LSPs also cited not being able to apply for jobs because most companies only accepted online applications. As reported by LSPs, collectively, these issues hinder the economic growth of low-income families in West Virginia. There was also a general sentiment that lack of connectivity makes their communities less attractive for new residents and new businesses, thereby reducing both residential and commercial investment.

Civic and Social Engagement

LSPs, especially aging individuals, mentioned that they could not connect with children who lived outside of the State, including through video calls and photo messaging. Additionally, in some cases they felt as though they could not have their children visit if those children worked remotely and needed a stable internet connection. Almost 31% of those who attended RPDC #7 listening sessions stated that their inability to procure internet access reduced their ability to access information and entertainment. Additionally, 25% of individuals with disabilities and RPDC #3 LSPs reported not being able to access information and entertainment due to connectivity issues. LSPs reported that it can take 30 minutes for a website to load, one hour to download a file, or as much as a full day to send a photo. Many LSPs needed to schedule in-person appointments at government agencies because they were not able to sign up or renew benefits online. Many LSPs reported that they were not able to stream videos, watch sports online, or play video games due to issues with connectivity. LSPs cited that due to data caps, they could not allow visitors to access the internet when they visited their homes and needed to micromanage data usage, including by blocking high-data usage websites.

A.7 Crosswalk with Guidance Document

NTIA Requirement Key	
NTIA Digital Equity Guidance Requirement	**Addressed in West Virginia Digital Equity Plan Section/s**
2.1: A stated vision for digital equity	Section 2.1: Vision and Goals
2.2: An assessment of how the measurable objectives identified in item 2 of this Section IV.C.1.b.i will impact and interact with the State's— a) Economic and workforce development goals, plans, and outcomes; b) Educational outcomes; c) Health outcomes; d) Civic and social engagement; and e) Delivery of other essential services.	Section 2.2: Alignment with Existing Efforts to Improve Outcomes
2.2: A description of how municipal, regional, and/or Tribal digital equity plans will be incorporated into the State Digital Equity Plan.	Section 2.2: Alignment with Existing Efforts to Improve Outcomes
2.2: A description of how the State will coordinate its use of State Digital Equity Capacity Grant funding and its use of any funds it receives in connection with the Broadband Equity, Access, and Deployment Program, other federal or private digital equity funding.	Section 2.1: Vision and Goals
2.3: Measurable objectives for documenting and promoting, among each Covered Population located in that State— • The availability of, and affordability of access to, fixed and wireless broadband technology; • The online accessibility and inclusivity of public resources and services	Section 2.1: Vision and Goals
2.3: An implementation strategy that is holistic and addresses the barriers to participation in the digital world, including affordability, devices, digital skills, technical support, and digital navigation. The strategy should (a) establish measurable goals, objectives, and proposed core activities to address the needs of covered populations, (b) set out measures ensuring the plan's sustainability and effectiveness across State communities, and (c) adopt mechanisms to ensure that the plan is regularly evaluated and updated.	Section 2: Introduction & Vision for Digital Equity Section 2.1: Vision and Goals
3.1: An asset inventory, including current resources, programs, and strategies that promote	Section 3.2: Asset Inventory

digital equity for each of the covered populations, whether publicly or privately funded, as well as existing digital equity plans and programs already in place among municipal, regional, and Tribal governments.	
3.2: Identification of barriers to digital equity faced by Covered Populations in the State	Section 3.1: Broadband Access, Adoption, and Affordability
3.2: A digital equity needs assessment, including a comprehensive assessment of the baseline from which the State is working and the State's identification of the barriers to digital equity faced generally and by each of the covered populations in the State.	Section 3.3: Needs Assessment
[A] description of how the State plans to collaborate with key constituencies in the State, which may include: a) Community anchor institutions; b) County and municipal governments; c) Local educational agencies; d) Where applicable, Indian Tribes, Alaska Native entities, or Native Hawaiian organizations; e) Nonprofit organizations; f) Organizations that represent— i. Individuals with disabilities, including organizations that represent children with disabilities; ii. Aging Individuals; iii. Individuals with language barriers, including 1) Individuals who are English learners; and 2) Individuals who have low levels of literacy; iv. Veterans; and v. Individuals in that State who are incarcerated in facilities other than Federal correctional facilities; g) Civil rights organizations; h) Entities that carry out workforce development programs; i) Agencies of the State that are responsible for administering or supervising adult education and literacy activities in the State; j) Public housing authorities in the State; and	Section 4.1: Key Collaborators and Constituencies Section 4.2: Past Coordination Efforts Section 4.3: Key Topics and Recommendations for Outreach Activities Section 4.4: Public Comment Section 4.5: Plan Implementation: Partners

