

Wetzel County, West Virginia

Digital Equity Plan

September 2024

FREE/Accessible
Unlimited Streaming/ Bandwidth
Educate Populations:
- Orientation/ literacy
- Safety Surfing
- Shopping
- Government services
Smarter Comp. System
- "Hack Proof"
Smart City/ County

Values
Advocacy Necessity
Freedom Education
global Security
Employment Survival
opportunity workforce
Equity Livelihood

- Netflix/ streaming services
- Entrepreneurship - selling anywhere
- Remote workforce
- Education - 5th grade → taking home a laptop
- Church - access to services
- Schools playing games
- Mental health services (especially veterans)
- tele-health ^{services}
- Shopping ^{translation services/OCR}
- Emergency information ^{Banking/venmo}
- DMV/Government services ^{Delivery services}
- Paying bills online ^{Mobility}
- Entertainment/social engagement
- Information access

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Key Acronyms:

WVDED	West Virginia Department of Economic Development (WVDED) is the state agency responsible for leading broadband and economic development initiatives, including the implementation of the Digital Equity and BEAD programs.
BEAD	Broadband Equity, Access, and Deployment (BEAD) is a federal program providing \$42.45 billion to states for planning, infrastructure deployment, and adoption programs related to high-speed internet access. West Virginia's BEAD allocation plays a crucial role in its statewide broadband and digital equity initiatives
DEA	Digital Equity Act (DEA) is part of the Infrastructure Investment and Jobs Act (IIJA) aimed at promoting digital equity and supporting digital inclusion activities through various grant programs.
GWV	Generation West Virginia (GWV) is an organization involved in digital equity initiatives and other programs aimed at improving opportunities and outcomes for young people in West Virginia.
RPDC	Regional Planning and Development Councils (RPDC) are organizations that play a key role in community engagement and the execution of listening sessions to gather data on digital equity needs across West Virginia.
ISP	Internet Service Provider (ISP) refers to companies that provide internet access to consumers and businesses. ISPs are critical stakeholders in deploying and improving broadband services across the state.
BSL	Broadband Serviceable Location (BSL) is defined as a business or residential location where fixed broadband internet access service is, or can be, installed. Understanding the location of BSLs is crucial for mapping and planning broadband infrastructure.
CAI	Community Anchor Institutions are community resources including entities such as 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.

Table 1. Key Acronyms

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EXECUTIVE SUMMARY

Executive Summary

It is a changing world where access to the digital economy is becoming increasingly more critical as essential services like healthcare, education, business, and jobs move towards requiring quality connectivity. Wetzel County faces significant challenges to broadband access. Despite the current barriers and stark digital divide, residents and organizations in the county have a clear vision for the future if, and when some of these challenges are met.

Meaningful internet connectivity is a community asset that enhances the quality of life for residents and catalyzes economic growth in the 21st century global marketplace. It facilitates e-commerce, remote work, distance learning opportunities, telehealth, entrepreneurial innovation, civic and social engagement, and more, all of which contribute to societal progress. There are many barriers for residents in our communities to benefit from these opportunities. In order to reach **Digital Equity**, the condition or place where all members of our community have access to the resources they need to participate in digital society and economy, it will take dedicated work and effort to minimize these barriers.

This project was a year-long planning effort in partnership with Generation WV and the Wetzel County Digital Equity Steering Committee. This plan contains an examination of the current “State of the



Figure 1. Wetzel County Courthouse

County” as it relates to digital equity, economics, the goals and vision for a connected Wetzel County, as well as extensive appendices that outline the goals and vision for a connected community, and recommends practical strategies to achieve the goals and vision. The analysis and recommendations in the plan are supported by extensive appendices with key data, resources, and research for ongoing digital inclusion projects. This plan is just the start, it provides a baseline and puts forward solutions to improve broadband connectivity and affordability locally, and help prepare Wetzel County for upcoming Digital Equity Implementation funds including the Digital Equity Act (DEA) federal funding programs.

Today’s broadband users deserve a connection that is accessible, affordable, and reliable, which was amplified by the COVID-19 pandemic and its impact on day-to-day lives. This can be advanced by providing funding programs for service and devices, training and education not just on devices but the benefits of the digital world; partner with schools, senior centers, veterans organizations and workforce organizations to promote training and education. This plan is just the beginning. “Internet For All”¹ continued planning, and Digital Equity programming will play a crucial role in achieving Wetzel County’s vision for the future.

Highlights

- Despite many resources in the county including industry partners and West Virginia Northern Community college, Broadband infrastructure in Wetzel County remains a challenge with **23.3%** of households reporting **no broadband subscription at all.** The baseline lack of internet access is a key issue in the county however it does not paint the full picture of the need.
- With **25.7% of county residents living at or below 150% of the national poverty threshold** and an average per capita income of \$27,174, some challenges can be attributed to affordability however this is just one of many challenges identified in this plan.
- **15.6%** of households report no device at home. In certain county tax districts, up to **19% of the population does not have access to a device of any type**, including a smartphone. This indicates significant disparity within the county.
- Low income residents (25.7%), aging residents (22.8%), and residents with disabilities (20.4%) make up significant percentages of the local population in Wetzel County. **These residents face additional and specific barriers to accessing online resources** and likely require additional support and/or targeted solutions to meet their needs.

¹ West Virginia Broadband Office Internet For All Campaign, <https://internetforallwv.wv.gov/>

Top Barriers	Possible Solutions
Affordability of devices/technology, and services. Lack of affordable subscriber options.	Advocacy and Funding: Advocacy for funding programs for low-income residents (ACP), Subsidies for things like mobile hotspots to fill in the gaps.
Lack of education on technology, lack of access to training about using digital resources/tools.	Education and training programs: Create and nurture opportunities for community training & coordination, Host training and community workshops, Provide education on benefits of the digital world, convert terminology to ordinary language for the community. Partnership with educational institutions/senior centers, VA/ workforce
Lack of exposure/knowledge causing fear and reluctance, complicated unfamiliar terminology discouraging use.	
Cyber security risks, fear around use of online services. Fear of AI	
Geographic challenges for infrastructure development and mobility of residents to get to services.	Infrastructure development: Smart Networks, Smart network, All fiber everywhere

Table 2. Top Digital Equity Barriers and Solutions in Wetzel County

Digital inclusion projects in Wetzel County would have a significant positive impact for key populations identified as having greater barriers to internet access. Low income residents (25.7% of the county population), aging individuals(22.8% of the county population), disabled individuals(20.4% of the county population), veterans (7% of the county population), and individuals with low literacy(2.8% of the county population) would most benefit by efforts to increase access to educational resources, cybersecurity, and affordable devices and broadband service for these populations.

By establishing partnerships with stakeholders already working in the community, Wetzel County can extend the impacts of proposed digital skills, literacy, and access programs in the community. The Wetzel County Steering Committee will continue to engage and seek feedback and participation from covered populations to encourage and develop projects that create positive and measurable outcomes for the whole community.



| INTRODUCTION

Introduction

Wetzel County is located in the Northeastern Region of West Virginia. Wetzel County has a rich economic and cultural history. Wetzel County was established in 1846. It was named in honor of Lewis Wetzel, a noted frontiersman and Indian fighter. The county seat, New Martinsville, was named after an early settler, Presley Martin. The county's economy has historically been based on agriculture, timber, and oil and gas production. The Ohio River, which forms the county's western boundary, has played a significant role in its development. The history and story of Wetzel County provide valuable context and background for the current state of connectivity and digital equity and the connected future that Wetzel County residents envision.

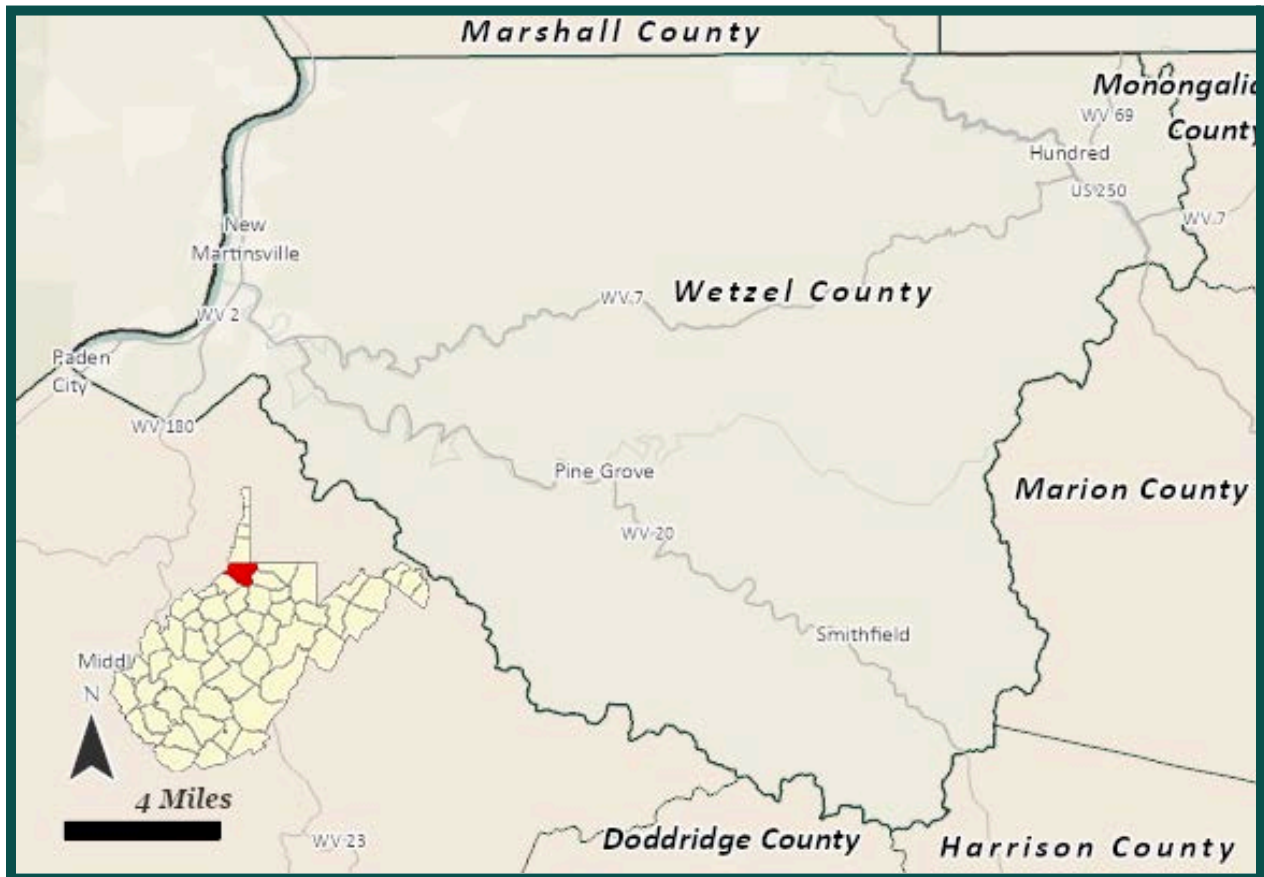


Figure 2. Map of Wetzel County West Virginia

Why Broadband and Digital Equity?

When we talk about broadband connectivity, we often think exclusively of the physical infrastructure itself. The lines, wires, towers that bring broadband access to our communities. This baseline connectivity is the critical first step to ensuring equitable access to the digital economy however, it does not solve the entire challenge related to connecting our communities to the digital economy. To do this we need to address some of the economic, social, and other barriers facing our communities. This work is known as “Digital Equity” or “Digital Inclusion”.

Digital Inclusion programs will significantly contribute to realizing the vision for Wetzel County. These initiatives aim to ensure that all residents have equal and affordable access to internet services. By providing access to digital tools and resources such as telehealth services, entertainment options, and educational opportunities, these programs can enhance residents' quality of life. They also support economic growth by enabling telecommuting and attracting new residents and businesses to the area. By prioritizing reliable broadband coverage and promoting digital literacy, device programs, and affordable access, digital inclusion programs will create a more connected and prosperous community, where everyone has the opportunity to thrive.

In addition, these programs help prepare communities for broadband expansion planned as part of the Infrastructure Investment and Jobs Act (For more information see “About this Project” below). Internet Service Providers (ISPs) determine their return on investment and long-term maintenance decisions on the number of subscribers they can count on in any given region. Especially in rural areas, the digital equity and digital inclusion efforts can dramatically increase the “take rate” or number of subscribers resulting not only in further opportunity for local residents, but also ensuring the longevity and return for the businesses providing the broadband service. Laying fiber up a rural valley with 10 households looks different if only one house on the road subscribes, versus five or six households subscribing since they may now have the skills, knowledge, affordability assistance, and/or reason to use the service.

About this project

In 2021, the Infrastructure Investment and Jobs Act (IIJA) was signed into law by President Joe Biden. Among many other provisions, the law established the Broadband Equity, Access, and Deployment (BEAD) Program, the federal government's most ambitious investment in high-speed, affordable internet to date with over \$42 Billion dollars allocated nationally. In addition, Congress passed the Digital Equity Act (DEA) for \$2.75 billion that supports digital inclusion planning and programs across the United States.

West Virginia Department of Economic Development Office of Broadband (WVDED), guided by the Broadband Enhancement Council, has been working to meet National Telecommunications and Information Administration (NTIA) requirements to receive the \$1.2 Billion dollars of broadband infrastructure funds allocated to West Virginia. As part of this requirement, all states were required to develop a [State Digital Equity Plan](#). This plan provides an overarching umbrella and priority strategies for Digital Equity and Digital Inclusion in West Virginia. First published in 2023, the State Digital Equity Plan is informed by outreach to partners across the state, stakeholder feedback and community listening sessions, and provides the framework for state priorities around equity, adoption, and inclusion.

In 2023, as a part of an Appalachian Regional Commission (ARC) ARISE grant to Connect Humanity, a national nonprofit focused on broadband connectivity, Generation West Virginia (GWV) agreed to coordinate state partners and facilitate a digital equity planning process with 18 Counties across West Virginia.

GWV worked closely in partnership with [Regional Optical Communications](#) (a consortium of 19 West Virginia counties spearheaded by Regions 1 & 4 Regional Planning Councils) and the [WVDED Office of](#)

[Broadband](#) to reach out to county stakeholders and pull together the County Digital Equity Steering Committees. The Wetzel County Steering Committee guided the outreach and planning efforts in the County, identifying community partners, outreach to the community, planning the community workshop and providing direction to the planning process.

In Spring of 2024, the county hosted a Community Workshop where the core planning team shared information about digital inclusion, presented county specific assets and data, and community members shared their knowledge to highlight barriers, goals, vision, and start identifying potential digital equity projects. Wetzel County hosted the Community Workshop March 25, 2024 at West Virginia Northern Community College New Martinsville Campus in Martinsville, West Virginia. Eighteen attendees provided valuable feedback and insight. The meeting emphasized the importance of addressing the digital divide and achieving digital equity in Wetzel County. Participants discussed the need for reliable and affordable internet access, digital literacy, and access to devices. Key topics included the current state of digital inclusion, barriers such as affordability, lack of education, geographic challenges, and digital literacy across all age groups. Potential solutions proposed included workshops, smart networks, partnerships with educational institutions and senior centers, advocacy for funding, and community training programs. The vision for digital inclusion involved better access to education, healthcare, economic opportunities, and public safety through enhanced connectivity, remote work options, and digital services. The collaborative discussion provided valuable insights into the specific needs and challenges faced by Wetzel County.



Figure 3. Wetzel County Community Workshop, New Martinsville, West Virginia, March 25, 2024

Following the Community Workshop, Wetzel County Digital Equity Steering Committee participated in the assessment to gather the information needed to analyze, select, and identify priority solutions to improve broadband connectivity and affordability locally, and prepare Wetzel County for the upcoming implementation of Digital Equity Act (DEA) federal funding programs.

Project Planning and development efforts also took place Spring/Summer of 2024 in preparation for the West Virginia Office of Broadband State Capacity subgrant programs. Wetzel County stakeholders were able to participate in project planning workshops with National expertise from Connect Humanity and the National Digital Inclusion Alliance, as well as access targeted technical assistance in developing project ideas.

Relation to State Digital Equity Planning

This plan is a focused and localized examination of the conditions in Wetzel County and plays an important role in meeting State Digital Equity Goals. With three overarching goals identified by the state in mind, this plan helps highlight the barriers and potential solutions specific to the needs in Wetzel County, and fills in the framework outlined by the West Virginia State Broadband Office. This planning process also allows the Wetzel County Digital Equity Steering Committee to highlight potential solutions and inform future projects and state priorities. As outlined in the West Virginia Digital Equity Plan, the West Virginia Office of Broadband Digital Equity team is committed to continuing to work with counties and municipalities to further digital equity planning and project development. More information about State planning efforts are outlined below.

Key Concepts

What does connectivity mean?

Connectivity refers to the ability of individuals and organizations to access and interact with the global network known as the internet. This connection allows for the transmission and exchange of data, enabling users to browse websites, send emails, stream videos, participate in social media, and utilize various online services and applications. Typical technologies used to connect are broadband via, fiber, cable, and copper lines, fixed and mobile networks via towers; or satellite connections. In our changing world, internet connectivity is crucial for our communities. It enables access to vital information and services, enhances educational opportunities, and fosters economic growth across sectors, additionally, it has a social impact by allowing individuals to connect with loved ones, access healthcare resources, participate in the digital economy, and fully participate as informed citizens.

Note on broadband speed.

Nationally, to be considered “served” by broadband service providers, a household needs to be able to access at least 100 Mbps download and 20Mbps upload speeds(100/20 Mbps). The FCC increased required speeds from 25 Mbps down and 3 Mbps up(25/3 Mbps) in March of 2024. These speeds ensure that there is enough connectivity for virtual meetings, data transfer and uninterrupted transactions.

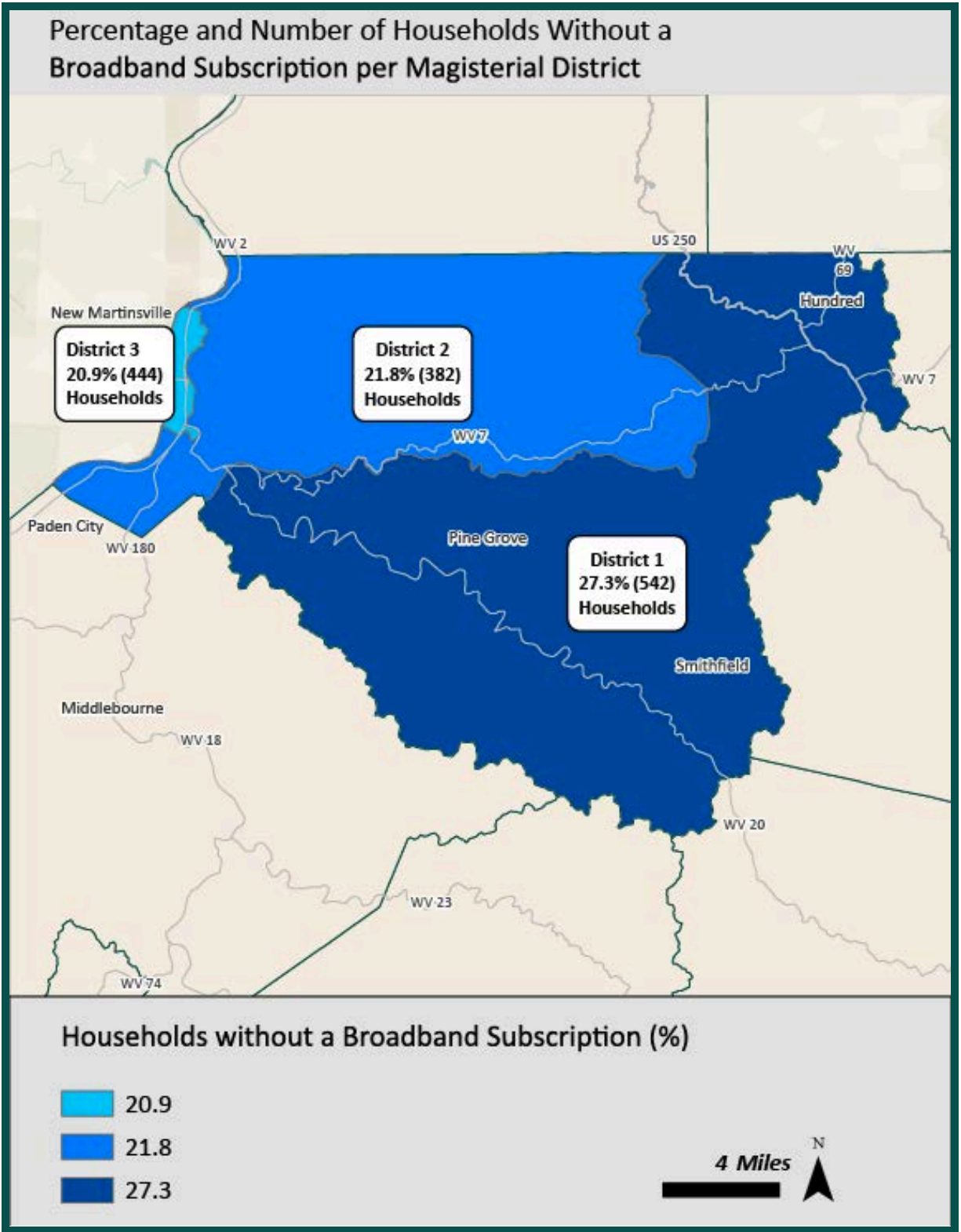
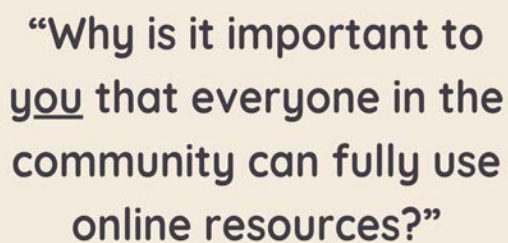


Figure 4. Map showing the percentage of households without a Broadband Subscription by Magisterial District.

What is Digital Equity and Digital Inclusion?

These terms at their core mean that no matter their background or where they live, all people have the skills, tools, and opportunities to use technology in their daily lives. This work encompasses several key elements. First, the concept of the Digital Divide. The Digital Divide is the gap that exists between those that do have access, skills, devices, the means to access online resources, and all of those that do not.

Digital Equity is the condition or place that we hope our communities reach where all members of our community have access to the resources they need to participate in digital society and economy. Digital Inclusion is the work, the activities necessary to reach the condition of Digital Equity. These activities include 1) having reliable broadband access; 2) having the skills to use it; 3) having the devices to access; 4) having the financial means to afford it; and 5) having access to technical support when something goes wrong.²



“Why is it important to you that everyone in the community can fully use online resources?”

Fully accessing online resources looks very different based on each individual situation. For example, an individual with vision or mobility challenges without the knowledge of how to change font size settings and/or use audio playback and dictation features on standard devices still face significant barriers to accessing online resources. There are programs that provide low income or at-risk residents with a device, however, without additional support on affordability, they may not be able to fully utilize these resources and/or be unable to maintain the subscriptions necessary for effective use. Additionally, different populations may have different learning needs. For example, an individual transitioning to a new industry mid-career who never needed to use a computer for work before will have different training needs than a young adult for whom computers and screens have been present their entire life.

Covered Populations

Throughout this plan, and across digital equity planning, the term “covered populations” is used to refer to individuals in our community who face additional barriers to broadband access. These groups are prioritized in grant-supported initiatives and strategic planning by NTIA in the Digital Equity Act. The Digital Equity Act within the Infrastructure Investment and Jobs Act identifies these individuals as the following eight **covered populations** that are disproportionately affected by digital inequity:

1. Individuals in households with incomes at or below 150 percent of the poverty line.
2. Individuals aged 60 or older.
3. Veterans.
4. Individuals with disabilities.
5. Individuals facing language barriers (including English language learners and those with low literacy).
6. Members of racial and ethnic minority groups.
7. Individuals living in rural areas.
8. Individuals incarcerated in non-federal correctional facilities.

² National Digital Inclusion Alliance, Definitions (Accessed June 2024) <https://www.digitalinclusion.org/definitions/>,

These populations face challenges in accessing the internet due to a variety of often overlapping reasons. For example, an individual may face accessibility barriers due to sight or mobility reasons as a disabled person, but may also be part of an aging population and struggle with fixed income and therefore affordability challenges.

Throughout the planning process, the Wetzel County Steering Committee and GWV project team have tried to keep in mind the key populations present in Wetzel County, and want to highlight the crossover barriers that these individuals face. This list above is also not exhaustive. These are the individuals defined in federal code, however, there are often other populations in our communities that may face challenges. Some examples residents brought up in the Community workshop include youth, formerly incarcerated and those in recovery.

Digital Equity and Connectivity in West Virginia

West Virginia leadership recognizes the importance of broadband connectivity. In 2016 the West Virginia Legislature created the Broadband Enhancement Council for the overarching goal of expanding broadband to reach un and underserved residents in the state. In 2021, the West Virginia Office of Broadband (Office of Broadband) within the West Virginia Department of Economic Development (WVDED) was established. The comparatively early focus on broadband infrastructure allowed the state to focus on research, speed testing, and infrastructure investment through the West Virginia Broadband Investment Plan, a \$236 million initiative with nearly 40 projects awarded to date, touching 40 counties. These efforts set the office up for successful planning and implementation of the upcoming BEAD funds, \$1.2 allocated to the State of West Virginia for Broadband Infrastructure development.

State of Broadband Infrastructure:

The rural nature of the state, mountainous terrain, and challenging economic conditions have all led to the disparity in Broadband connectivity for West Virginia residents.³ West Virginia comes in 50th for Broadband Connectivity according to a 2023 Broadband Now Report⁴ with more than 19% of the population unable to access an internet plan of at least 25/3.⁵ With a total population of 1,792,967, this means one in ten West Virginia residents are not able to purchase an internet plan of at least 25/3. Since publication, the official definition of broadband has been increased to 100Mbps. As of December 31, 2022, only 64.8% of West Virginia's "broadband serviceable locations" are fully served under the new federal standard, with at least one internet service provider offering speeds of at least 100/20.⁶ According to a US News and World Report's Internet Access Rankings places West Virginia last on their list as well, with broadband subscription rate and access to Gigabit internet large factors.⁷

³ West Virginia Broadband Enhancement Council, West Virginia State Broadband Plan (2019) Available online: <https://broadband.wv.gov/resources/west-virginia-broadband-plan/>

⁴ Broadband Now, Accessed June 2024,

<https://broadbandnow.com/research/best-states-with-internet-coverage-and-speed>

⁵ Previous definition of broadband. FCC updated the definition to 100Mbps down/ 20 Mbps up March 2024.

⁶ West Virginia Broadband Office BEAD 5 Year Action Plan (2023)

⁷ Regional Optical Communications, 2023 Statewide Broadband Study Report (2023).

Economic Impacts

It is difficult to discuss challenges in West Virginia without mentioning the decline of the coal industry statewide. This decline has, and continues to cause, generational impacts across the State of West Virginia, where communities that have suffered major job losses now face disparities in wealth, income, educational attainment, and employment outcomes relative to the rest of the country. During the COVID-19 pandemic, the digital divide became starker than ever, as the lack of broadband access in West Virginia communities stifled economic activity, disrupted services, and widened educational achievement gaps, derailing years of efforts to address disparities caused by coal decline. **Economic diversification, a key path forward for West Virginia communities and the State as a whole, requires access to high-speed internet.**

Digital Equity Statewide

As a key factor to the success of infrastructure expansion, and the national goal of connecting all citizens, the BEAD program required all states to complete a digital equity plan in order to obtain BEAD funding. The WVDED established a position at the State Office of Broadband focused on the Digital Equity Act and began a year-long planning process to identify barriers and goals and create a digital equity plan covering the entire state. The West Virginia Digital Equity Plan was first published for public comment in July 2023, with a final draft submitted to NTIA and made publicly available in December 2023. As a part of WVDED's ongoing plan implementation, the West Virginia Digital Equity Plan will receive annual updates through the duration of the program. This plan was the first comprehensive examination of digital equity in the state. With the highest percentage of covered populations(96.6%) nationwide,⁸ and over 35% of its citizens living in unserved or underserved areas, digital equity initiatives have great potential to move the needle in West Virginia.

The West Virginia Digital Equity plan was developed with collaborative support from state agencies, private and public partners, and higher education institutions. It was informed by extensive research, listening sessions, a statewide survey, and input from West Virginia residents and stakeholders. Available at broadband.wv.gov, it provides a clear picture of the needs and opportunities for change in the state. The vision defined by the WVDED Office of broadband is as follows:

WV Vision For Digital Equity:

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

⁸ U.S. Census Bureau | National Telecommunications and Information Administration, Digital Equity Act Population Viewer,(Accessed June 2024)
<https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html>

In order to reach this vision, the State has lined out a series of goals and outcomes. These goals and outcomes are listed below in Table 3. These overarching goals provided a framework and guideposts for this project, and the potential solutions, projects, and initiatives that Wetzel County considered as part of their community planning.

WVDED Office of Broadband Digital Equity Goals:

Goal 1: Realize Affordable Connectivity

Objective 1.1: Increase enrollment in the Affordable Connectivity Program (ACP)⁹

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 and increase competition

Goal 2: Secure Device Access and Affordability

Objective 2.1: Create a sustainable 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

Note that a fourth goal supporting Local Digital Equity Planning has been proposed, however final priorities from the State Digital Equity Plan are pending approval from NTIA.

Table 3. WVDED Office of Broadband Goals and Objectives, V.1, January 14, 2024

The success and sustainability of digital inclusion efforts relies heavily on the ground up community support and feedback. The Wetzel County Steering Committee greatly appreciates the support of the West Virginia Office of Broadband in providing support and guidance throughout this planning process.



⁹ The ACP expired in May 2024 and has not been renewed. The WVDED Office of Broadband is updating State Digital Equity Goals to reflect this change. As of time of publication the updated plan has not been released.

Overview: Digital Equity in Wetzel County

What story does our data tell us about connectivity and how our communities access the digital economy?

In order to better understand the situation for residents of Wetzel County, it is important to examine some key indicators and understand the barriers as experienced by those living in the community. This data was gathered between November 2023 and June 2024.

Snapshot: Demographics

Wetzel County is home to 14,431 residents located within 361 square miles, having an average of 40 people per square mile. It is a very rural county, with a USDA Rural-Urban Continuum Code (RUCC) of 7, which indicates a very rural area with some small urban areas and is adjacent to a metro area. Any county with a RUCC code between 4 and 9 is classified as rural and Wetzel is considered rural based on US Census population data. Rural residents and businesses often face basic infrastructure and logistics challenges to accessing quality internet. Approximately 97% of West Virginia's total residents are classified as rural.

There are 5,861 households in Wetzel County. The county is majority white, with the minority population at 4.3%. The county has high poverty, qualifying as a 'Persistent Poverty County' according to the USDA, which defines persistent poverty as having 20% or more of the population living in poverty over the last 30 years.¹⁰ High instances of poverty are a significant barrier that affect the ability of residents to access and use online resources.

The Appalachian Regional Commission(ARC) has designated Wetzel County as distressed based on three economic indicators: high unemployment rates, low per capita income, and poverty rates that are at least 150% of the national poverty threshold. Distressed counties fall within the lowest 10% of counties out of the 423 counties in the Appalachian region according to ARC's rating. The number of county residents living at or below 150% of the national poverty threshold is 3,702 (25.7%). The average per capita income is \$27,174, and the unemployment rate is 5.6%. The need is clear. Digital inclusion efforts play a key part in boosting incomes and job access. A report on digital skills published in 2023¹¹ found that 92% of jobs require digital skills, highlighting digital literacy as a critical baseline in today's economy and the direct impact on the success of workforce development and economic development initiatives.

As mentioned above, the county does have a long active history related to the coal and oil and gas industry. ARC scores the impact of coal as 2.038, indicating minimal negative economic impacts from coal industry changes so far. However given the high dependence it is at very high risk of future negative impacts as the industry continues to decline with a very high risk score of 2.415. In addition to coal, Wetzel county has a long history associated with the Oil and Gas Industry with the first gas well drilled in 1886. The boom and decline of both of these industries has dramatically impacted the economic outlook of the County.

¹⁰ Decennial census data and the American Community Survey 5-year estimates

¹¹ Bergson-Shilcock, Amanda; Taylor, Roderick, Closing the Digital Skill Divide, 2023

Broadband Connectivity and Adoption in Wetzel County

The baseline to understanding challenges to accessing broadband include understanding where there is broadband connectivity in the county, where there isn't, and if adoption rates can tell us anything about the barriers our community faces.

The map below outlines the highest reported speed provided by providers in Wetzel County as of 2023. The speeds may not be the actual speeds provided, but are the highest option a provider reports that they could offer. For reference, the federal definition of "broadband" is now 100/20. On this map, shades darker than the middle orange do not technically qualify as broadband. Highest speeds tend to follow major road routes. The shading beneath is a measure of broadband adoption, or the number of households in the district that report subscribing to the internet. As one can see, sometimes high rates of households without internet are clearly due to lack of infrastructure, however, it is important to note that this may not be the whole story. This map shows the county divided into the magisterial districts illustrating the disparity even within the county of broadband adoption. The darker the shading, the higher the percentage of people without a broadband subscription. These disparities could be due to a variety of reasons such as lack of availability, affordability, lack of education about technology or needs or other reasons. The total number of households that lack a broadband subscription is 1,368 (23.3%).

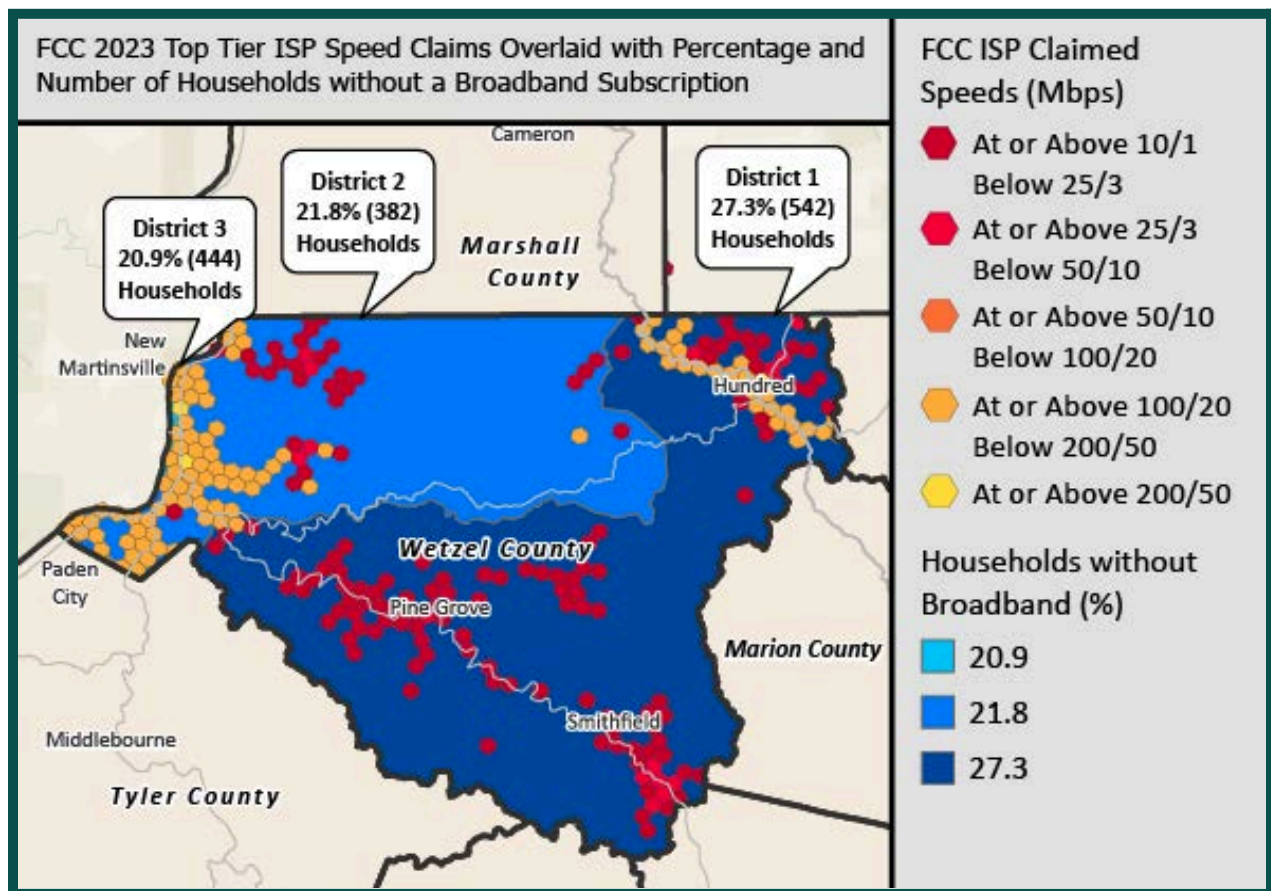


Figure 5. Adoption of Broadband and FCC Availability and Speed Data by Magisterial District in Wetzel County
For more information, including some maps of the current reported infrastructure as well as example maps please see [Appendix C: Broadband Adoption and Infrastructure](#) on page 74.

Device adoption

Another way to look at the county's access to online resources is to examine measures of device adoption. In Wetzel County, according to the American Community Survey estimates and the NTIA Internet Use Survey, there are 915 households, or 15.6% of the 5,861 households in the county, that report not having any internet-enabled devices.^{12,13} Figure 6 shows the county divided into the magisterial districts illustrating the disparity even within the county of those without a device of any type such as desktop computer, laptop, tablet or smartphone. The darker the shading, the higher the percentage without a device. These disparities could potentially be due to a variety of reasons such as lack of available internet service, affordability, lack of education about technology or other reasons.

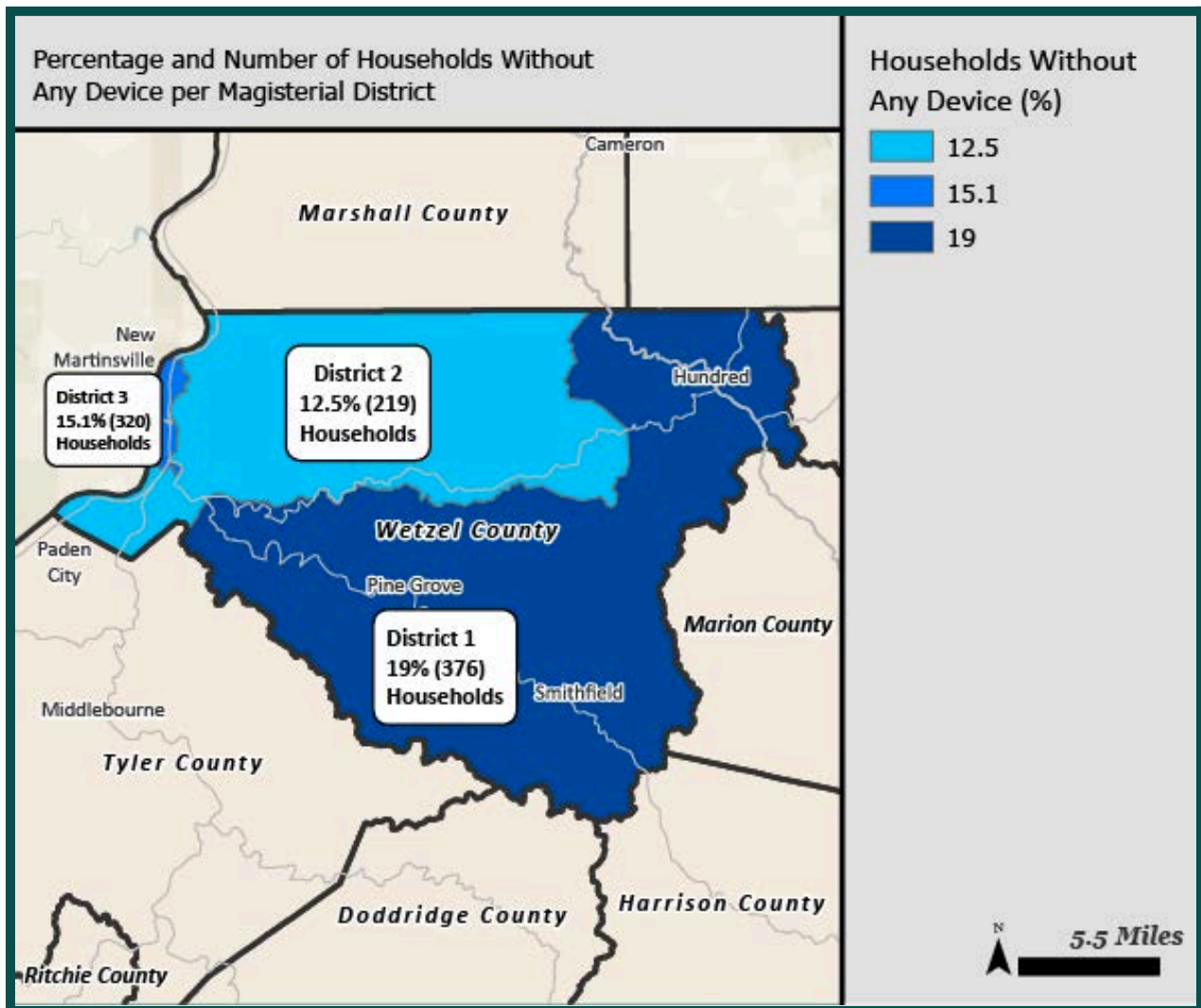


Figure 6. Households without a device of any type in Wetzel County

¹² U.S. Census Bureau, 2022 5-Year American Community Survey (ACS) Estimates

¹³ National Telecommunications and Information Administration (NTIA), 2021 NTIA Internet Use Survey

Poverty and covered populations

This planning process has contributed to its understanding of unique barriers to achieving digital equity across a wide range of covered populations. The barriers identified in the map and chart below correspond to the presence of covered populations in the county. To understand the barriers, it can be helpful to understand how the specific populations may be distributed across the county.