k) A partnership between any of the entities described [above.]	
4.1: A list of organizations with which the Administering Entity for the State collaborated in developing the Plan.	Section 4.2: Past Coordination Efforts
4.1: To the extent not addressed in connection with item 4 of Section IV.C.1.b.i (Statutory Requirement 4), a coordination and outreach strategy, including opportunities for public comment by, collaboration with, and ongoing engagement with representatives of each category of covered populations within the State and with the full range of stakeholders within the State	Section 4.3: Key Topics and Recommendations from Outreach Activities Section 4.4: Public Comment Section 4.5: Plan Implementation: Partners
4.1: A description of how the State intends to accomplish the implementation strategy described above by engaging or partnering with: • Workforce agencies such as state workforce agencies and state/local workforce boards and workforce organizations; • Labor organizations and community-based organizations; and • Institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies	Section 4.3: Key Topics and Recommendations from Outreach Activities Section 4.5: Plan Implementation: Partners
5.1: An implementation strategy that is holistic and addresses the barriers to participation in the digital world, including affordability, devices, digital skills, technical support, and digital navigation. The strategy should (a) establish measurable goals, objectives, and proposed core activities to address the needs of covered populations, (b) set out measures ensuring the plan's sustainability and effectiveness across State communities, and (c) adopt mechanisms to ensure that the plan is regularly evaluated and updated.	Section 5.1: Implementation Strategy and Key Activities
5.1: An explanation of how the implementation strategy addresses gaps in existing state, local, and private efforts to address the barriers identified pursuant to Section IV.C.1.b.i, item 1, of this NOFO	Section 5.1: Implementation Strategy and Key Activities
5.2: A timeline for implementation of the plan	Section 5.2: Timeline

A.8 Complete List of Digital Equity-Related Programs in West Virginia

Note that a few entities and programs may be missing because of data either missing or not provided in the survey.

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Morgantown Public Library System	Public computer labs	Any member of the public	1-2 counties
Morgantown Public Library System	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Any member of the public	1-2 counties
Morgantown Public Library System	Public Wi-Fi and networks (public access points)	Any member of the public	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Any member of the public	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Low-income households	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	People with disabilities	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Rural populations	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Digital literacy and digital skills training	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Any member of the public	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Low-income households	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Aging individuals (65 and older)	1-2 counties

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	People with disabilities	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Rural populations	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Conduct awareness and outreach activities of digital inclusion	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Public computer labs	Any member of the public	1-2 counties
Gassaway Public Library	Public computer labs	Low-income households	1-2 counties
Gassaway Public Library	Public computer labs	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Public computer labs	People with disabilities	1-2 counties
Gassaway Public Library	Public computer labs	Rural populations	1-2 counties
Gassaway Public Library	Public computer labs	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Public computer labs	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Any member of the public	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Low-income households	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	People with disabilities	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Rural populations	1-2 counties

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Programs that provide digital literacy and digital training skills	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Any member of the public	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Low-income households	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	People with disabilities	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Rural populations	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Any member of the public	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Low-income households	1-2 counties

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	People with disabilities	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Rural populations	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	Any member of the public	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	Low-income households	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	People with disabilities	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	Rural populations	1-2 counties
Gassaway Public Library	Loaner computer/hotspot programs	Members of a racial or ethnic minority	1-2 counties

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Gassaway Public Library	Loaner computer/hotspot programs	Individuals with a language barrier	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Any member of the public	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Low-income households	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	People with disabilities	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Rural populations	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	Public Wi-Fi and networks (public access points)	Individuals with a language barrier	1-2 counties
Gassaway Public Library	One-to-one computer programs	Any member of the public	1-2 counties
Gassaway Public Library	One-to-one computer programs	Low-income households	1-2 counties
Gassaway Public Library	One-to-one computer programs	Aging individuals (65 and older)	1-2 counties
Gassaway Public Library	One-to-one computer programs	People with disabilities	1-2 counties
Gassaway Public Library	One-to-one computer programs	Rural populations	1-2 counties
Gassaway Public Library	One-to-one computer programs	Members of a racial or ethnic minority	1-2 counties
Gassaway Public Library	One-to-one computer programs	Individuals with a language barrier	1-2 counties
Pendleton Senior and Family Services	Digital literacy and digital skills training	Low-income households	Town or city
Pendleton Senior and Family Services	Digital literacy and digital skills training	Veterans	Town or city
Pendleton Senior and Family Services	Digital literacy and digital skills training	Aging individuals (65 and older)	Town or city
Pendleton Senior and Family Services	Digital literacy and digital skills training	People with disabilities	Town or city
Pendleton Senior and Family Services	Digital literacy and digital skills training	Rural populations	Town or city