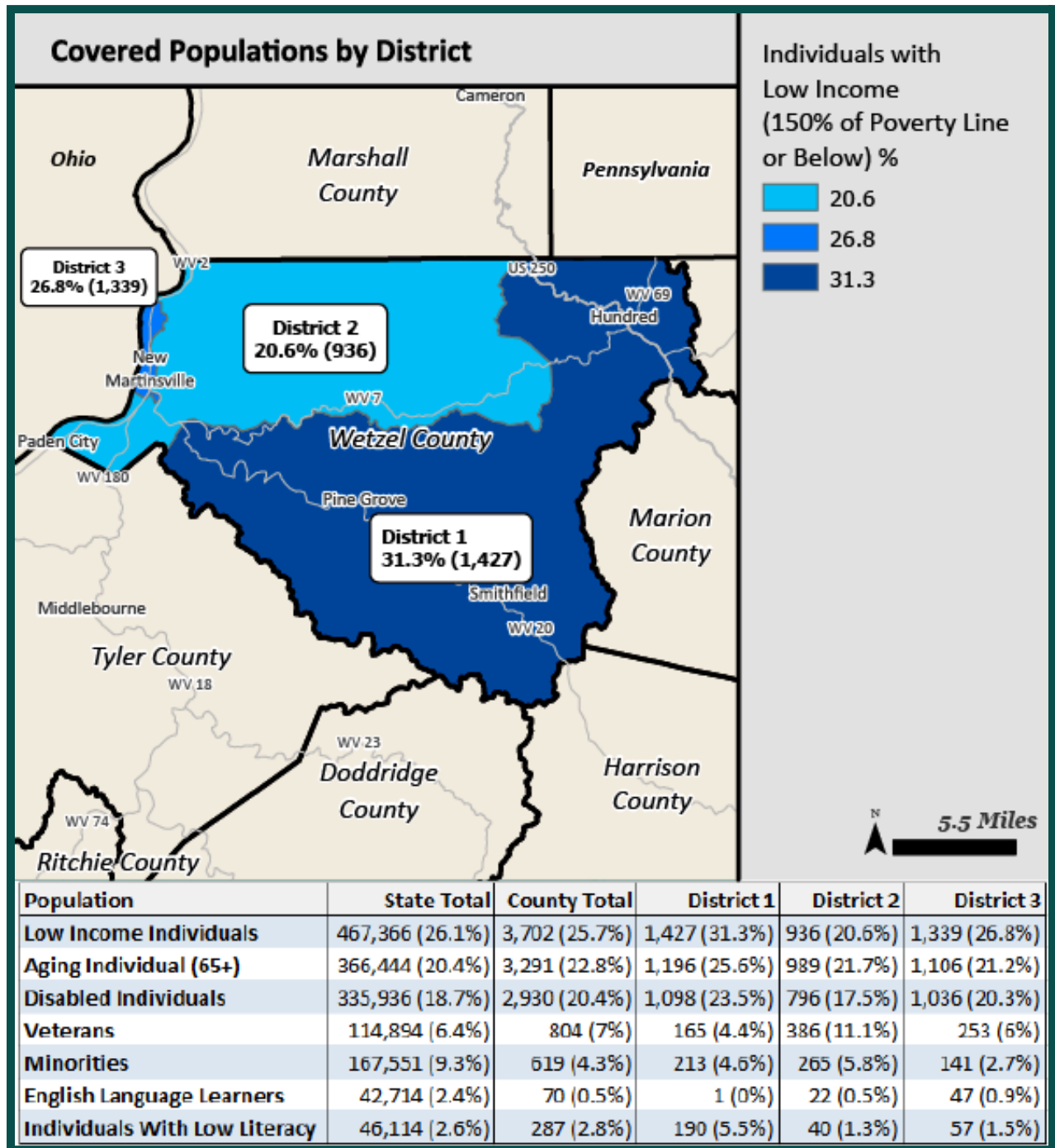


Figure 7. Covered Populations in Wetzel County, West Virginia by Magisterial District.

Wetzel County has a poverty rate of 17 with median household income of \$50,715. As outlined in Figure 7 above, the blue shading represents the percent of households living at or below %150 of the poverty level (In 2022 this figure was 26.25% of total households earning an average of \$27,174 per capita).

When considering Digital Inclusion efforts, it is important to consider the demographics of the local population, and the challenges they face in accessing broadband. The chart below shows more detail on the covered populations in Wetzel County. Note that these percentages will not add to 100% as an individual may be in several categories.¹⁴

Covered Population	Presence in Wetzel County	Description	Barriers to Digital Access
Individuals who live in covered households	25.65% of the population are either below the poverty line or considered low to medium income	Households with incomes at or below 150% of the national poverty level.	Affordability of tech and services, lack of education, and income limitations for affordable subscriptions are significant barriers.
Aging individuals	22.8% of the population are aging individuals 65 years or over.	Individuals aged 65 years or older(<i>Note that the Digital Equity Act uses 60+ to define aging.</i>) ¹⁵	Digital literacy, security risks (especially related to AI), and understanding individual service/ equipment needs are significant barriers.
Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility	0.52% of the county's population is incarcerated in the regional correctional system.	This includes individuals currently or formerly incarcerated (excluding those in federal correctional facilities).	Lack of education, security concerns, and geographical barriers affecting access to services are significant barriers.
Veterans	7% of the population are veterans	Individuals who served in the active military, naval, air, or space service, and who were discharged or released under conditions other than dishonorable.	Digital literacy, security risks, and understanding individual service/equipment needs are significant barriers.
Individuals with disabilities	20.4% of the population have a disability of some	Individuals with a physical or mental impairment that limits one or more major life	Digital, computer, and technology literacy, affordability of tech and

¹⁴ U.S. Census Bureau, 2022 5-Year American Community Survey (ACS) Estimates

¹⁵ For this plan data was not available so age 65+ is used throughout. The Digital Equity Act Population Viewer includes full data as defined by NTIA. (<https://www.census.gov/data/data-tools/digital-equity-act-population.html>)

Covered Population	Presence in Wetzel County	Description	Barriers to Digital Access
	type.	activities, a record of such an impairment, or being regarded as having such an impairment.	services, and understanding individual service/equipment needs are significant barriers.
Individuals with a language barrier: English language learners	0.46% English Language learners.	English Learners (ELs) are individuals who are not proficient in English and are in the process of acquiring the language skills necessary to achieve fluency. This group often includes immigrants and refugees, as well as native-born individuals who speak a language other than English at home.	Lack of education, digital literacy, and affordability of tech and services are significant barriers.
Individuals with a language barrier: Those with low levels of literacy	2.8% have low literacy rates.	Individuals with low levels of literacy have limited ability to read, write, and comprehend text.	Digital literacy, lack of education, and security risks are significant barriers.
Individuals who are members of a racial or ethnic minority group	0.58% of the population are minorities.	This includes racial and ethnic minorities.	Digital, computer, and technology literacy, lack of education, and geographical barriers.
Individuals who primarily reside in a rural area	100% of the population is considered rural.	Areas other than cities or towns with a population greater than 50,000 inhabitants.	Digital literacy, affordability of tech and services, and understanding individual service/equipment needs are significant barriers.
Other priority populations	More data needed.	Children and youth, individuals in recovery and the homeless are examples of other populations that could greatly benefit from Digital Equity programs.	Geographical barriers, lack of education, and affordability of tech and services are significant barriers.

Table 4. Wetzel County Covered Populations

Priority Populations

Based on demographics, internet usage and feedback from residents of Wetzel County, the following covered groups have been identified as priority populations most at risk for being impacted by the digital divide:

- **Low Income Residents:** Wetzel County has a high population of low income residents with the county average falling at 25.7% of the population falling into this category. These residents have been identified as having higher barriers to accessing the internet.
- **Aging Individuals:** Wetzel County has a high population of aging individuals with the county average falling at 22.8% of the population falling into this category. These residents have been identified as having higher barriers to accessing the internet.
- **Disabled Individuals:** Wetzel County has a high population of disabled individuals with the county average falling at 20.4% of the population falling into this category. These residents have been identified as having higher barriers to accessing the internet.
- **Veterans:** Wetzel County has a significant population of veterans with the county average falling at 7% of the population falling into this category. These residents have been identified as having higher barriers to accessing the internet.

There are other populations in the county that face barriers. It is important to remember that many of these populations are not mutually exclusive, individuals often fall into several and the specific barriers are often similar. Wetzel County Stakeholders specifically noted the absence of young people and children in the lists above.

This project is the first step towards moving towards a comprehensive County Digital Equity Plan, as such, more time and effort needs to be spent with future outreach efforts to the priority populations, as well as organizations that already serve them, to gain a more complete understanding of needs.

Note on the Affordable Connectivity Program

The Affordable Connectivity Program (ACP) was an affordability program that provided low income residents with a monthly stipend to assist with broadband affordability. The ACP ceased accepting new applications February 8, 2024 and ended May 31, 2024 due to lack of additional funding from Congress. This program served 35% (128,571) of eligible households in West Virginia.¹⁶ In lieu of this program ending, affordability measures and efforts on the local level will likely be important to ensure that our most vulnerable can still access affordable internet resources.

¹⁶ Education Superhighway, Accessed July 2024
<https://www.educationsuperhighway.org/no-home-left-offline/acp-data/>

Challenges, Opportunities and Goals for Wetzel County

The data for Wetzel County paints an important picture of the Digital Equity landscape in the county however, it is also critical in any planning process to “ground truth” and work with residents to identify the top barriers and challenges based on their lived experience. The Wetzel County Digital Equity Steering Committee and GWV Project team would like to thank stakeholders for providing their candid and honest feedback around the barriers in the county. This feedback was gathered through the Wetzel County Community Workshop Spring 2024, via stakeholder phone conversations, and through feedback from stakeholders who attended Project Planning workshops in June 2024.

Challenges

In Wetzel County, the biggest challenges identified as part of this project included affordability, lack of access, lack of training and education about digital skills, lack of understanding of digital needs and security concerns. Many different factors affect the ability of Wetzel County residents to equitably and consistently access broadband resources.

Access to high-speed internet is limited, especially in rural areas where poor connectivity and inadequate infrastructure hinder digital inclusion. However, even the best networks still won't solve the digital divide if residents are unable to afford services.

Across the county, 25.65% of households qualify as low-income, this means that the cost of internet services and necessary technology remains prohibitively high for many residents. Accessibility is further hindered by geographical barriers and insufficient infrastructure, resulting in uneven broadband availability. Although 76.7% of households report having access to broadband, Tax District 2 highlights 21.8% of the population without any broadband access at home (See [Figure 4](#)), highlighting the disparities within the county. Additionally, 15.6% of households across the county report having no device at home, limiting their ability to engage in digital activities such as online learning and telehealth services.

Educational barriers also play a significant role, as limited digital literacy skills impede internet use, particularly among the 22.8% of the population who are aging individuals. Security concerns, including fears related to AI and online safety, deter residents from fully engaging with the internet. Furthermore, with 20.4% of the population being individuals with disabilities, addressing individual service and equipment needs is crucial for fostering digital inclusion. The presence of many unserved addresses, some clustered close to larger towns, underscores the need for targeted infrastructure improvements. Addressing these barriers is essential for promoting digital inclusion in Wetzel County and ensuring all residents have equitable access to the benefits of the internet.

Top Barriers
Affordability of devices/technology, and services. Lack of affordable subscriber options.
Lack of education on technology, lack of access to training about using digital resources/tools.
Lack of exposure/knowledge causing fear/reluctance, terminology discouraging use.
Cyber security risks, fear around use. Fear of AI
Geographic challenges for infrastructure development and mobility of residents to get to services.

Table 5. Top Barriers Identified during stakeholder outreach

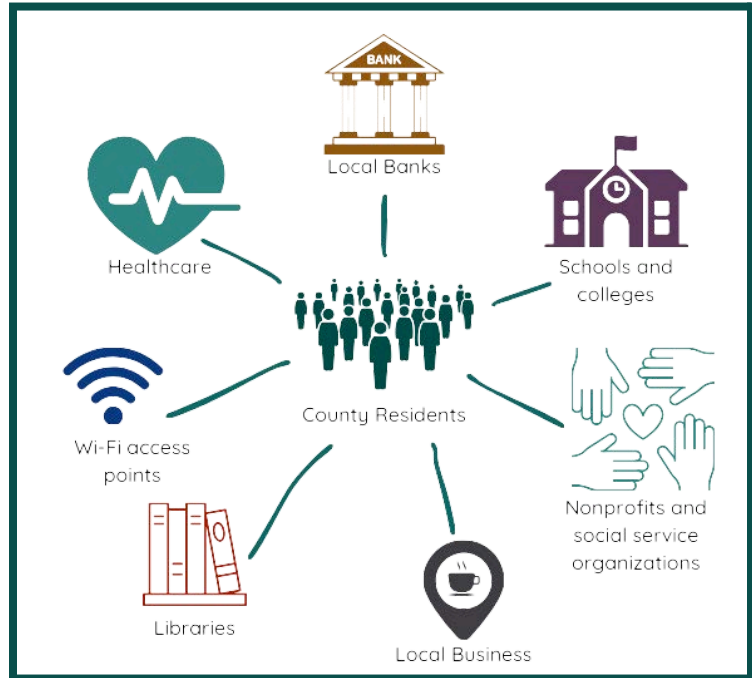
Many of the geographic challenges of the county along with the challenges associated with being a “regional line” county have made finding concrete solutions difficult. Wetzel County also works closely with neighboring Tyler County however there is a differing appetite for programming and level of resources between these two counties. The challenges in Wetzel County are widespread, however, solutions and resources in the community exist and there is an opportunity to leverage these assets to increase access now, even before broadband expansion has been completed. In fact, acting now to address the County’s digital equity barriers can help increase uptake of broadband service as it is extended to unserved areas, and will ensure that residents are able to fully benefit from broadband access when it becomes available to them.

Opportunities/Assets

Wetzel County has many resources to build upon to address these barriers to equitable connectivity. The first point to highlight is that Wetzel County, like many others, has many individuals and organizations that are already doing digital inclusion work, though they may not call it that. The school system does this already for the youth population, libraries become de-facto providers of digital literacy resources by offering connectivity. Any organization that is actively helping residents sign up for online resources, access online portals, log in to an email address, etc., is already in the work of providing digital literacy skills.

There are four Libraries in the county with a total of 17 computer terminals in these locations. In addition, there are several food pantries including Helping Hands Food Pantry, Catholic Charities and Salvation Army. These types of resources could be a place to reach residents needing training. Faith communities, especially those that are service minded or that already operate service missions, could also be a good place to start since many residents are already familiar with those locations Wetzel County has 70 churches throughout the county. Improving internet access and/or adding programming and digital services in existing and trusted locations is a great place to start.

Wetzel County also has a series of organizations whose missions closely align with the work. Nonprofits like the local Community Action Partnerships, Wetzel County FRN, Wetzel County Technical Education Center, Youth Services System, Linx Community Service, Wetzel County Center for Children and Families, offers a variety of services to many of the covered populations and leadership understands the importance of this type of work for their clients. West Virginia Reentry Councils are also a huge asset to the community and also could provide a great connection to those struggling to access online resources.



Healthcare has the potential to be a great partner, whether its a local clinic or regional healthcare system, the 21 of healthcare clinics and hospitals in Wetzel County also serve as access points for resources and could be leveraged to provide additional services. Health providers have a vested interest in digital equity for their patients, the shift towards telehealth and integration of technology in medicine (internet-enabled heart monitors, inhalers etc.) highlights how critical it is for patients to have internet connectivity. Other community partners that also have a vested interest can include local banks, retailers, and other community businesses that can more effectively serve their customers and clients when they have the ability to take advantage of tech based support and solutions. For a further list of Wetzel County Community resources please see [Appendix B.2: Community Digital Asset Mapping](#) on page 54.

In addition, community members in the county have a great sense of what solutions and potential solutions would have an impact. The input and lived experiences of community members is also a huge asset to the community. Potential solutions identified by Wetzel County Stakeholders included:

- **Education and training programs:** Create and nurture opportunities for community training & coordination, Host training and community workshops, Provide education on benefits of the digital world, convert terminology to ordinary language for the community.
 - Highlighted opportunities to partner educational institutions, senior centers, the VA, workforce organizations in the County to help implement programs/find participants.
- **Advocacy and Funding:** Advocacy for funding programs for low-income residents (ACP), Subsidies for things like mobile hotspots to fill in the gaps.
- **Infrastructure development:** Smart Networks, Smart network, All fiber everywhere
- **Partnership** with educational institutions/senior centers, VA/ workforce

There are also regional and statewide resources that Wetzel County projects can reach out to. These include programs like the Mountain State Digital Literacy Program, Catholic Charities of WV, For a full list of community resources please see [Table 12. Wetzel County Resource list](#).

Who would benefit most from this work?

Digital equity initiatives in Wetzel County would benefit low-income families, elderly individuals, rural residents, people with disabilities, veterans, homebound individuals, those with limited digital literacy, students, formerly incarcerated individuals, and non-English speakers and racial/ethnic minorities. By providing affordable internet access, devices, and comprehensive digital literacy training, these groups can gain better educational and job opportunities, improved access to telehealth and essential services, and enhanced connectivity with their communities. Addressing these needs would significantly bridge the digital divide and improve the overall quality of life for these vulnerable populations.

Aggregate Community Engagement Findings

Based on community feedback, Wetzel County has an opportunity to focus on addressing the diverse needs of its population. Community feedback from Wetzel County emphasizes the need for comprehensive access to essential services and opportunities through digital connectivity. Priorities include extending cell phone service, ensuring GPS availability, streamlining emergency services, and supporting online education and ecommerce. The county also values fostering community engagement, promoting mental health services, and enhancing overall quality of life through reliable and secure digital infrastructure.

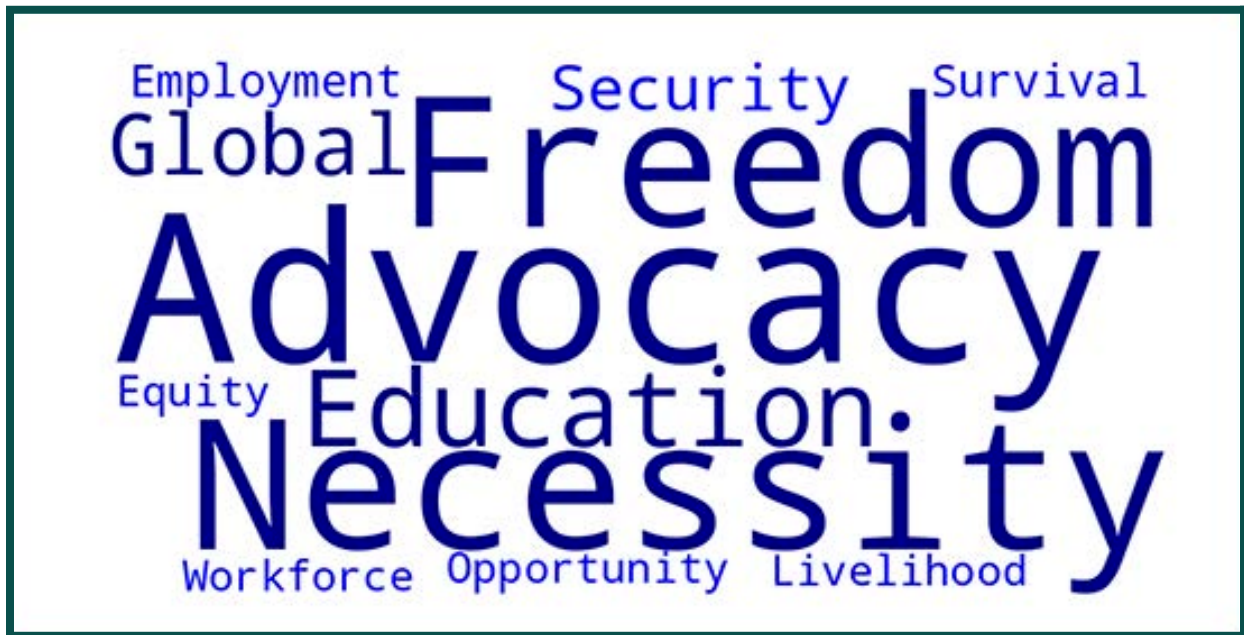


Figure 8. Word cloud from community meeting

Vision for a Connected Wetzel County

In order to make change it is critical to have an understanding of where the county and stakeholders want to go, and what success looks like. With the West Virginia State Office of Broadband vision in mind, “to ensure that all West Virginians have the resources they need to participate in the digital world and achieve the numerous benefits of digital equity”. Stakeholders spent time outlining what their dream and vision for a Connected Wetzel County would look like.

Vision: In a connected Wetzel County, residents would enjoy comprehensive access to essential services and opportunities, enriching their daily lives and fostering community growth. Cell phone service would be extended to all areas, particularly rural regions, with the incorporation of Wi-Fi calling where needed. GPS availability would ensure seamless navigation for all residents. First responders would be readily accessible through streamlined 911 services, ensuring swift emergency assistance. Online education would be a cornerstone, catering to various educational levels, from elementary to higher education, thereby expanding learning opportunities for all. Access to online services for medical needs, government forms, taxes, and banking would be simplified, enhancing convenience and efficiency. Online shopping and e-commerce would flourish, supporting local businesses and attracting new residents. A remote workforce would be supported, boosting economic opportunities. Efforts would be directed towards attracting and retaining residents, focusing on business development and enhancing the overall quality of life.

Wetzel County would be known for its smart technology infrastructure, providing hack-proof systems and smart city/county initiatives for efficient services. Virtual platforms would facilitate participation in clubs, groups, and religious services, fostering community engagement and connectivity. Entertainment options, including streaming services for TV, movies, and music, would be readily available, contributing to the cultural vibrancy of the county. Additionally, emphasis would be placed on promoting mental health services, telehealth options, and emergency information dissemination to ensure the well-being and safety of residents.

During any planning process that hopes to move toward the vision above. It is important to consider how the community’s values relate to the need /goal of equitable connectivity. Wetzel County residents value equitable internet access. It is seen as a necessity, vital for connecting, learning, and engaging with the world. It provides freedom, giving residents the tools to explore and express ideas globally. It’s a cornerstone of education, enabling students to thrive and learn beyond traditional boundaries. For community members in Wetzel County, internet access is more than just a service; it’s a gateway to security, employment, and survival, ensuring everyone has the opportunity to participate in the workforce and pursue equitable livelihoods.

Mission

Based on the values and vision above, the following mission statement was developed to help lead and direct Digital Inclusion planning in the county:

Mission Statement:	Our mission in Wetzel County is to ensure equitable access to essential digital resources and opportunities for all residents by overcoming barriers such as affordability, accessibility, education, security concerns, and individual needs. We aim to create a connected and empowered community where every resident, regardless of location or ability, can fully participate in the digital age. Through initiatives focused on enhancing infrastructure, expanding online services, and supporting local businesses, we seek to enrich lives, promote education, and foster economic growth and community development.
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Table 6. Wetzel County Digital Equity Mission Statement

Goals

Stakeholder goals can be summarized as the following:

- Develop comprehensive digital literacy training and support services, including workshops at local educational institutions, senior centers, and community organizations, to improve residents' ability to use technology effectively for tasks such as telehealth, online banking, and staying connected with family.
- Ensure all residents, particularly seniors, veterans, and low-income families, have access to affordable digital devices and telehealth services, reducing transportation barriers and improving healthcare accessibility.
- Implement education and resources focused on digital safety, online privacy, and preventing scams, particularly targeting vulnerable populations such as the elderly and those with low literacy.

Alignment with Existing Goals

Wetzel County's Digital Equity vision, mission, and values support and are aligned with the Bel-O-Mar Regional Council's Comprehensive Economic Development Strategy by making a direct impact on several key goals including:

- **Goal 1: To create stable jobs providing employees with a decent standard of living:** Expanding broadband infrastructure, and ensuring the residents and the workforce can access online resources including those needed for work, result in more consistent stable employment less subject to localized downturns.
- **Goal 1: Objective 2: To attract new business to the region and help existing ones expand :** Access to high speed internet, an educated and connected workforce, and quality of life associated with educational opportunities helps attract new businesses, encourage existing businesses to stay and grow..

- **Goal VI: Improve education opportunities.** : Increased broadband access and efforts to ensure that residents can access online resources dramatically increases educational opportunities. Residents without adequate transportation or mobility challenges can access worldwide educational resources and the opportunities for children in schools and colleges dramatically increases allowing them to participate in academic courses unavailable locally.

Additionally, the Wetzel County’s goals are also aligned with the the West Virginia Department of Economic Development Office of Broadband Digital Equity priorities and goals in the following ways:

- **Improving Digital Skills:** Aligns with WVDED Office of Broadband's objective to make digital literacy training available to all West Virginians, including covered populations. By offering comprehensive training programs at local educational institutions, senior centers, and community organizations, Wetzel County will ensure residents are equipped with the necessary skills to participate fully in the digital world.
- **Improving Device Access:** Aligns with WVDED Office of Broadband's objective to create a sustainable program for device distribution, lending, and recycling. Wetzel County's focus on providing affordable digital devices and telehealth services ensures that all residents have the tools they need for connectivity and healthcare.
- **Advancing affordability:** Aligns with WVDED Office of Broadband's objective to increase affordable internet options. Wetzel County's efforts to secure financial assistance and subsidies for low-income residents will help bridge the affordability gap and ensure equitable access for all residents.

Recommendations to further Digital Inclusion Efforts in Wetzel County

Bring more stakeholders to the table. This planning process was able to reach many key partners. During the planning process, Wetzel County residents identified many additional individuals, organizations and stakeholders that could help solve some of the challenges for residents in the county.

- 1) **Bring more stakeholders to the table.** This planning process was able to reach many key partners. During the planning process, Wyoming County residents identified many additional individuals, organizations and stakeholders that could help solve some of the challenges for residents in the county.
- 2) **Establish a formal structure around Digital Equity Planning and communications.** Wetzel County steering committee members provided critical input and resources during the planning process, a potential course of action would be to formalize a committee to continue shepherding the planning process into the future. Identifying regional or neighboring county partners to include could bring in additional resources and engaged partners.
- 3) **Continued outreach and resource sharing.** There was a lack of knowledge identified about existing programming. Opportunities to work with current partners to better advertise the existing resources
- 4) **Identify partners in need of additional capacity:** Many local partners may already be serving the residents in most need of services and may be able to expand their existing services with some increased support. Additional staff capacity for an existing trusted program can result in significant impacts
- 5) **Project planning:** Several partners are poised to take advantage of upcoming digital equity funding to develop more comprehensive programs focused on digital literacy, skills and/or device access. Maintaining open communication with other county stakeholders will ensure efficient and effective implementation.
- 6) **Identifying long-term support:** This could include working with local county or town governments to identify funding sources, private business, philanthropic partners, and the internet service providers in the community. County stakeholders have an opportunity to do outreach to these partners to show the impact that expanded connectivity could have on the community.

This list is not exhaustive by any means but can serve as a starting point for the stakeholders in the county that are committed to expanding digital equity in Wetzel County.

Who to bring to the table:

Wetzel County Steering Committee and Community stakeholders identified a variety of stakeholders to include in further planning efforts. These stakeholders encompass a variety of local and regional organizations: Center for Children and Families, Wetzel County School System / Board of Education, The senior citizens center, Wetzel County Libraries, public education resources, family support programs, young parents, transportation companies, Federal and State government representatives, local elected

officials across the county, governmental agencies, industry, and civic support organizations were all identified as potential stakeholders to include in further planning.

Note that there may also be regional or cross-county stakeholders that can facilitate strong partnerships. Bel-O-Mar Regional Development Council and local Economic Development agencies can often help facilitate regional projects that may benefit several counties.



Figure 9. Wetzel County, West Virginia

Conclusion

There is a significant need for digital inclusion efforts in the county. These efforts will dramatically increase the wellbeing and quality of life in Wetzel County, not only for the covered populations but for the community in general.

By beginning this process of Digital Equity planning and project development, Wetzel County stakeholders are taking the critical first steps to ensure that Wetzel County will achieve maximum benefit from the historic investment of the DEA and BEAD program over the next 5-10 years. The potential benefits are numerous and hard to quantify. From expanded healthcare access, reduced loneliness, better access to education and work opportunities and expanded opportunities for self determination and entrepreneurship it is clear that this work can not wait.

The economic benefits of a connected community, where residents have the access, skill, devices, and resources needed to use the benefits of today’s digital economy would dramatically improve the social and economic outlook of Wetzel County. The Wetzel County Digital Equity Steering Committee hopes that this plan, and any subsequent data reports planning efforts will provide a roadmap and baseline measurement provide a picture of the need and opportunity for digital equity work in the county.

Note on Potential Funding:

There are some near-term next steps for potential Digital inclusion Projects through the Digital Equity Act funding opportunities that will be available FY 2024-2026. These grant funds provide a “kickstart” to program expansion or launch by providing interested organizations with some resources to get started. The West Virginia Office of Broadband is launching three subgrant programs starting spring 2025. These provide a great opportunity for organizations in Wetzel County to start working together to address the challenges to digital inclusion in the county.

Additional Planning and Coordination

The strongest efforts and most successful models across the country are those that leverage current capacity and the partners who are already in place to do the work. Positive change requires commitment and coordination on the ground. This plan is just a starting point. It provides the baseline and a goalpost. The Wetzel County Digital Equity Steering Committee and stakeholders and residents of Wetzel County are the individuals and organizations that will drive the real impact.

- 1) Cell phone service for all
(rural areas use wi-fi calling)
- GPS Availability
- First Responders (911)
- Online education - secondary & higher education - more opportunity.
- accessing online services - medical
gov't forms
taxes
- Banking
- upgraded software for all
- online shopping (e-commerce)
- reliability/speed
- attracting new population - business & quality of life
- keeping young people in area
- online churches
- participation in clubs/groups
- interpersonal relationships
(virtual or for planning in-person meeting)
- buying prescription drugs
- research
- entertainment - streaming TV, movies & music

Figure 10. A selection of the vision from Wetzel County Community Meeting

Glossary

American Community 5-year Survey (ACS5): A comprehensive survey conducted by the U.S. Census Bureau that provides detailed demographic, social, economic, and housing data for every community in the U.S. based on five years of data collection. It offers greater geographic detail and accuracy than the decennial and ACS 1-year survey.

American Community 1-year Survey (ACS1): A survey conducted annually by the U.S. Census Bureau that provides updated demographic, social, economic, and housing data for large geographic areas with populations of 65,000 or more. It offers more timely data but with less geographic detail than the 5-year survey.

Household: A household consists of all people who occupy a housing unit, regardless of their relationship to each other. This includes individuals living alone, roommates, or unrelated individuals living together.

Family: A family is a subset of a household and includes individuals related by birth, marriage, or adoption living together in one household. Families can include couples with or without children, single parents with children, and extended family members living together.

Mean Household Income: The average income of all households, calculated by dividing the total income of all households by the number of households. This is useful for understanding the overall income level of an area but can be skewed by very high or very low incomes.

Median Household Income: The middle income value where half of the households earn more and half earn less. This provides a better representation of the typical income of an area, especially in regions with significant income disparity.

Family Income: The combined income of all members of a family living together in one household. This might be ideal for studies focusing on economic well-being and policy impacts on traditional family units, such as analyses of welfare programs, tax policies, or family support systems.

Per Capita Income: The average income earned per person in a given area, calculated by dividing the total income by the population. This is useful when assessing the average economic well-being of individuals within a specific geographic area, such as a state, county, or city.

150% of the Poverty Threshold: An income level set at 1.5 times the official poverty line, used to assess economic well-being and eligibility for certain assistance programs.

Gini Index: This is a direct measure of income inequality within a population. The Gini Index ranges from 0 (perfect equality, where everyone has the same income) to 1 (perfect inequality, where all income goes to only one household).

Demographic: Characteristics of a population used for statistical analysis, including attributes such as age, gender, race, ethnicity, education, income, and employment status. These characteristics help in understanding the composition and trends within a population.

Unemployment Rate: The percentage of the labor force that is unemployed and actively seeking employment. The unemployment rate is a critical indicator of labor market health.

Poverty Rate: The percentage of the population whose income falls below the official poverty threshold, indicating the proportion of people living in poverty.

Official Poverty Threshold: The income level set by the U.S. Census Bureau that varies by family size and composition, used to determine who is considered to be living in poverty. It is based on the minimum income needed for basic living expenses.

Digital Equity: 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). This includes: 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 Divide: 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

Megabits Per Second (Mbps): A measure of how fast data can be transferred over the internet. It indicates how many millions of bits (tiny pieces of data) can move from one place to another in one second. Higher Mbps means faster internet, so activities like streaming videos or downloading files happen quicker. In 2015 the Mbps speed of “Broadband” was defined by the FCC as 25 Mbps Download and 3 Mbps Upload speeds (25/3). In 2024 that definition was revised to 100 Mbps Download and 20 Mbps Upload speeds (100/20).



APPENDIX A

Geographic and Demographic Profile

Appendix A. Geographic and Demographic Profile

Demographic, broadband adoption and device adoption data was identified from the U.S. Census Bureau’s American Community Survey 2018-2022 5-Year Estimates, a wide-ranging survey conducted by the U.S. Census Bureau that provides detailed demographic, social, economic, and housing data for every community in the U.S. based on five years of data collection. Unemployment data was obtained for 2022 from WorkForce West Virginia and 2023 school enrollment and budget data was identified from the West Virginia Department of Education.

Demographic ¹⁷	Demographic Data
Total Population Number	14,431
Square Miles Covered	361
Number of People per Square Mile	40
Number of Residents Who Identify as White	13,812 (95.7%)
Total Minority	619 (4.3%)
Number of Residents Who Identify as Black	*insufficient data ¹⁸
Number of Residents Who Identify as Hispanic or Latino	*insufficient data ¹⁸
Number of Residents Who Identify as Indigenous	*insufficient data ¹⁸
Number of Residents Who Identify as Other	*insufficient data ¹⁸
Total Number of Households	5,861
Number of Households That Are Owner Occupied	4,732 (80.7%)
Average Household Size	2.43 per household
Mean Household Income	\$67,016
Median Household Income	\$50,715
Mean Family Income	\$83,801
Median Family Income	\$69,497
Per Capita Income	\$27,174
Number of People Living Below the Poverty Line	2,397 (17)
Number of Low to Moderate Income Residents (150% of the national poverty threshold.	3,702 (25.7%)

Table 7. Wetzel County General Demographic Information

¹⁷ US Census 2022 American Community Survey 5-Year Estimates

¹⁸ * Not sufficient data to provide an accurate estimate.

Observations

Below is a table of social determinants to consider when observing a service area and they can vary significantly from one community to another. Addressing these determinants is crucial for promoting equity and improving the overall well-being of historically marginalized or underinvested communities.

Social Determinant	Description
Economic Factors¹⁹	
Income Inequality	Wetzel County has a Gini Index of 44.45%, indicating moderate income inequality. The relatively higher median and per capita incomes suggest some economic stability, but income distribution disparities remain.
Unemployment Rate	Wetzel County has an unemployment rate of 5.6%. This is higher than the state’s unemployment rate of 3.9% and the national unemployment rate of 3.7%.
Poverty Levels	Wetzel County has a poverty rate of 16.6%. This is slightly higher than the state’s poverty rate of 16.3% and the national poverty rate of 12.2%.
Lack of Economic Opportunities	<p>Wetzel County shows a significant gap in the sales and office sector where the county median earnings are substantially lower than the state and national averages. Enhancing digital literacy and providing access to high-speed internet can help residents access better job opportunities in this sector. Programs focused on digital business operations and remote work skills would be advantageous to bridge this gap and improve economic opportunities.</p> <p>Wetzel County has an active chamber of commerce that helps businesses grow and contribute to the overall economic stability of the county. The County shows promise in the service sector, with competitive performance in regards to median income. Digital equity initiatives can focus on specialized training in digital services and online customer management.²⁰</p>
Education²¹	
Educational Attainment and Access to Quality Education	Wetzel County faces significant educational and economic challenges. Fewer adults have high school diplomas and bachelor's degrees compared to state and national averages. Median incomes for residents with less than a high school diploma, high school graduates, and those with some college education are notably lower, highlighting systemic economic issues. Wetzel

¹⁹ U.S. Census 2022 American Community Survey 5-Year Data

²⁰ U.S. Census 2022 American Community Survey 5-Year Data; Wetzel County Chamber of Commerce

²¹ U.S. Census 2022 American Community Survey 5-Year Data; West Virginia Department of Education 2023 Enrollment and Budget Data

Social Determinant	Description
Educational Attainment and Access to Quality Education	<p>County has one elementary, three middle, and four high schools, with a total enrollment of 2,216 students. The county has a per pupil expenditure of \$23,335.62, which is significantly more than the state average. Wetzel County's educational attainment is below both the state and national averages. The moderate budget per student suggests that while some resources are available, more focused investments and support are needed to bridge the educational gaps.²² Increased access to online and technical resources can help improve student outcomes and give residents the opportunity to access remote learning opportunities and give students access to supplemental courses not offered or available in the local school system.</p>
Healthcare	
Healthcare Access	<p>Wetzel County has 21 active licensed health facilities based on data from the WVDHHR. The County has one hospital with 58 beds, one nursing home with a total capacity of 120 beds and two Rural Health Clinics. In addition to these and various other types of health facilities, there is one Federally Qualified Health Centers that provides comprehensive services. These 21 facilities serve a population of 14,431 county residents.²³</p> <p>In West Virginia, telehealth usage remains significantly above pre-pandemic levels, with about 3% of total Medicare visits conducted via telehealth in 2021, though this is a decrease from the 5% peak in 2020. Despite the overall increase, substantial disparities persist, particularly between rural and urban areas, primarily due to limited broadband access in rural regions. Rural beneficiaries are less likely to utilize telehealth services compared to their urban counterparts, highlighting a critical barrier to healthcare access. The higher statewide usage rates among beneficiaries with disabilities and those dually enrolled in Medicaid and Medicare further underscore the necessity for targeted interventions. Additionally, 22% of telehealth visits involved out-of-state providers, indicating both a reliance on external healthcare resources and potential challenges in local healthcare capacity. These statewide disparities emphasize the urgent need for enhanced broadband infrastructure and policy alignment to support equitable telehealth access and improve healthcare outcomes across the entire state. Data analysis is pending for more targeted county specific data.</p>
Health Disparities *	<p>Wetzel County shows higher rates of ambulatory and independent living difficulties among its population compared to the state averages. The median income for those with disabilities is lower than the state average. Improving digital equity and access to health services online would address these disparities effectively.²⁴</p>

²² West Virginia Department of Education

²³ West Virginia Department of Health and Human Resources; ASPE Office of Health Policy

²⁴ U.S. Census 2022 American Community Survey 5-Year Data

Social Determinant	Description
Food Deserts	Wetzel County has at least 4,762 residents (33%) that have low access to healthy food options being 10 miles or further from the nearest supermarket. While 33% is the minimum threshold the USDA uses to define low access, the true percentage may be higher due to the rural nature of the area. From those, at least 3,588 residents are considered low income and have low access to food options. Wetzel County has food banks such as Helping Hands Food Pantry, Catholic Charities and Salvation Army. ²⁵
Housing²⁶	
Affordable Housing	In Wetzel County, 3.1% of households with a mortgage pay more than 30% of their income in housing costs, indicating a housing cost burden as defined by HUD. Additionally, 4.9% of households without a mortgage pay more than 30% of their income in housing costs. The 19.3% of renter households in the county also face high gross rents as a percentage of household income; 5.9% of renter households pay 30% or more of their income as rent, with 2.9% severely cost-burdened, paying more than 50% of their income as rent.
Housing Segregation	In Wetzel County, significant disparities exist in median home values, the age of homes, and median gross rent across Census tracts. Median home values range from \$72,500 to \$128,200, indicating potential housing segregation. Homes' median construction years span from 1940 to 1975, and median gross rents range from \$488 to \$675, highlighting different affordability levels. Additionally, a notable percentage of householders aged 65 years and over spend 3% or more of their income on rent or owner costs. These economic pressures likely hinder access to digital technologies and services, exacerbating the digital divide. Addressing these disparities through targeted housing and digital equity initiatives is crucial for fostering an inclusive community.
Homeownership	Homeownership rates are moderate, with mortgage costs in line with state averages. Seniors in Wetzel County face difficulties in balancing homeownership costs and investing in digital services, impacting their ability to stay connected.
Criminal Justice	
Mass Incarceration	As of July 2024, Wetzel County has 75 incarcerated individuals in the Northern Correctional Facility, representing approximately 0.52% of the total population. This does not include individuals that may have posted bail or be incarcerated in local, private or federal prison systems. Statewide, West Virginia has an incarceration rate of 340 per 100,000 residents, with

²⁵ US Centers for Disease Control and Prevention Environmental Justice Dashboard. Accessed June 2024. <https://ephtracking.cdc.gov/Applications/ejdashboard/>; Facing Hunger Foodbank, Inc.

²⁶ U.S. Census 2022 American Community Survey 5-Year Data

Social Determinant	Description
	<p>significant populations under probation (438 per 100,000) and parole (258 per 100,000). The state operates 12 prison facilities and 10 jail facilities, with a prison budget of approximately \$216.9 million and an average cost of \$32,444 per inmate.²⁷ Statewide, West Virginia has high rates of incarceration with 637 per 100,000 people being currently or formerly incarcerated particularly among minority populations.²⁸ Justice-impacted individuals face significant barriers to reentry and often face glaring knowledge gaps about how to safely use online resources to navigate job seeking and educational resources and often struggle with device access.</p>
Criminalization of Poverty	<p>Research data pending on if there are local laws and practices that criminalize poverty-related issues.</p>
Infrastructure²⁹ and Environment	
Infrastructure Investment	<p>Much of West Virginia’s infrastructure has deteriorated, while new construction, replacement, rehabilitation and repair efforts have not kept pace with the needs. According to the ASCE-West Virginia 2020 Report Card, infrastructure across the state is generally poor with an overall grade of D (poor) across bridges, roads, wastewater, drinking water, and dams. The overall decline in population contributes to a smaller tax base available to help pay for necessary infrastructure modernization. 21% of the state's bridges are listed as structurally deficient. Many wastewater utilities across the state struggle to maintain their systems due to low rate-paying populations locally. The topography of the state results in significant challenges in maintaining and extending drinking water resources, with current funding needs upwards of \$302 million. Challenges in local infrastructure dramatically impact residents and their ability to prioritize and address their digital access needs. For residents without basic utilities such as water/wastewater, digital access is often not the priority. Additionally, the lack of a local tax base prevents many systems from regular adequate repair.</p>
Environmental Hazards	<p>The HUD environmental health hazard exposure index average for Wetzel County is 71. This index summarizes potential exposure to harmful toxins at a neighborhood level, incorporating estimates of air quality carcinogenic, respiratory, and neurological hazards. Higher index values indicate better environmental quality. Wetzel County has a slightly higher risk of exposure to harmful toxins compared to the overall state average of 74. The forested areas of the county are considered at moderate risk of wildfires according to 2024 National Interagency Fire Center mapping data. Several areas along the</p>

²⁷ WVRJA 2024/National Institute of Corrections 2021

²⁸ <https://www.prisonpolicy.org/>

²⁹ 2020 Report Card for West Virginia’s Infrastructure, American Society of Civil Engineers(2021) WWW.INFRASTRUCTUREREPORTCARD.ORG/WEST-VIRGINIA; Federal Emergency Management Agency Flood Insurance Rate Maps for WV; National Interagency Fire Center Data 2024.

Social Determinant	Description
	Ohio River as well as several other waterways are located within the FEMA 100-year floodplain, which is estimated to have a 1% chance of flooding in any given year. Such zones are often subject to mandatory flood insurance if property is purchased with a federally backed mortgage. ³⁰
Transportation Access ³¹	In Wetzel County, approximately 6.2% of households have no vehicle available. Additionally, about 8.7% of households have commute times of 60 minutes or more. There is no public bus transportation available, the lack of public transportation underscores the importance of online access for homebound and low income residents. These resources dramatically expand opportunities for those who are homebound, and reliable connectivity can also provide the opportunity for additional transportation solutions in rural areas such as ride sharing apps.
Social Support	
Social Capital	Wetzel County emphasizes values such as advocacy, freedom, and opportunity. Barriers include affordability, geographical challenges, and a lack of digital literacy. Trust issues and a lack of exposure to technology among different age groups highlight social divides within the community.

Table 8. Observation of key social determinants for Wetzel County.