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Pendleton Senior and Family Services	Conduct awareness and outreach activities of digital inclusion	Low-income households	Town or city
Pendleton Senior and Family Services	Conduct awareness and outreach activities of digital inclusion	Veterans	Town or city
Pendleton Senior and Family Services	Conduct awareness and outreach activities of digital inclusion	Aging individuals (65 and older)	Town or city
Pendleton Senior and Family Services	Conduct awareness and outreach activities of digital inclusion	People with disabilities	Town or city
Pendleton Senior and Family Services	Conduct awareness and outreach activities of digital inclusion	Rural populations	Town or city
Pendleton Senior and Family Services	Public computer labs	Low-income households	Town or city
Pendleton Senior and Family Services	Public computer labs	Veterans	Town or city
Pendleton Senior and Family Services	Public computer labs	Aging individuals (65 and older)	Town or city
Pendleton Senior and Family Services	Public computer labs	People with disabilities	Town or city
Pendleton Senior and Family Services	Public computer labs	Rural populations	Town or city
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Any member of the public	Town or city

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Low-income households	Town or city
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Veterans	Town or city
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Aging individuals (65 and older)	Town or city
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	People with disabilities	Town or city
Pendleton Senior and Family Services	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Rural populations	Town or city
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	Any member of the public	Town or city
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	Low-income households	Town or city
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	Veterans	Town or city

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	Aging individuals (65 and older)	Town or city
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	People with disabilities	Town or city
Pendleton Senior and Family Services	Public Wi-Fi and networks (public access points)	Rural populations	Town or city
Putnam County Library	Digital literacy and digital skills training	Any member of the public	1-2 counties
Putnam County Library	Conduct awareness and outreach activities of digital inclusion	Any member of the public	1-2 counties
Putnam County Library	Public computer labs	Any member of the public	1-2 counties
Putnam County Library	Programs that provide digital literacy and digital training skills	Any member of the public	1-2 counties
Putnam County Library	Digital Navigator programs	Any member of the public	1-2 counties
Putnam County Library	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Any member of the public	1-2 counties
Putnam County Library	Loaner computer/hotspot programs	Any member of the public	1-2 counties
Putnam County Library	Public Wi-Fi and networks (public access points)	Any member of the public	1-2 counties
Mountain CAP of WV, Inc.	Conduct awareness and outreach activities of digital inclusion	Low-income households	Town or city
Mountain CAP of WV, Inc.	Programs that provide subsidized or low cost-devices (e.g., computers, tablets)	Low-income households	Town or city
Mountain CAP of WV, Inc.	Public Wi-Fi and networks (public access points)	Low-income households	Town or city
Marion County Public Library System	Digital literacy and digital skills training	Any member of the public	1-2 counties

Entity	Types of Programs Provided	Population Served	Geographic Areas Served
Marion County Public Library System	Conduct awareness and outreach activities of digital inclusion	Any member of the public	1-2 counties
Marion County Public Library System	Public computer labs	Any member of the public	1-2 counties
Marion County Public Library System	Programs that provide digital literacy and digital training skills	Any member of the public	1-2 counties
Marion County Public Library System	Digital Navigator programs	Any member of the public	1-2 counties
Marion County Public Library System	Programs that conduct awareness and outreach activities of digital inclusion programming and resources (e.g., marketing and awareness campaigns)	Any member of the public	1-2 counties
Marion County Public Library System	Loaner computer/hotspot programs	Any member of the public	1-2 counties
Marion County Public Library System	Public Wi-Fi and networks (public access points)	Any member of the public	1-2 counties
Innovative Community Services (ICS WV)	Digital Navigator programs (ad hoc)	Any member of the public	1-2 counties
West Virginia Bureau of Senior Services	Loaner computer/hotspot programs (ad hoc)	Aging individuals (65 and older)	1-2 counties
West Virginia Bureau of Senior Services	Public computer labs (ad hoc)	Aging individuals (65 and older)	1-2 counties