General Community Economic and Workforce Status

Access to the digital economy has direct impacts on local workforce and their income potential. Based on the data from the USDA and U.S. Census Bureau regarding Persistent Poverty Areas in the United States, the following observations were made:

- Wetzel County has some areas rated as high poverty based on U.S. Census tract areas.
- Wetzel County's median household income, adjusted for inflation, has shown minimal growth over the past decade. The per capita income has seen slight increases, but the overall economic progress has been limited. The poverty rate has fluctuated without substantial long-term reduction, indicating ongoing financial challenges.

According to a 2023 analysis by the National Skills Coalition and the Federal Reserve Bank of Atlanta, *Closing the Digital Skill Divide*.³² 92% of analyzed jobs require digital skills. Previous research found that one third of workers do not have the basic digital skills needed to succeed in today's jobs. These skills are required across industries and make it clear that low income, marginalized, and other individuals will historic challenges to accessing the digital economy are at a significant disadvantage.

³⁰ US Centers for Disease Control and Prevention Environmental Justice Dashboard. Accessed June 2024. <https://ephtracking.cdc.gov/Applications/ejdashboard/> | HUD Official Data as of January 2024

³¹ U.S. Census 2022 American Community Survey 5-Year Data

³²Bergson-Shilcock, Amanda, et al. "Closing the Digital Skill Divide: The Payoff for Workers, Business, and the Economy." National Skills Coalition, Federal Reserve Bank of America, 2023.

Statistics on Meaningful Uses

To obtain state and local statistics on meaningful uses of broadband in the community, the project team examined a variety of sources for the data shown on the table below:

<p>Patient Health Portal (PHR) or Electronic Health Portal (EHR) Use/Adoption³³</p>	<p>A survey of 6,910 people statewide conducted by the West Virginia Primary Care Association asking “Have you accessed your health records using the internet/patient portal?” revealed that the majority of 69.58% answered “No” indicating reasons such as “I didn’t know I could” (13.98%), “I don’t have internet access” (10.13%), and “I tried but it didn’t work” (2.4%). This statewide survey reveals the telehealth challenges throughout the state, be it lack of internet access or potential lack of knowledge on device usage and benefits of technology.</p>
<p>Online Social Service Enrollment, Account Management and Use³⁴</p>	<p>1 in 4 West Virginians are assisted by Medicaid through the Mountain Health Trust (MHT) program, with a total enrollment of 488,405 members as of the end of the State’s fiscal year 2022. This significant enrollment indicates a substantial use of online systems for Medicaid services .</p> <p>The implementation of federal policies during the Covid Pandemic, such as maintaining continuous coverage for individuals enrolled in Medicaid and CHIP, significantly increased Medicaid enrollment. This policy likely led to greater use of online services for managing enrollments and renewals .</p>
<p>Public Library Electronic Services.³⁵</p>	<p>Wetzel County has four libraries in the County. There are 17 Patron Internet Terminals in the county with 2,711 annual users of public internet resources reported.</p>
<p>Number or Percentage of Local Workers Requiring a Computer</p>	<p>The percentage of workers requiring a computer was estimated using the number of employees and business sector from Dun & Bradstreet data based on Reid Consulting’s methodology for business broadband needs, as well as data from West Virginia Workforce Onet on software use by industry sector, 3890 workers in Wetzel County are estimated to require use of Broadband to do their current jobs. This does not take into account businesses that are unable to expand/take advantage of online resources/computers due to lack of connectivity.</p>

Table 9. Additional meaningful uses of Broadband Connectivity in Wetzel County

³³ West Virginia Primary Care Association 2022 Statewide Survey of 15 Health Centers

³⁴ West Virginia Bureau for Medical Services 2022 Mountain Health Trust Annual Report

³⁵ Annual Data from West Virginia Public Library Statistical Report :

<https://librarycommission.wv.gov/Who/Documents/Library%20Section%27s%20FY2023%20Statistical%20Report.pdf>

Impact of the Coal and Oil and Gas Industry

Data made available from the Appalachian Regional Commission regarding Economic Distress in Appalachian counties indicates that:

- Wetzel County has a very high dependence on the declining coal industry.
- Wetzel County is at very high risk of negative economic impacts as the coal industry declines.
- Wetzel County has a very high Composite Index indicating an overall likelihood of negative economic impacts as the coal industry declines, highlighting the need for more economic diversification.

ARC Metric	Score	Quintile	Description
Dependence	2.399	Highest	Measures how much a county's economy relies on the coal industry, based on employment and economic activity in coal-related sectors. Higher scores indicate greater reliance and vulnerability to coal market changes.
Current Impact	2.038	Lowest	Quantifies the economic effects of changes in coal-related employment from 2005 to 2019. Negative scores indicate job losses and downturns, while positive scores show minimal impact or growth. It assesses a county's economic resilience or vulnerability related to the coal industry.
Risk	2.415	Highest	Combines the Dependence Score and local coal mine productivity to assess future economic risk from the coal industry. Higher scores suggest greater risk if coal production declines.
Composite Index	8.822	Highest	Aggregates the Dependence, Impact, and Risk Scores to assess a county's overall economic health related to the coal industry. Higher scores indicate greater impact and dependence, highlighting the need for economic diversification.

Table 10. Coal Impacts on Wetzel County

Historically, Wetzel County's economy has been significantly influenced by the natural resources found within its borders, particularly oil and natural gas. During the late 19th and early 20th centuries, Wetzel County became a hub for the oil and gas industry. The region is part of the greater Pittsburgh petroleum and natural gas region, and its wells have historically produced substantial amounts of both resources. Statewide, West Virginia typically produces over 14 million barrels of petroleum and natural gas.

Aside from oil and gas, Wetzel County also has a history of coal mining, though this was not as prominent as in some other West Virginia counties. The economy of Wetzel County has seen fluctuations corresponding to typical resource-dependent areas. The peak of the oil and gas industry brought

economic prosperity, but declines in resource availability and changes in energy markets have impacted the county over time.

In recent years, there has been some decline in population and economic activity, reflecting broader trends in rural West Virginia. According to census data, Wetzel County's population peaked in the early 20th century and has been gradually declining since then, dropping from 22,880 in 1900 to approximately 14,431 in 2022. This decline can be attributed to various factors, including the mechanization of resource extraction, shifts in energy production, and the general outmigration seen in many rural areas. Despite these challenges, Wetzel County remains a region with significant historical value and potential for future development, particularly in renewable energy and other new industries.

Economic diversification requires access to high-speed Internet. Coming out of the pandemic, West Virginia has potentially more money than ever to expand access to high-speed Internet, including \$136 million in ARPA-allocated funds that are supporting the state's three broadband grants, the \$1.36 billion in COVID-19 funds to counties and cities that are broadband eligible, and an additional 1.2 Billion through the BEAD program. However, the communities that need these funds the most include those that industry decline and the digital divide have gutted of capacity with respect to leadership, staff, and matching capabilities.



APPENDIX B

Digital Equity and Local Assets

Appendix B. Digital Equity and Local Assets

B.1 Introduction and Vision for Digital Equity

Based on the data and community input collected as part of the planning process, the Wetzel County Digital Equity Steering Committee has developed the following problem statement, vision, and mission statement for achieving Digital Equity through increased broadband access as shown below:

Problem Statement	<p>Wetzel County faces significant challenges in achieving digital inclusion, stemming from various barriers related to affordability, accessibility, education, security concerns, and individual needs. With 25.65% of the population being low-income, the cost of internet services and necessary technology remains prohibitively high for many residents. Accessibility is further hindered by geographical barriers and insufficient infrastructure, resulting in uneven broadband availability. Although 76.7% of households report having access to broadband, Tax District 2 sees 19.% of its population without any broadband access at home, highlighting the disparities within the county. Additionally, 15.6% of households report having no device at home, limiting their ability to engage in digital activities such as online learning and telehealth services.</p> <p>Educational barriers also play a significant role, as limited digital literacy skills impede internet use, particularly among the 22.8% of the population who are aging individuals. Security concerns, including fears related to AI and online safety, deter residents from fully engaging with the internet. Furthermore, with 20.4% of the population being individuals with disabilities, addressing individual service and equipment needs is crucial for fostering digital inclusion. The presence of many unserved addresses, some clustered close to larger towns, underscores the need for targeted infrastructure improvements. Addressing these barriers is essential for promoting digital inclusion in Wetzel County and ensuring all residents have equitable access to the benefits of the internet.</p>
Vision Statement	<p>In a connected Wetzel County, residents would enjoy comprehensive access to essential services and opportunities, enriching their daily lives and fostering community growth. Cell phone service would be extended to all areas, particularly rural regions, with the incorporation of Wi-Fi calling where needed. GPS availability would ensure seamless navigation for all residents. First responders would be readily accessible through streamlined 911 services, ensuring swift emergency assistance. Online education would be a cornerstone, catering to various educational levels, from elementary to higher education, thereby expanding learning opportunities for all. Access to online services for medical needs, government forms, taxes, and banking would be simplified, enhancing convenience and efficiency. Online shopping and e-commerce would flourish, supporting local businesses and attracting new residents. A remote workforce would be supported, boosting economic</p>

Vision Statement	opportunities. Efforts would be directed towards attracting and retaining residents, focusing on business development and enhancing the overall quality of life. Wetzel County would be known for its smart technology infrastructure, providing hack-proof systems and smart city/county initiatives for efficient services. Virtual platforms would facilitate participation in clubs, groups, and religious services, fostering community engagement and connectivity. Entertainment options, including streaming services for TV, movies, and music, would be readily available, contributing to the cultural vibrancy of the county. Additionally, emphasis would be placed on promoting mental health services, telehealth options, and emergency information dissemination to ensure the well-being and safety of residents.
Mission Statement	Our mission in Wetzel County is to ensure equitable access to essential digital resources and opportunities for all residents by overcoming barriers such as affordability, accessibility, education, security concerns, and individual needs. We aim to create a connected and empowered community where every resident, regardless of location or ability, can fully participate in the digital age. Through initiatives focused on enhancing infrastructure, expanding online services, and supporting local businesses, we seek to enrich lives, promote education, and foster economic growth and community development.
Values	In Wetzel County, equitable internet access is valued for its role in advocating for equitable opportunities and voices. It's seen as a necessity, vital for connecting, learning, and engaging with the world. Internet access represents freedom, providing the tools to explore and express ideas globally. It's a cornerstone of education, enabling students to thrive and learn beyond traditional boundaries. For community members in Wetzel County, internet access is more than just a service; it's a gateway to security, employment, and survival, ensuring everyone has the opportunity to participate in the workforce and pursue equitable livelihoods.

Table 11. Vision/Problem Statement Recap

About this project: Planning Process

The core team, Generation WV, Regional Optical Communications (Regions 1 & 4), and the West Virginia Office of broadband worked together to identify key stakeholders in the County to bring to the table as the County Digital Equity Steering Committee.

Digital Equity Steering Committee: Wetzel County’s Digital Equity Steering Committee was first convened December 2023. The DE Steering Committee met virtually each month throughout the project. These team members built out County stakeholder and resource lists, helped organize the community workshop, invited stakeholders to the table, and provided feedback and direction to the Wetzel County Digital Equity plan. The local planning team is invaluable to digital equity efforts in the county and the individuals involved understand the need and importance of digital inclusion efforts.

Research and Data Collection: The GWV core team worked with partners across the state to gather and synthesize relevant information. These partners included State, National, and local organizations that assisted with the data collection to determine the state of digital equity and digital inclusion in Wetzel County.

Community Workshop: Wetzel County hosted a Community Workshop March 25, 2024 at Room 110, West Virginia Northern Community College New Martinsville Campus 141 Main Street, New Martinsville, West Virginia. There were 18 in attendance at the community meeting. Stakeholders were able to join in person or virtually. The meeting emphasized the importance of addressing the digital divide and achieving digital equity in Wetzel County. Participants discussed the need for reliable and affordable internet access, digital literacy, and access to devices. Key topics included the current state of digital inclusion, barriers such as affordability, lack of education, geographic challenges, and digital literacy across all age groups. Potential solutions proposed included workshops, smart networks, partnerships with educational institutions and senior centers, advocacy for funding, and community training programs. The vision for digital inclusion involved better access to education, healthcare, economic opportunities, and public safety through enhanced connectivity, remote work options, and digital services. The collaborative discussion provided valuable insights into the specific needs and challenges faced by Wetzel County, guiding the development of targeted digital equity initiatives.

Contacts for the future:

Key Stakeholders that participated in the steering committee and/or planning meetings include Debbie Bennett, Deputy Coordinator WVNCC New Martinsville Campus; Sandy Hunt; Sharon Campbell, Wetzel-Tyler County Chamber of Commerce; Cassie Porter, Wetzel County Schools; A.C. Wiethe, Bel-O-Mar Regional Council (Region X); Valarie Piko, Regional Economic Development (RED) Partnership

These partners coordinated with the core team and the respective stakeholders throughout the process and will have copies of this document as well as supporting documentation to provide the baseline for future planning and project development.

B.2 Community Digital Equity Asset Mapping

As part of the Wetzel County’s Digital Equity planning process, a County Resource List, or Asset Map, was developed. This resource list includes key organizations, stakeholders and Digital Equity Asset Mapping tool was developed, consisting of many of the following:³⁶

- Digital Equity organizations
 - Nonprofit device refurbishers
 - Digital inclusion coalitions
 - Community technology centers
- Organizations serving covered populations
 - Public housing authorities

³⁶ Note that some data on the number of asset types are available in Dun & Bradstreet datasets but may not have been incorporated into the County Resource Lists.

- Returning citizen programs
- University agricultural extension programs
- Senior and community centers
- Reentry councils
- Anchor institutions
 - Municipally owned buildings, i.e., City Hall
 - Libraries
 - Schools (K-12 and higher education)
 - Police/Fire Stations
 - Community Centers
- Other community assets
 - ISPs
 - Gathering spaces
 - Policymakers
 - Faith communities

Asset Mapping Tool Development, Data Collection, and Dissemination

To develop the Digital Equity Resource List, Wetzel County planning team followed the steps below:

1. The project team worked with the West Virginia Office of Broadband Digital Equity Steering Committee and staff to identify and pull state asset mapping resources developed to support the Statewide West Virginia Digital Equity Plan
2. Wetzel County steering committee members worked with the project team to identify key county resources, stakeholders and add to the Resource List. The Community Resource list is a live document stored on shared Google spreadsheets allowing members to update and modify as needed.
3. Steering Committee members and the project team worked to refine the asset inventory data and identify key partners to include at the community workshops.
4. Wetzel County community workshop was held on March 25, 2024 at West Virginia Northern Community College New Martinsville Campus. Attendees at the workshop reviewed the list of Community Resources and added “missing” stakeholders to the Resource List. Project Team members incorporated these suggestions into the existing County Resource List.
5. The Project team also received data from the West Virginia Tax Office, Dun and Bradstreet, and other databases to compile additional community resources.
6. The Final Wetzel County Resource List was shared with the Wetzel County Steering Committee members and is available here: <https://generationwv.org/DE2024/Wetzel>

Throughout the Digital Equity planning process, the team and County Committee members leveraged partnerships to assist with gathering asset data. The partners contributed significantly by identifying digital equity barriers for priority populations, and being actively involved with the planning.

Final Plans and County Resources

The Wetzel County Digital Equity Steering Committee used several methods for disseminating the County Resource List, data, plans, and resources tool within the community.

- County Resource Lists were distributed to attendees at the Community Workshop.
- A preliminary data report was distributed to community members June 2024
- The draft Digital Equity Plan was distributed for stakeholder comment August/September 2024
- A folder containing backing datasets, presentations, map images, GIS shapefiles and the full digital county resource list is available at this link: <https://generationwv.org/DE2024/Wetzel>
- Copies of this report will be made available to the Wetzel County Commission, Bel-O-Mar Regional Council (Region X), RED, the West Virginia State Office of Broadband, and Steering Committee members.
- The digital version of this plan will be shared with the stakeholder email list and will be available for download on the Generation West Virginia site at www.generationwv.org/broadband

Type of stakeholder	Organization Name
Veterans Organization(s)	American Legion WV Post 0028
Regional planning staff	Bel-O-Mar Regional Council
Elected Official	New Martinsville Mayor
Libraries	New Martinsville Public Library
Libraries	Paden City Public Library
Libraries	Pine Grove Library
Libraries	Hundred Library
Economic Development	Regional Economic Development (RED) Partnership
Education (k-12 and higher ed)	West Virginia Northern Community College - New Martinsville Campus
Economic Development	Wetzel County Chamber of Commerce
Town/City/County managers	Wetzel County Commission
Aging community	Wetzel County Committee on Aging
Aging community	Senior Centers
	Wetzel Tyler County Youth Reporting Center
Family/Social Support	West Virginia Family Resource Network - Wetzel Co.
Education (k-12 and higher ed)	Wetzel County Schools - Superintendent
Veterans Organization(s)	American Legion WV Post 0120
Veterans Organization(s)	American Legion WV Post 0086
Veterans Organization(s)	American Legion WV Post 0081
	Workforce Orgs
Food Access	Respects Food Pantry

Type of stakeholder	Organization Name
Family/Social Support	Child Advocacy centers
Food Access	Refuge 5 loaves program
Extension/Ag agencies	WVU Extension
	EMA
Faith based	Churches
Education (k-12 and higher ed)	National Technology Honor Society
Business leaders	Citynet
Business leaders	Pure Broadband
Emergency Response	Wetzel OEM/911
Education (k-12 and higher ed)	Board of Education
Family/Social Support	Family Support
Family/Social Support	Center for Children and Families
Education	West Virginia Adult Education
	Linx Community Service,
Economic Development	Greater New Martinsville Development
Family/Social Support	Wetzel County Center for Children and Families
Membership Organization	Fraternal Order of Eagles

Table 12. Wetzel County Resource List

B.3 Community Engagement

Stakeholder Engagement and Collaboration

As part of an inclusive Digital Equity planning process, the Wetzel County Digital Equity Steering Committee understands that it must work collaboratively with additional stakeholders, including Community Anchor Institutions and other partners to ensure that identified priority populations in the community are engaged throughout the process, especially during the project planning and implementation phases, to ensure that equitable internet for all is achieved. Additionally, statewide and regional partners can play an important role by bringing in some outside capacity so it can be helpful to explore external partnerships.

Priority Population	Potential community partners/community resources:	Example Role(s)	Data that could be provided in future planning efforts
Low Income Residents	West Virginia Family Resource Network - Wetzel Co.	Provide assistance with applying for benefits online, provide a computer terminal for such assistance.	Number of individuals they serve, surveys to gather data on digital access and literacy.
Aging Individuals	Wetzel County Committee on Aging	Provide assistance with applying for benefits online, scheduling telehealth appointments and provide a computer terminal for such assistance.	Number of individuals they serve, surveys to gather data on digital access and literacy and their needs.
Disabled Individuals	Wetzel County Committee on Aging	Provide device access and computer training for seniors.	Number of individuals they serve, surveys to gather data on digital access and literacy and their needs.
Veterans	American Legion WV Post 0028	Provide assistance with applying for benefits online, scheduling telehealth appointments and provide a computer terminal for such assistance.	Number of individuals they serve, surveys to gather data on digital access and literacy and their needs.
Individuals with Low Literacy	New Martinsville Public Library Paden City Public Library Pine Grove Library	Could provide literacy programs to those in need. Provide access to digital devices and hotspots.	What programs they currently might offer that aligns with digital equity and inclusion. Surveys of how their patrons currently participate in the digital world.

Table 13. Wetzel County Community Resources for Priority Populations

Through a diverse and collaborative approach, Wetzel County will have the capacity to utilize participation, feedback, and data from each of the priority populations to measure efficacy and progress towards meeting digital equity and complement overall State Digital Equity goals. Examples of meaningful data from priority population stakeholder engagement could include:

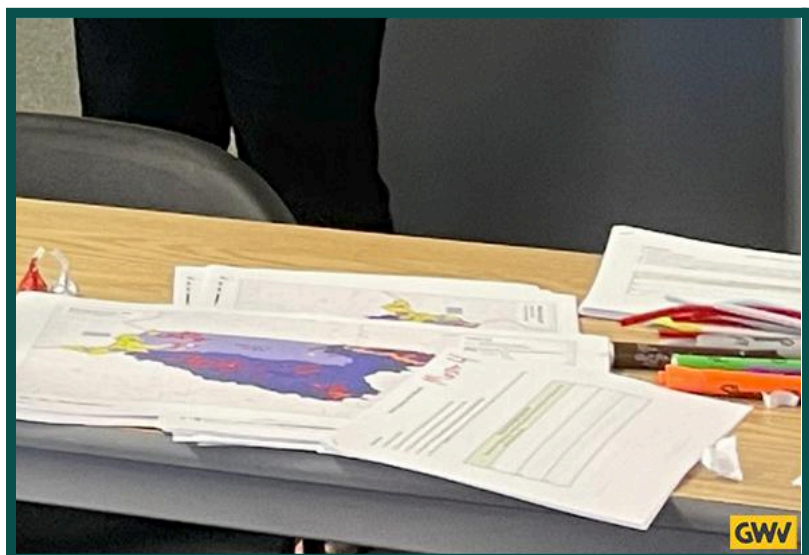
- Percentage of households with broadband access, subscription rates to internet services, and availability of high-speed internet in underserved areas demonstrated with measurable outcomes by an increase in the number of households with broadband subscriptions.
- Number of households owning internet-capable devices demonstrated with measurable outcomes by an increase of households that own devices, particularly through device distribution programs.
- Usage rates of telehealth services, patient satisfaction surveys, and the number of healthcare providers offering telehealth options demonstrated by measurable outcomes in telehealth use and availability.
- Employment rates in tech-related fields, number of new businesses utilizing digital tools, and participation in digital economy initiatives demonstrated by measurable outcomes in employment rates in these industries.

Further Outreach

In order to build inclusive and sustainable projects, Wetzel County Steering Committee understands a variety of outreach strategies and methods to facilitate participation and engagement from the community's Digital Equity planning and priority population stakeholders must be used. Wetzel County Digital Equity Steering Committee values the feedback, engagement, support and buy-in from the community, especially from trusted partners who represent the covered populations that are most impacted by the digital divide.

County stakeholders identified key partners whose voices are critical to include in future planning efforts, these included: Center for Children and Families, school system, senior citizens center, library, public education, senior services, family support, young parents, transportation, BOE, federal and state government representatives, local elected officials across the county, governmental agencies, industry, and civic support organizations.

Figure 11. Wetzel County community workshop, March 25, 2024, New Martinsville, West Virginia.



B.4 Implementation Strategies and planning

Existing Programs

Based on the unique barriers to achieving Digital Equity identified in the previous section and during the stakeholder engagement process, The Wetzel County team identified the following existing programs that address the respective needs/barriers of the applicable covered populations:

Lead Entity/ Organization of Existing Program	Existing Program	Needs/ Barriers Addressed	Funding / Sustainability	Covered Population(s)	Potential Opportunities
Hundred Public Library	Provides 14 Internet Terminals, WiFi access and access to over 26,000 printed and digital materials.	Wifi and Computer Access	Funded by some local tax-base, Board of Education and Donations.	Low literacy and those with a language barrier, Low income individuals and rural residents.	Libraries can be a great location to start Digital Navigator and/or skills programs as residents often already use services there.
New Martinsville Public Library	Provides 12 Internet Terminals, WiFi access and access to over 59,000 printed and digital materials.	Wifi and Computer Access	Funded by some local tax-base, Board of Education and Donations.	Low literacy and those with a language barrier, Low income individuals and rural residents.	Libraries can be a great location to start Digital Navigator and/or skills programs as residents often already use services there.
Paden City Public Library	Provides 16 Internet Terminals and access to over 37,000 printed and digital materials.	Wifi and Computer Access	Funded by some local tax-base, Board of Education and Donations.	Low literacy and those with a language barrier, Low income individuals and rural residents.	Libraries can be a great location to start Digital Navigator and/or skills programs as residents often already use services there.
Pine Grove Public Library	Provides 16 Internet Terminals and access to over 37,000 printed	Wifi and Computer Access	Funded by some local tax-base, Board of Education	Low literacy and those with a language barrier, Low income	Libraries can be a great location to start Digital Navigator and/or skills

	and digital materials.		and Donations.	individuals and rural residents.	programs as residents often already use services there.
West Virginia Northern Community College New Martinsburg Campus	Offers a variety of programs in IT related industries.	Wifi and Computer Access to students.	Funded by tuition and donations.	Low literacy and those with a language barrier, Low income individuals and rural residents.	Educational partners are great to help drive digital skills training and basic digital literacy for workforce programming.
Mountain State Digital Literacy Project	Currently has 176 engaged students as of most recent 2024 data	Provides extensive digital literacy content over the internet for various age or grade specific users.	Grant and agency funded.	Primarily for School Students which may include those with language barriers, low literacy, low income, those with disabilities and rural residents.	This program provides a baseline of skills to students, great opportunity to expand to older grades and parents or grandparents of participating classes.

Table 14. Existing Local Digital Equity-Adjacent Programs in Wetzel County, West VirginiaWV.

***Note, This is not a complete list, many potential partners in the region may not have been engaged yet.**

Many of the existing resources are still inaccessible to many of the priority populations in the county due to challenges around the rurality of the county and transportation. For aging populations, homebound residents (seniors and students alike), public access to devices or broadband does not improve their access if they are unable to travel to the locations. The planned infrastructure deployment, and subsequent affordability and skilling efforts will be critical in meeting this need.

Additionally, there is a need for training, education, and digital navigation programs to “meet people where they are” both in terms of skill and also location.

For existing resources like the libraries, maintaining up-to-date terminals and ensuring that all staff have the training necessary can be an ongoing challenge.

Potential Solutions for Covered Populations

In addition to the existing programs detailed above, the Wetzel County Steering Committee identified areas where new digital inclusion resources and programs must be funded, developed, and implemented to meet the needs of the respective covered populations, reflected in the table below:

- **Community based Education and Training:** Workshops, opportunities for community training/coordination, Training/Community Workshops, Education on benefits of the digital world, Convert terminology to ordinary language
- **Workforce-specific Training:** Partnership with educational institutions/senior centers, VA/ workforce
- **Infrastructure build out and Accessibility:** All fiber everywhere, Subsidized - wifi hotspots, active legislation (ACP) Funding Programs Utilizing new technology

The first step to starting or launching a new program is to examine the [County Resource list](#), and see what organizations may already be working with the covered populations you are hoping to assist.

Covered Population	Program or Resource Need	Needs/Barriers Addressed
Individuals who live in covered households	Digital Skills Training, affordable device access, affordability programs, digital accessibility, and technical support.	Addressing the cost of internet services and devices for low-income households. Providing ongoing technical support and digital literacy training to ensure effective use of digital resources.
Aging individuals	Establish programs that provide digital literacy training specifically tailored for seniors, including basic computer skills, internet usage, and online safety courses. Reduce fears around AI and other new technology	Programs might include assistive technologies for seniors with visual or hearing impairments. Training on how to avoid online scams and maintain digital privacy. Programs like Older Adults Technology Services (OATS) provide curated resources and programs such as Senior Planet.
Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility	Create digital literacy and skills training programs for incarcerated individuals to facilitate their reintegration into society upon release.	Providing access to devices, digital literacy training, and ongoing support post-release. Programs like the West Virginia Schools of Diversion & Transition and Workforce West Virginia's Digital Inclusion Program offer digital skills training to help support successful reintegration and reduce recidivism rates
Veterans	Offer digital skills training programs tailored to the needs of veterans,	Addressing the need for assistive technologies, affordable devices, and

Covered Population	Program or Resource Need	Needs/Barriers Addressed
	including access to telehealth services and job training resources.	support in transitioning to civilian life. Programs like West Virginia Veterans Upward Bound and Tech for Troops provide digital skills classes, certification programs, and equipment donations to help veterans transition into civilian roles.
Individuals with disabilities	Develop programs that provide accessible digital devices and training for individuals with disabilities as well as training or availability of telehealth resources..	Providing assistive technologies, specialized training, and affordable access to devices and internet services. They can access assistive technology, training, and device loans through programs like the West Virginia Division of Rehabilitation Services and the WVUniversity Center for Excellence in Disabilities.
Individuals with a language barrier	Develop programs that provide digital skills training and internet access support, tailored to the cultural contexts and languages of racial and ethnic minority groups.	Providing digital resources and training in multiple languages and offering basic literacy and digital literacy training concurrently.
Individuals who are English learners	Develop programs that offer combined literacy and digital skills training, ensuring that individuals with low literacy can access and benefit from digital technologies. Digital skills to utilize text to speech readers and literacy learning apps.	Addressing the need for foundational literacy alongside digital skills, providing accessible and simplified training materials, and ensuring support through community resources and personalized assistance. Programs like the West Virginia Department of Education's Adult Education and Literacy Programs offer services to help adults with low-literacy
Individuals who are members of a racial or ethnic minority group	Develop programs that provide digital literacy training, awareness campaigns, and community support specifically targeted to minority populations.	Addressing the need for digital literacy training, creating awareness about the benefits and use of digital services, and providing ongoing community support. Initiatives like the Grow with Google Program and West Virginia State University's HBCU Career Readiness Program offer free digital skills workshops, resources, and career certificates in tech-related fields.

Covered Population	Program or Resource Need	Needs/Barriers Addressed
Individuals who primarily reside in a rural area	Develop programs that provide digital literacy training, awareness campaigns, and community support specifically targeted at rural residents to help them make full use of the coming infrastructure.	Addressing the need for digital literacy education, ensuring safe internet usage, and providing access to digital resources and devices in educational settings.
Other priority populations	Implement age-appropriate digital literacy programs in schools and community centers to ensure children and youth develop essential digital skills early on.	Addressing the cost of internet services and devices for low-income households. Providing ongoing technical support and digital literacy training to ensure effective use of digital resources.

Table 15. Possible Solutions by Covered Populations.

B.5 State Resources

Resources: Previous Broadband and Digital Equity Studies or Plans

Every county in the state is included in planning efforts on both a state, regional and local level. These studies and plans can be a good starting point and resource for Wetzel County stakeholders during the planning process and provide valuable context. In addition, many agencies that may not initially seem like they oversee Digital Equity or Connectivity work do have important goals related to connectivity and access. Several of these are listed below and referenced in the State Digital Equity Plan. These plans can be a good way to encourage partnership at governmental levels and show potential funders that project ideas are in alignment with existing planning efforts.

Broadband Plan/Study Name	Date	Summary
<i>Statewide Studies/plans</i>		
<i>State of West Virginia Digital Equity Plan</i>	December 2023	The West Virginia State Digital Equity Plan is the first digital equity plan developed in the state. The State team conducted a series of listening sessions, coordinated with statewide partners, and conducted state level surveys around this planning effort. This document is a great resource and also outlines key strategies and goals for the West Virginia Broadband Office. It can serve as a guidepost for future project development. To access the full plan visit: https://broadband.wv.gov/wp-content/uploads/2024/01/West-Virginia-Digital-Equity-Plan-Final-14Dec2023.pdf

Broadband Plan/Study Name	Date	Summary
<p><i>Regional Optical Communications 2023 Statewide Broadband Study Report</i></p>	<p>October 2023</p>	<p>Regional Optical Communications took on the task of coordinating a statewide study aimed at identifying the current status of and future need for broadband service in West Virginia. The data collected in this study provides a strong baseline for RPDCs, counties, and ISPs to show funding agencies the measurable outcomes their projects will have. This can increase the likelihood of receiving the requested funding and gives a much shorter timeframe for finalizing route designs and moving projects to construction.</p> <p>In total, more than 14,824 miles of preliminary routing was developed through the course of this study, amounting to approximately \$1,227,841,007 in future estimated construction costs. This report provides details on how these routes and estimates were developed, the results found in each county, and how communities can use this information to bring expanded broadband service to their area.</p> <p>https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:0c401a2d-8ac9-3f43-a7eb-8e22a243110c</p>
<p><i>State of West Virginia Five-Year Action Plan</i></p>	<p>August 2023</p>	<p>The State Office of Broadband 5 Year Action Plan outlines state goals and strategies around broadband infrastructure, digital equity, and workforce efforts. This plan can be found at broadband.wv.gov and at this link: https://broadband.wv.gov/wp-content/uploads/2023/08/WV-5-Year-Action-Plan-2023.8.14.pdf</p>
<p><i>West Virginia FY 2022 Appalachian Regional Commission (ARC) Development Plan:</i></p>	<p>2022</p>	<p>The State of West Virginia submits a four-year State Development Plan to the Appalachian Regional Commission, which provides an overview of West Virginia’s economy, needs and opportunities in the state, and the governor’s goals for the West Virginia ARC program. Related Goals include the following:</p> <ul style="list-style-type: none"> ● Increase access and adoption of broadband; ● Increase access of broadband for individuals by creating or enhancing existing community computer and digital learning centers; ● Support e-commerce initiatives that educate businesses about the benefits of broadband; ● 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; ● Expand and strengthen community systems (education, healthcare, housing, childcare, and others) that help Appalachians obtain a job, stay on the job, and advance along a financially sustaining career pathway. <p>Full Plan can be accessed at this link:</p>

Broadband Plan/Study Name	Date	Summary
		https://www.arc.gov/wp-content/uploads/2022/02/West-Virginia-ARC-4-YR-Plan-FY-2022.pdf
WV Library Commission 5 Year Strategic Plan 2023-2027³⁷	2023-2027	<p>The West Virginia Library Commission Plan includes State goals around two main goals</p> <ul style="list-style-type: none"> ● Goal 1: Access to Information, including increasing services for the Blind and Print Disabled and General Literacy, ● Goal 2: Facilitating Collaboration in the Library Workforce, that includes technology skills for staff, internet services, and consultation <p>Full plan can be accessed at this link: https://librarycommission.wv.gov/Who/Documents/2023-2027%20LSTA%20Plan.pdf</p>
For a full list of Statewide Plans and Strategies please see the West Virginia Digital Equity Plan, <i>Section 2.2 Alignment with Existing Efforts to Improve Outcomes</i> (Numbered Page 5)		
<i>Regional/County Plans/Studies</i>		
Comprehensive Economic Development Strategy (CEDS)	2022	<p>A Comprehensive Economic Development Strategy (CEDS) exists for all the counties in the state. These can be a good way to reach out to regional partners to find additional partnerships for digital inclusion. For Wetzel County, Bel-O-Mar Regional Council develops and administers the Comprehensive Economic Development Strategy (CEDS) and Regional Development Plan (RDP). The Bel-O-Mar Regional Council (Bel-O-Mar) is an interstate regional planning and development council of governments whose service area includes Ohio, Marshall, and Wetzel. The CEDS planning process identifies the economic and community development needs of the region and guides its economic growth strategy.</p> <p>The objectives of the CEDS process are to help create jobs, cultivate a more stable and diversified economy, and improve the quality of life in the region. The Plan presents an overview of the region, including economic and other characteristics. It also provides an assessment of progress on regional economic development fronts, discusses strengths and challenges in the District that can impact future development, and outlines a set of goals, objectives, and activities as part of a plan to address local development issues. Link to full plan is here: https://www.belomar.org/ms/comprehensive-economic-development-strategy-ceds/</p>

Table 16. Selection of Relevant Studies/Plans for Wetzel County Project Planning efforts.

³⁷ <https://librarycommission.wv.gov/Who/Documents/2023-2027%20LSTA%20Plan.pdf>

BEAD and DEA State Broadband and Digital Equity Priorities and plans

To take advantage of the historic \$1.2 Billion Dollars allocated to the State of West Virginia, the WVDED Office of Broadband had to create extensive plans for how the money would be spent. The result includes a State of West Virginia’s BEAD Five-Year Action Plan, West Virginia Initial Proposals Volume 1 & 2, and the West Virginia State Digital Equity Plan. Table 17 highlights priorities from these plans. Table 18 on page 69 specifically highlights Digital Equity/Digital Inclusion goals.

Priority	Description
<p><u>5 Year Action Plan Goals:</u> <u>1. Universal Broadband Access</u></p>	<ul style="list-style-type: none"> ● Goal 1.1: Ensure all Broadband Serviceable Locations have access to 100/20 Mbps speeds ● Goal 1.2: Address residential and commercial barriers to broadband projects ● Goal 1.3: Increase access to Community Anchor Institutions ● Goal 1.4: Develop a broadband talent pipeline and comprehensive workforce system
<p><u>5 Year Action Plan Goals:</u> <u>2. Increase Digital Equity and Inclusion</u> While broadband is a necessary condition to connect all West Virginians, WVDED recognizes that increased broadband infrastructure alone is not sufficient. Digital equity has been a key consideration throughout the broadband planning process to ensure that West Virginians who have been on the wrong side of the digital divide have the tools and support they need to use the internet in a way that allows them to reach their fullest potential.</p>	<ul style="list-style-type: none"> ● Goal 2.1: Ensure broadband access is available and affordable for all West Virginians ● Goal 2.2: Provide quality access to digital literacy skills trainings for West Virginians ● Goal 2.3: Equip West Virginians to preserve their online privacy and cybersecurity ● Goal 2.4: Help West Virginians gain access to free and low-cost devices
<p><u>5 Year Action Plan Goals:</u> Leverage Improved Broadband</p>	<ul style="list-style-type: none"> ● Goal 3.1.1: Expand economic development coordination activities across State agencies and local governments ● Goal 3.1.2: Support opportunities to increase online education and workforce development by leveraging funding sources, educators, employers, and school districts

Priority	Description
	<ul style="list-style-type: none"> ● Goal 3.1.3: Provide greater opportunities to revitalize community buildings with economic and tele-healthcare activities ● Goal 3.1.4: Leverage universal broadband to attract remote workers and work opportunities
<p>5 Year Action Plan Strategies: Unserved and Underserved Locations</p>	<p>WVDED will fund projects through a competitive grant process like its existing West Virginia Broadband Investment Plan programs, with modifications to meet BEAD requirements. Wherever possible, the State’s strategy will favor projects offering Gigabit service delivered over fiber-optic networks. Where this is not possible due to cost or lack of fiber-based proposals, WVDED will give preference to projects with higher performance capability.</p>
<p>5 Year Action Plan Strategies: Community Anchor Institutions</p>	<p>WVDED will prioritize connecting Community Anchor Institutions that lack access to 1 Gbps/1 Gbps broadband service. To the extent possible, WVDED will require projects that it funds to serve unserved or underserved locations to also serve nearby Community Anchor Institutions that lack Gigabit service. For remaining, eligible Community Anchor Institution locations, WVDED will develop a Community Anchor Institution Competitive Grant process in parallel.</p>
<p>5 Year Action Plan Strategies: Supporting Infrastructure Investment</p>	<p>Creating a supportive regulatory and permitting environment for broadband infrastructure is a high priority for WVDED. WVDED will work with state, local, and private partners to streamline and expedite permitting by addressing: 1. Dig Once policy 2. Communication of clear standards 3. Pole attachment application process To do so, WVDED will consider formalizing a state agency working group on permitting that includes county governments in targeted areas, pole owners, and internet service providers. West Virginia will consider proposing that NTIA allow a small portion of BEAD funding to be used for a temporary surge in staff or contracted capacity at relevant state agencies. By investing in processes to eliminate bottlenecks for projects, West Virginia’s broadband investments will be more efficiently made and transformational for the State and its residents.</p>

Priority	Description
5 Year Action Plan Strategies: Increasing Digital Equity	<ol style="list-style-type: none"> 1. Realize Affordable Connectivity 2. Secure Device Access and Affordability 3. Elevate Digital Skills and Accessibility of Public Services
5 Year Action Plan Strategy: Workforce Strategy	<p>Developed with input from West Virginia’s Broadband Workforce Development Council, interviews with ISPs and other key stakeholders, and listening session input, WVDED will advance the following three workforce development goals:</p> <ol style="list-style-type: none"> 1. Coordinate and convene all broadband industry partners 2. Develop industry-driven training programs with work-based learning opportunities 3. Develop a career exploration program for K12 students

Table 17. West Virginia State 5-Year Plan Strategies and Priorities

Many of the goals and project ideas identified by Wetzel County stakeholders directly align with the West Virginia State Office of Broadband Objectives. During implementation planning, stakeholders are encouraged to reference the state priorities in their planning and grant writing to ensure alignment.

West Virginia Digital Equity Priorities

According to the State of West Virginia’s BEAD Five-Year Action Plan and Digital Equity Plan, the following priorities are being implemented across both the BEAD and Digital Equity Act programs. *Note that priorities from the State Digital Equity Plan are pending approved changes from NTIA* These changes were not finalized prior publication.*

Priority	Description	Mitigation Approach
1: Realize Affordable Connectivity Realize Affordable Connectivity ³⁸	<p>Objective 1.1: Increase enrollment in the ACP, contingent on the continued funding for the program. Covered Populations Served:</p> <ol style="list-style-type: none"> 1. Covered households 2. Veterans 3. Individuals with disabilities 4. Aging individuals over 60 years of age 5. The 	<p>WVDED will determine prioritized areas for ACP related outreach to each of the covered populations by leveraging existing partnerships with organizations serving covered populations, census data, and internally developed metrics (see Section 5.1.2). Approximately 368,000 West Virginian households are eligible for ACP. Baseline: 103,000 out of 368,000 households, approximately 28.0% of ACP-eligible households are served by ACP.13 Near-term target: Increase enrollment by approximately 50% to reach 150,000 households, prioritizing outreach to areas with many households of each covered population under the Digital Equity Program.</p>

³⁸ Note that the ACP Expired in May 2024. As of time of publication the updated West Virginia Digital Equity Plan has not been released.

Priority	Description	Mitigation Approach
	<p>remaining populations when qualifying for ACP</p> <p>Objective 1.2: A central goal of West Virginia’s BEAD planning is to provide universal broadband to all West Virginians. As such, the goals to complete broadband deployment as a part of the BEAD Five-Year Action Plan</p>	<p>All 8 covered populations are served by this objective. KPI Accomplish broadband infrastructure deployment goals included in the Five-Year Action Plan.</p>
<p>2: Secure Device Access and Affordability Secure Device Access and Affordability</p>	<p>Objective 2.1: Create a sustainable program to provide device distribution, lending, and recycling.</p>	<p>Census data has shown device ownership to be a significant gap in West Virginia. By implementing a program to increase the number of individuals in West Virginia who have access to a device that can connect to the internet, West Virginia can move further ahead into the digital age. To ensure covered populations are equitably represented and served, WVDED will prioritize outreach to communities with large amounts of covered populations, leverage existing partnerships with 15 organizations serving covered populations, and monitor KPIs for each of the covered populations. Currently available data sets do not delineate between covered populations at a granular enough level to establish immediate baselines for each. As with other KPIs that baseline data cannot presently be established for on a covered population level, WVDED will collect the necessary data to establish a baseline and then monitor the progress of these efforts in subsequent years. Baseline: 85.6% of the State has access to a computing device at home¹⁴. Near-term target: Increase baseline by 10%, ensure approximately proportional increases for each covered population. Long-term target: 95% of West Virginias have access to a computing device that can connect to the internet, devices are easier to procure, and device proliferation among covered populations has been significantly increased.</p>

Priority	Description	Mitigation Approach
	<p>Objective 2.2: Ensure citizens receive technical assistance for their newly acquired devices.</p>	<p>Increase the number of Community Anchor Institutions (CAI) that offer digital navigator programs, working with organizations who serve covered populations to equitably represent CAIs that serve each of the covered populations. The baseline is not yet determined, as WVDED has prioritized research into the needs of West Virginians and the benefits of providing technical assistance through these means. Concrete plans have been laid out to establish a clear baseline after NTIA approval. An assessment, largely carried out through extensive outreach to West Virginia CAIs and partnership input, will commence after NTIA approval, in the earliest stages of implementation planning. Baseline: Overall baseline to be determined based on an assessment of CAIs that offer digital navigator programs. Separate “population CAI” baselines are in development through existing partnerships with organizations serving each of the covered populations. Near-term target: Increase the baseline figure by 20% and ensure at least approximately proportional increases in each covered population. Long-term target: Increase the near-term target by 30% and ensure at least approximately proportional increases in each covered population.</p>
<p>3: Elevate Digital Skills and Accessibility of Public Services and Economic Opportunity Elevate Digital Skills and Accessibility of Public Services and Economic Opportunity</p>	<p>Objective 3.1: Make digital literacy training in cybersecurity, privacy, telehealth, and more, available to all West Virginians, including all covered populations.</p>	<p>Increase the percentage of individuals in West Virginia with beginner-level digital skills by assessing internet use activities for each demographic via a randomized survey (see Section 4.2.7) and ensure that each covered population is equitably represented. KPI Increase the percentage of individuals in West Virginia with beginner-level digital skills by assessing internet use activities for each demographic via a randomized survey (see Section 4.2.7) and ensure that each covered population is equitably represented. Baseline: Overall – 88% Covered households – 84% Racial and ethnic minority – 90% English Learners and Individuals with Low Literacy Level – 87% Individuals with Disabilities – 86% Incarcerated Individuals – 88% Individuals Over 60 Years of Age – 86% Rural Residents – 88% Veterans – 90% Near-term target: Increase the overall baseline figure by 7% and ensure approximately proportional increases in each covered population. 17 Long-term target: 95% of West Virginians have basic digital skills, can streamline</p>

Priority	Description	Mitigation Approach
		their lives with online services, and can fully take advantage of new opportunities brought about by the BEAD and Digital Equity Programs.
	Objective 3.2: Ensure websites and online services hosted by state agencies are accessible for all West Virginians by implementing accessibility standards.	Increase the number of public services in West Virginia that meet the Web Content Accessibility Guidelines (WCAG) and Section 508 Standards. The baseline is not yet determined, as WVDED has prioritized research into the needs of West Virginians and the benefits of web accessibility in the West Virginian context. Concrete plans have been laid out to establish a clear baseline after NTIA approval. An assessment of West Virginia government website compliance under the WCAG and Section 508 Standards will commence after NTIA approval, in the earliest stages of implementation planning. 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.

Table 18. West Virginia Digital Equity Plan Goals and Strategies

State-Aligned Digital Equity Evaluation Plan

The Wetzel County Digital Equity Steering Committee understands the importance of alignment of the community’s Digital Equity Plan with the State of West Virginia Digital Equity Plan to:

- Track progress towards achieving Digital Equity:
 - The Wetzel County Digital Equity Steering Committee has the local capability to monitor and measure advancements in achieving digital equity and a process in place to assess and document progress towards achieving Plan goals.
- Demonstrate how progress furthers State priorities:
 - The Wetzel County Digital Equity Plan aligns with and contributes to the broader priorities, objectives, and goals of the State to advance digital equity.

As Wetzel County implements its Digital Equity Plan, and begins implementation of Digital Inclusion projects, it will be a key local partner to the West Virginia State Office of Broadband and their efforts to measure impact and progress toward addressing the unique challenges and barriers to affordability, access, and adoption faced by priority populations.



APPENDIX C

Broadband Adoption and Infrastructure

Appendix C. Broadband Adoption and Infrastructure

This section provides an overview of the current broadband infrastructure and services in the community. This Connectivity Plan will enable Wetzel County stakeholders to strategically target and prioritize areas that may need different types of solutions in order to bridge the digital divide and offer equitable broadband opportunities to all residents and businesses, while minimizing risk and amplifying the likelihood of success.

Data analyzed by the project team include, but were not limited to:

- Availability
 - FCC Broadband Data Collection as of December 31, 2023
 - Ookla Speed Test Data January 1, 2023 to December 31, 2023
 - U.S. Census Bureau American Community Survey 2018-2022 5-Year Estimates
- Affordability
 - Universal Service Administrative Co. ACP Enrollment Data January 2022 to May 2024
 - NDIA Free & Low Cost Internet Plans
 - BROADBANDNOW Internet Service Providers in West Virginia
 - Generation West Virginia Community Meeting Feedback
- Adoption
 - Ookla Speed Test Data January 1, 2023 to December 31, 2023
 - U.S. Census Bureau American Community Survey 2018-2022 5-Year Estimates
 - Universal Service Administrative Co. ACP Enrollment Data January 2022 to May 2024

Currently Available Internet Services

To perform the review of currently available internet services, the project team collected and evaluated data from publicly available broadband data sources and local datasets, and referenced existing state resources from the WVDED Office of Broadband and Regional Optical Communications State Infrastructure Study.

In the sections that follow we identify current ISP service offerings and pricing, existing broadband networks, and priority areas within Logan County for additional broadband infrastructure investment.

Data Sources and Purpose:				
Source Name	Source Type	Source Description	Data Collected & Analyzed	Purpose
Federal Communications Commission (FCC)	Public	Federal Agency responsible for implementing and enforcing America's communications law and regulations (Federal Communications Commission (2022). About the FCC. Available at: https://www.fcc.gov/about/overview)	FCC Form 477	Determine broadband incumbents and technology penetration
BroadbandNow & BroadbandSearch	Private	Online databases of internet service options available in a given area (BroadbandNow (2022). About BroadbandNow's Team. Available at: https://broadbandnow.com/about ; Broadbandsearch (2022).	Advertised internet service offerings including providers, speed, price and technologies	Determine broadband speed and corresponding price
FiberLocator	Private	Online telecommunications database of fiber infrastructure (FiberLocator (2022). Resources: Available at: https://www.fiberlocator.com)	Existing fiber infrastructure in the County	Define metro fiber networks (regional level - middle mile; local level - last mile) to evaluate network redundancy. Define long haul fiber networks (national level) to be leveraged by the County to connected middle mile
Regional Optical Communications 2023 Broadband Infrastructure Study	Public	Statewide infrastructure study	Existing broadband infrastructure in the County, targeted addresses and proposed routing to reach un and underserved households.	Identify where gaps in infrastructure access are, identify areas of the county that may require different types of outreach (mobile hotspots etc.) while residents wait for BEAD and other infrastructure build out.

Table 19. Data Sources for Broadband Data

C.1 Current Service

The FCC Broadband Deployment Data identifies the following Top Tier ISPs in Wetzel County with the corresponding broadband technology and speeds they are currently providing.

According to this table, there are currently 11 providers deployed in Wetzel County, both for residential and business purposes, which can be categorized as follows:

1. Wired Broadband: Asymmetric DSL, Cable, and Fiber
2. Wireless Broadband: Fixed Wireless and Satellite

These broadband services and prices are offered by 11 ISPs

Service Provider	Lowest Price Plan	Highest Price	Max Speed (Mbps)	Technology
Citynet	Unknown	Unknown	Unknown	Fixed Wireless
Frontier	\$29.99	154.99	5 Gbps	Fiber, DSL
HughesNet	\$49.99	119.99	100 Mbps	Satellite
Optimum	\$40.00	200	940 Mbps	Cable
SEGRA	Unknown	Unknown	Unknown	Fiber
Starlink	\$120.00	5000	220 Mbps	Satellite
T-Mobile	\$60.00	60	25 Mbps	5G Internet
Verizon	Unknown	Unknown	Unknown	Fixed Wireless
Viasat	\$149.99	199.99	150 Mbps	Satellite
Xfinity	\$30.00	146	1.2 Gbps	Cable
Zito Media	\$29.95	49.95	300 Mbps	Cable

Table 20. Internet Service Providers Lowest Cost and Speeds

* Prices may vary depending on the plan; Not all internet speeds are available in all areas.

**Service areas are based on ZIP Code Tabulated Areas which may overlap County boundaries.

***Lowest Price Plans may not reflect the maximum available speeds.

Data obtained from BROADBANDNOW.COM

While many providers advertise speeds over 100Mbps, that does not indicate that speed is available everywhere in the area. Access and availability does depend on which section of the county residents are located in. As indicated in the map in [Figure 19](#) on page 86,³⁹ there are still clusters of households along the existing fiber route that show much higher need than some of the main population centers. The heatmap range shows clusters of unserved or underserved addresses in the county.

³⁹ Note, these maps are based on data provided in 2023. They do not reflect the West Virginia WV State Office of Broadband final BEAD maps or any funds allocated in the 2024 BEAD Allocation.

Cellular providers in the county⁴⁰.

Cellular Service Provider	Max Speed (Mbps)
AT&T	Unknown
Mint Mobile	25 Mbps
T-Mobile	25 Mbps
Verizon	Unknown

Table 21. Cellular Providers in Wetzel County

Opportunities for partnership

Internet Service Providers are great stakeholders to bring to the table. They typically have a strong interest in making sure their customer base has access to the resources needed to subscribe to their services. Internet Service and cellular providers can participate at varying levels in local digital equity programs. Some larger ISPs may have specific community impact departments, but many of the smaller local ones still have a desire and case to work and support digital equity programming. Support can range from participating in planning meetings, to supplying donated refurbished computers, to actively participating or partnering on literacy or affordability initiatives. As outlined below in [ISP Business 101](#) on page 87, it is always in the best interest of any provider to have increased digital literacy, access to devices, and demand for their services.

⁴⁰ Note that cellular coverage changes rapidly. Please see company websites to determine service levels

C.2 Internet Affordability and Access

To determine Broadband usage, data was collected from the U.S. Census ACS 5-Year Estimates. specific to the community, which illustrates the overall profile of internet affordability and adoption percentages:

Internet/Usage Statistic	Number/Percentage per Household ⁴¹
Number of Total Households Surveyed	5,861
Households with Broadband of Any Kind (Total/Percent)	4,493 (76.7%)
Households with DSL (Total/Percent)	No Data Available
Households with Cable (Total/Percent)	No Data Available
Households with Fiber (Total/Percent)	No Data Available
Households with Fixed Cellular (Total/Percent)	3,495 (59.6%)
Households with Satellite (Total/Percent)	564 (9.6%)
Households with Mobile (Cellular) Internet Only (Total/Percent)	514 (8.8%)
Households without a Device (Total/Percent)	915 (15.6%)
Households with One or More Devices (Total/Percent)	4,946 (84.4%)
Households with a Desktop or Laptop Computer (Total/Percent)	3,751 (64%)
Households with a Smartphone (Total/Percent)	3,997 (68.2%)
Households with Only a Smartphone (Total/Percent)	636 (10.9%)
Households with a Tablet (Total/Percent)	2,909 (49.6%)
Households with Only a Tablet (Total/Percent)	211 (3.6%)

Table 22. Wetzel County Internet Usage Statistics

⁴¹ U.S. Census American Community Survey 5-Year Estimates

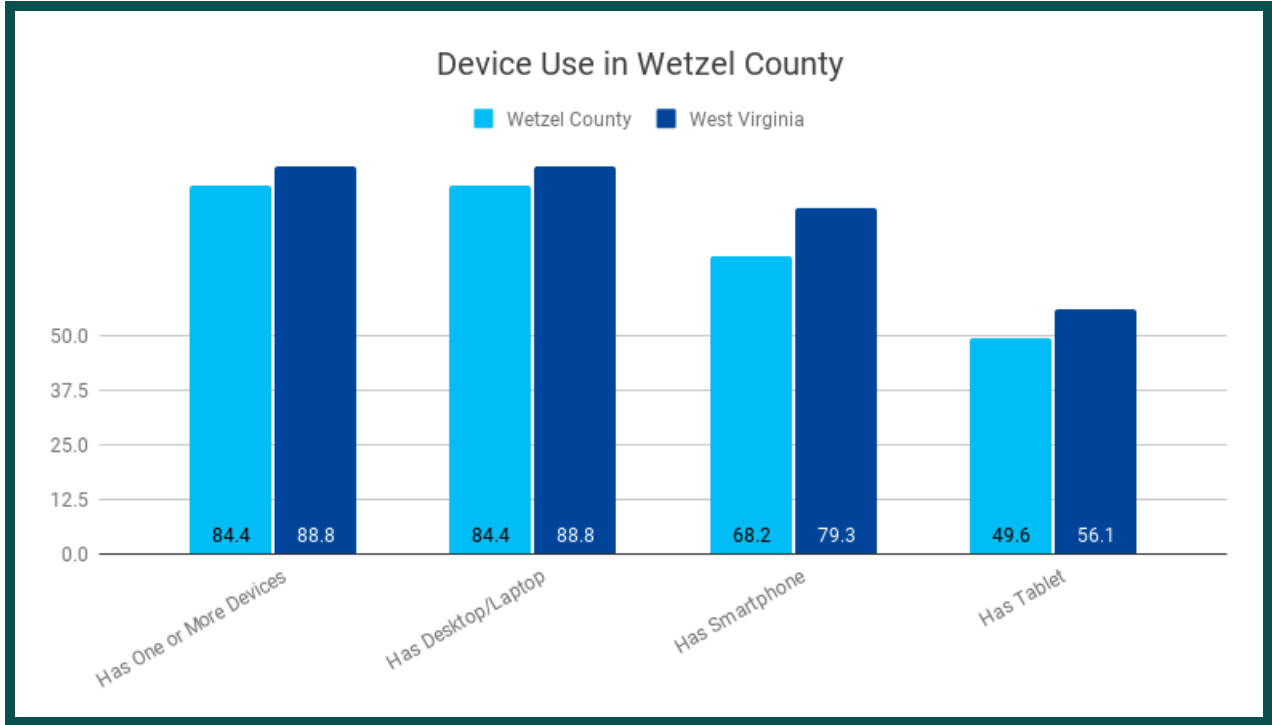


Figure 12. Device access in Wetzel County

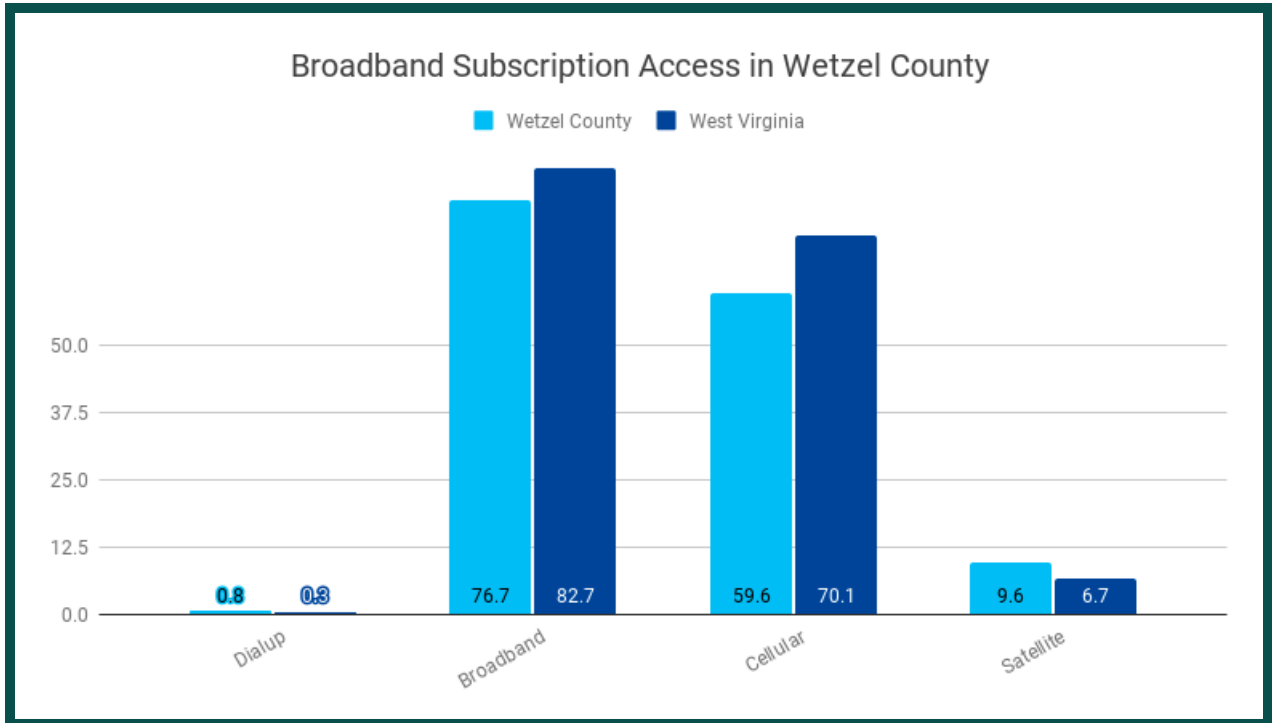


Figure 13. Broadband Subscriptions access in Wetzel County

C.3 Wetzel County Broadband Maps

While infrastructure is not the focus of this plan and project, it is a critical component to achieving digital equity and digital inclusion. This section will provide a snapshot of the current state of infrastructure, as well as some of the proposed routes. These maps will likely change but do provide a picture of the state of the county infrastructure that can help inform project and program development.

A note on technology

Fiber is widely accepted to be the fastest, longest lifespan, robust, most reliable, and most secure broadband technology and it is capable of providing high symmetrical download and upload speeds. Through the BEAD funding deployment Fiber is prioritized, however, there may be locations that need to look at alternative technologies to achieve reliable connectivity. Additionally, as a stop-gap while fiber projects are in planning, permitting, and construction, many communities that need connectivity now may need to look to things like Fixed Wireless, Mobile, or Satellite solutions to fill the gap.

Claimed Speeds

The following broadband speed map is based on the FCC Broadband Deployment data representing the highest ISP-reported speed per census block.

It displays a county level map showing a map of the county with current reported speeds. This data is submitted by Internet Service Providers on a biannual basis. Note that this is the highest reported speed by the ISPs. This may not be the speed that they offer at all times, but the highest speed that they do offer. See the [speed test map](#) (page 83) below for more information.

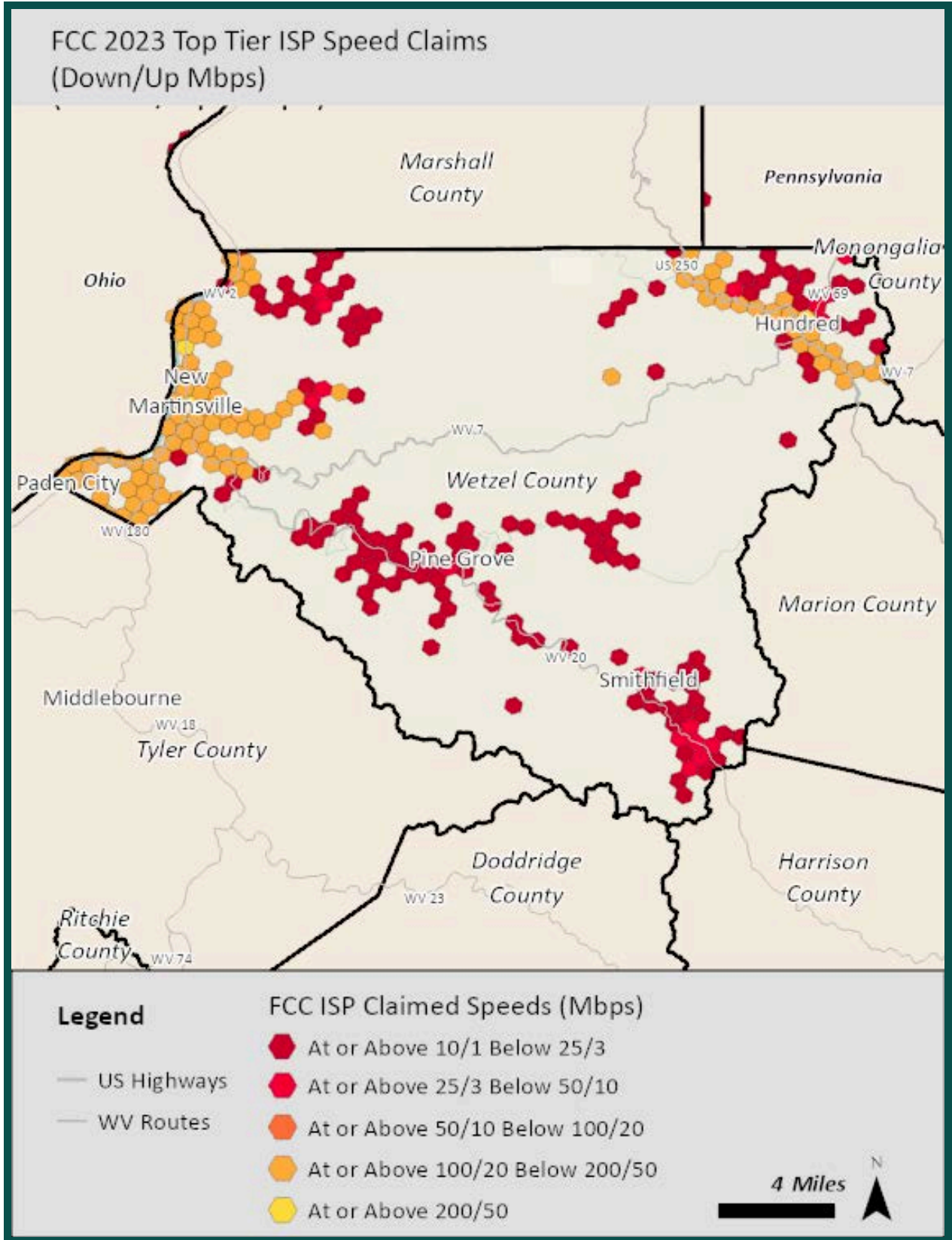


Figure 14. Current Reported Speeds based on 2023 FCC data provided by Reid Consulting Group.

Mobile / Cellular service

The map below displays existing towers in Wetzel County. Due to the topography, even areas of the county with several may still struggle with mobile coverage. Mobile providers do update coverage maps regularly so it may be worth checking their coverage maps on the websites to see what has changed.

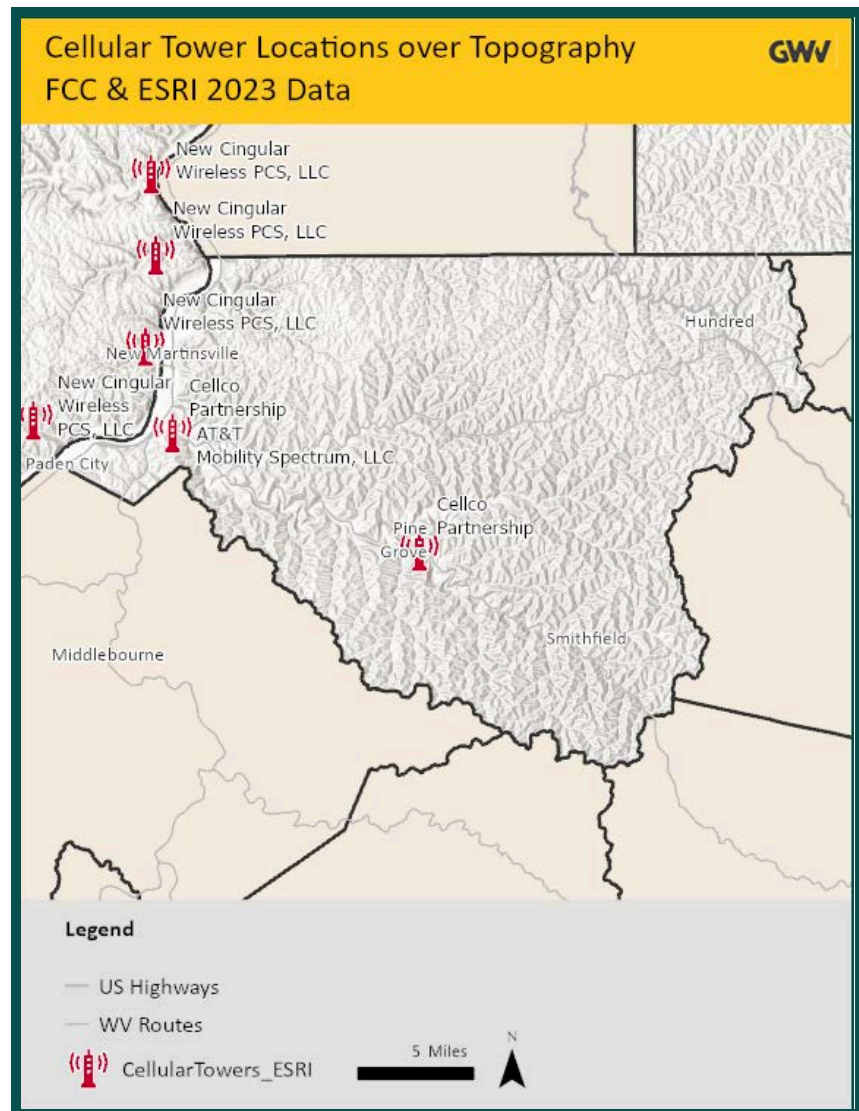


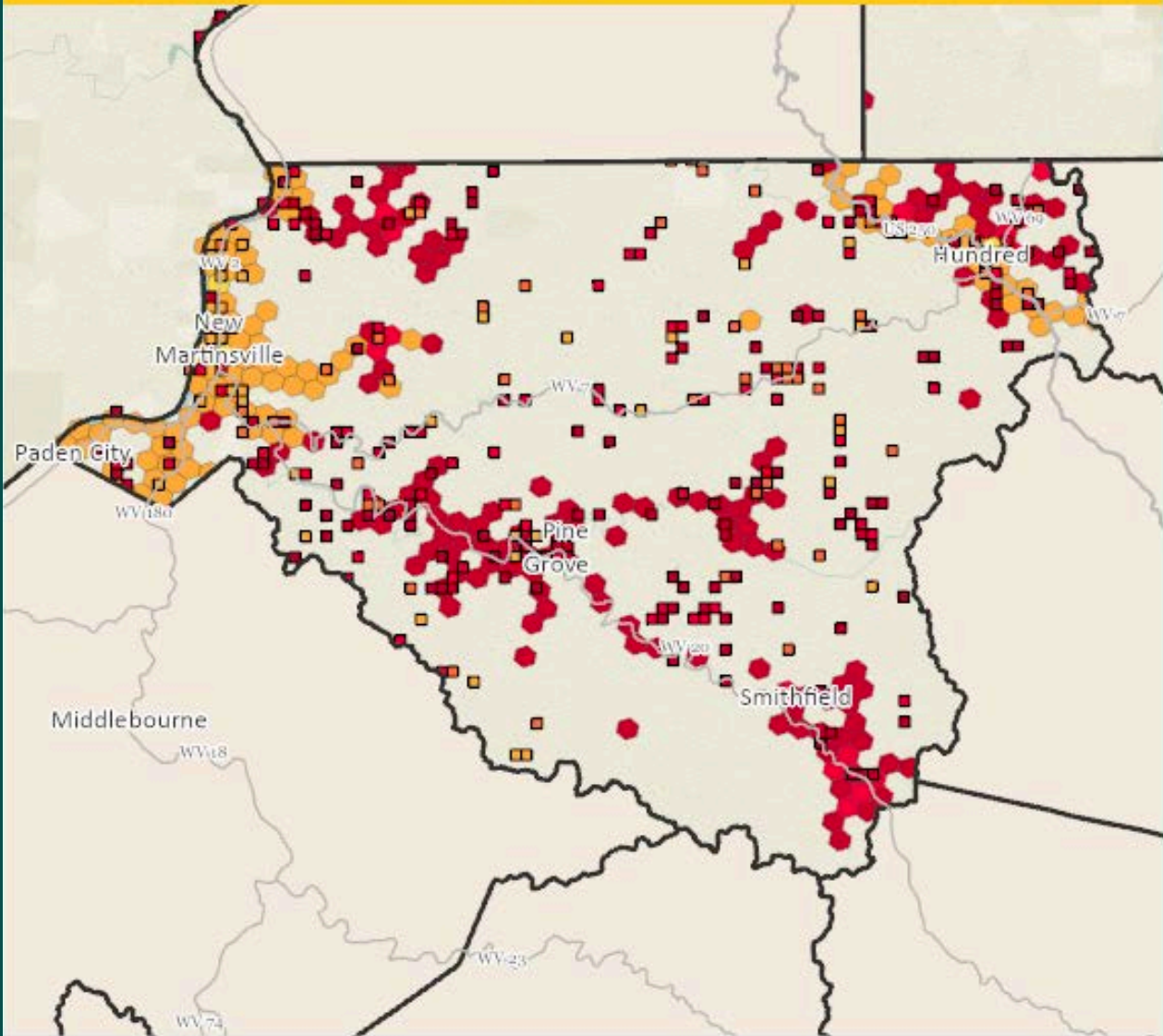
Figure 15. Mobile service towers in Wetzel County

Internet Speed Test Data

An important piece of looking at broadband infrastructure is the speed test data. Figure 16 shows the reported speeds based on Ookla speed test data from 2023 that indicate the actual speeds being achieved at a given location based on customer tests overlaid over the claimed speeds of the top tier internet service providers based on Census Block Group areas. Dark red indicates the lowest speeds of 25 Mbps or less. As one can see by the square swatches the actual speed test data is often much lower than the claimed top ISP speeds in the hexagonal areas. This may be due to differences in internet packages available or deception on the ISPs part. In the case of differences in internet packages it may indicate affordability issues of residents not being able to afford the top rated package speeds.

Ookla speed tests are a great way to test your speed and document the speeds you are actual receiving at your location. To run a test, visit broadband.wv.gov/speedtest to find out and help the state understand the true quality of broadband connections in your area

Ookla Speed Test 2023 Data vs. Top Tier ISP Claimed Speeds



Legend

— US Highways

— WV Routes

Ookla Speed Tests (Mbps)

■ At or Above 10/1 Below 25/3

■ At or Above 25/3 Below 50/10

■ Between 50 & 100

■ Between 100 & 200

■ At least 200

FCC ISP Claimed Speeds (Mbps)

● At or Above 10/1 Below 25/3

● At or Above 25/3 Below 50/10

● At or Above 50/10 Below 100/20

● At or Above 100/20 Below 200/50

● At or Above 200/50



Figure 16. Ookla Speed Test 2023 Data Compared to 2023 FCC ISP Claimed Speeds.

Unserved/Underserved Broadband Serviceable Locations

The next important factor is of course where in the county does not have adequate service. The map in Figure 17 displays the Broadband Serviceable Locations that do have access to broadband over 100/20, and those that do not. Addresses that do not have connection speeds of at least 100/20 (Un and underserved) are represented as green dots, Currently there are 3,465 unserved or underserved addresses that are serviceable in Wetzel County.

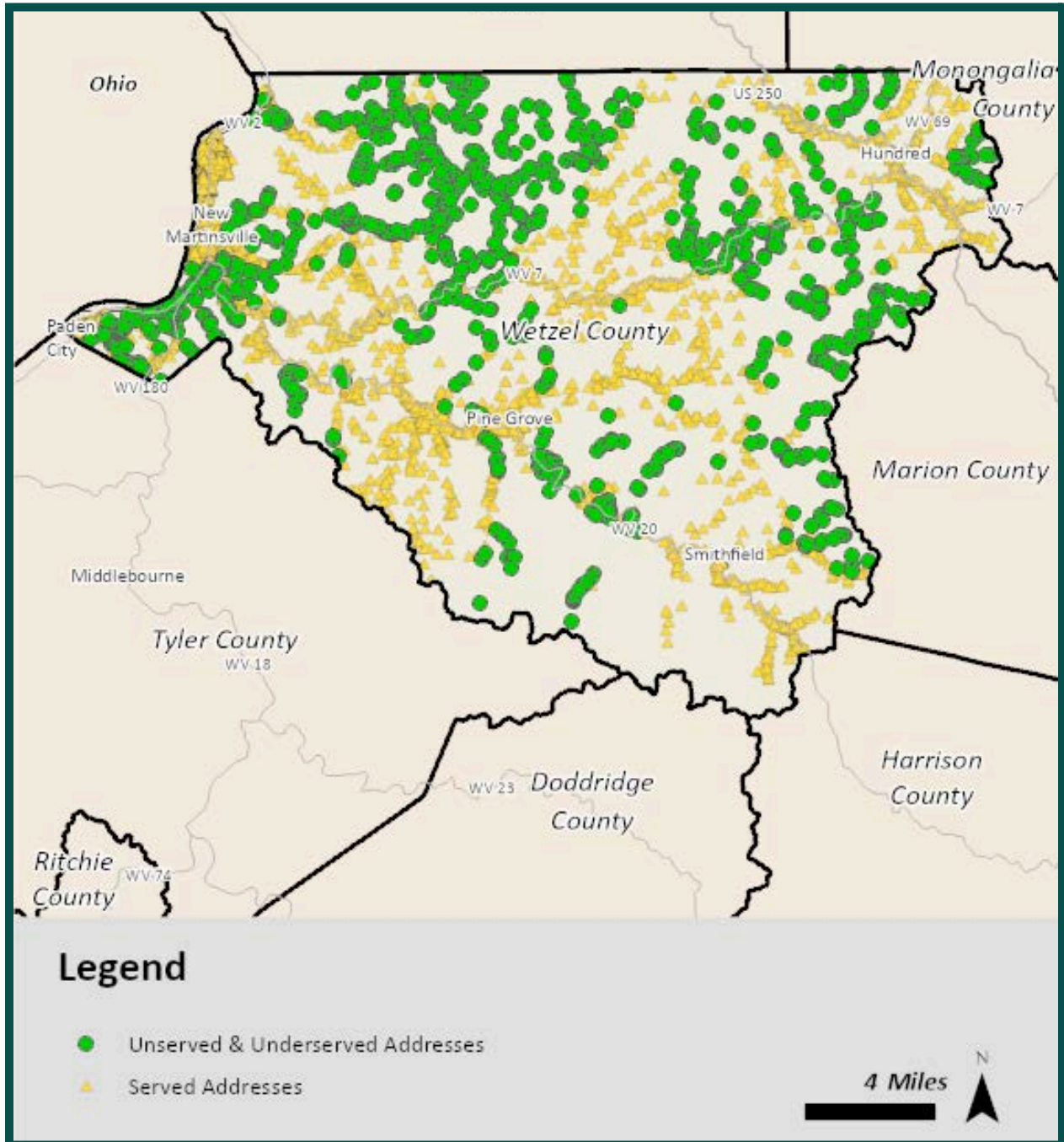


Figure 17. Un/Underserved BSLs in Wetzel County

This map was created as part of the Regional Optical Communications Statewide Infrastructure study. The methodology for the broadband study data and addresses are based on the involved extensive data collection and collaboration with the West Virginia Office of Broadband (WVDED), utilizing the FCC National Broadband Map for foundational data on broadband serviceable locations (BSLs) and availability. Additional data from various federal and state programs, such as NTIA and ARC POWER Initiative, were integrated, along with local broadband studies and plans obtained through outreach to regional planning councils, county commissions, and ISPs. Using Esri GIS, interactive county maps with multiple data layers were created, categorizing addresses based on service levels, funding status, and serviceability. Note, some addresses that may not currently have access to service may fall under the category of addresses that have a “federally enforceable commitment”. This means that an Internet Service Provider has already submitted a proposal and is “on-the-hook” to connect those addresses. Several of the grant programs that they may have worked with could include State GigReady, Lead Extension, USDA Community and ReConnect, ARC, RDOF, and other funds.

Proposed Routes and Address Clusters:

In the [2023 ROC Study](#), Thrasher identified some proposed routes. Note that these are NOT actually plans in progress. These are proposed routes and provide a cost estimate of \$20,386,518 to install the estimated 256.65 miles of fiber that would be required to serve the currently 1,104 unserved or underserved addresses.

Wetzel County, WV – 2023 ROC Study – Cost Estimate – Whole County				
Item	Unit Cost (\$)	Unit Type	Unit Qty (#)	Total
Engineering	\$5,500.00	Per Mile	256.65	\$1,411,575
Permitting, Easements and Encroachment Acquisition	\$1,500.00	Per Mile	256.65	\$384,975
Pole Placement and Pole Make-Ready	\$15,000.00	Per Mile	254.87	\$3,823,050
Aerial Construction Labor	\$50,000.00	Per Mile	254.87	\$12,743,500
Underground Construction Labor	\$150,000.00	Per Mile	1.78	\$267,000
Project Construction Contingency 10%	\$1,301,050.00	Lump Sum	1	\$1,301,050
Legal 1.5%	\$195,157.50	Lump Sum	1	\$195,158
Administrative 2%	\$260,210.00	Lump Sum	1	\$260,210
TOTAL COST = \$20,386,518				

Figure 18. Estimated costs for fiber buildout to Wetzel County

On the map in Figure 19, Unserved or Underserved address clusters are represented by a heatmap with blue areas showing sparse address density and red to yellow areas showing dense clusters of unserved or underserved addresses. As indicated below, we can see how many clusters in smaller towns and rural areas are un or underserved.

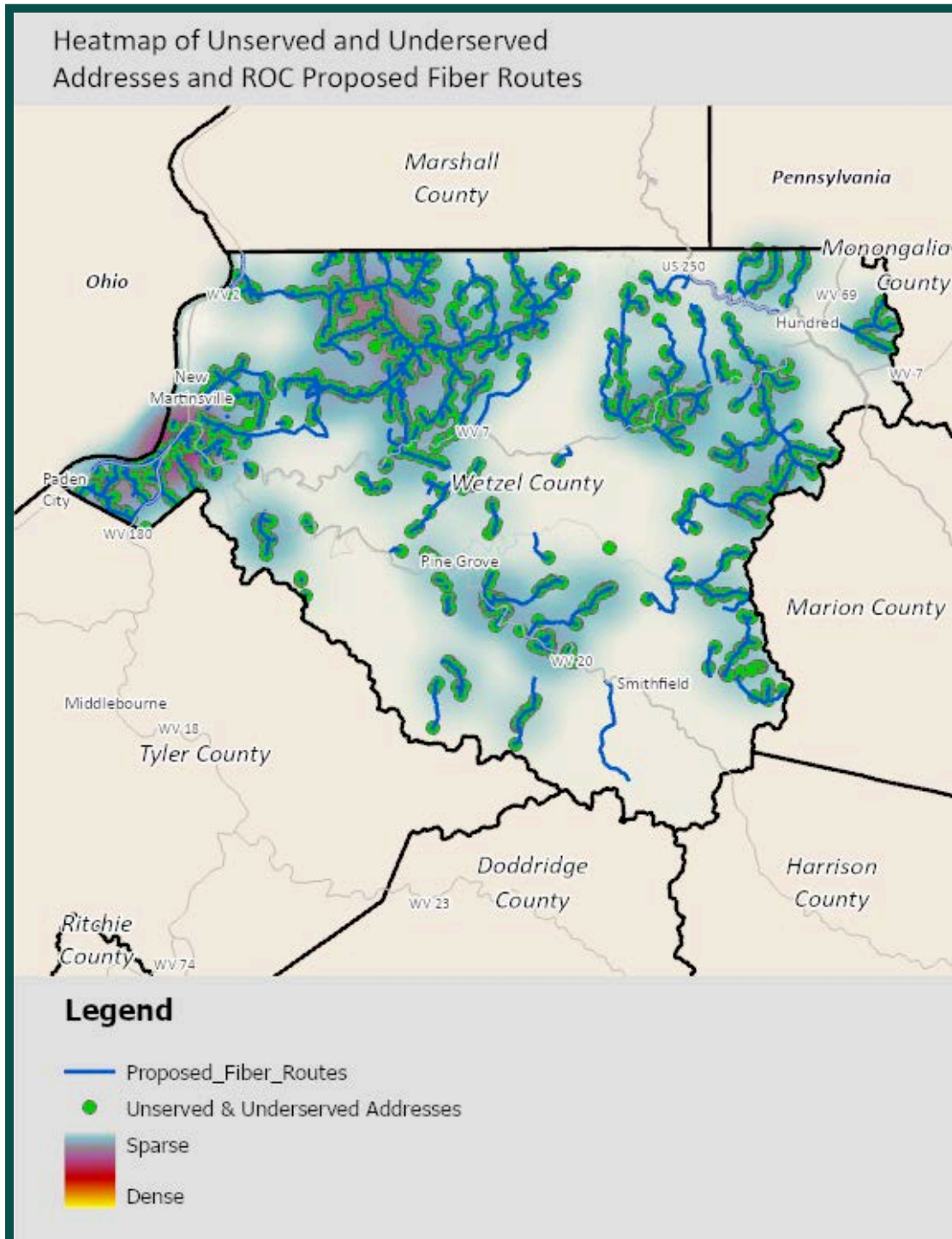


Figure 19. Current and Proposed Fiber Routes and address clusters, Wetzel County

For more detail on current broadband infrastructure, please visit the West Virginia Department of Economic Development Office of Broadband website at broadband.wv.gov for more information on current funding allocations, or see the Regional Optical Communications Study, available at their website here: <http://www.wvroc.org/>, for detailed maps for the entire state.

Unique challenges

The geography of the county combined with spread out addresses and small communities presents significant challenges for ISPs looking to construct networks in the region. Residents at the community meetings highlighted some challenges around the local terrain.

C.4 ISP business 101

In order to better understand how to work with your local ISPs, it can be helpful to understand a snapshot of the costs associated with providing connectivity in rural areas

Example Fiber-to-the-Home (FTTH) Construction Financial Model

Demand Points		Explanation
Total Demand Points (Potential Folks connecting)	20	Demand points, or Drops, are the number of potential customers that are along a construction route. <i>*Note that "pockets" of customers together are easier/cheaper to connect, vs. houses spread out along a 3 mile route.</i>
Right of Way Preliminary Design Results		
Aerial Length Network Footage	13 miles	Length of this example project.
Additional Network Assumptions		
Estimated Pole Count	273	Number of poles that will be used to hang the fiber. ~20-22 poles per mile depending on the geography
Engineering Duration (months)	9	The amount of time to complete engineering
Make Ready Duration (months)	9	The amount of time to complete make-ready, which involves an examination of each pole to make sure there is adequate space.
Construction Duration (months)	9	Time spent actually building the new fiber line.
Take Rate Duration (months)	12	Amount of time it takes to reach the anticipated "take rate" or number of customers signing up for the network's service. For example, if there are 10 demand points, and only 2 sign up, that's a 20% take rate. If 6 sign up, its 60%. This is a major factor in the sustainability of maintaining a network for the ISPs. ISPs often assume a take rate between 30-60% for fiber service.

Capital Expenditures	Total Estimated Cost	
Engineering (<i>Upfront</i>)	\$286,000	Example Engineering cost of \$22,000/mile including Engineering, Permitting and easements, pole placement and make-ready.
Construction (<i>Upfront</i>)	\$650,000	Example Construction Cost of \$50,000/mile.
Estimated Total Capital Costs	\$936,000	Amount of up-front costs to build and construct a fiber line.

Estimated Cost Per Demand Point	
\$46,250.00	Assuming no federal or state subsidy, this is the total Cost per POSSIBLE customer. Again, the take rate, or percent of possible customer's signing up means that the actual cost per customer could be much higher.
Estimated cost per customer with a 60% take rate.	
\$78,000.00	If an ISP is assuming a 60% Take rate (12 of the 20 possible customers signing up for service) this is the cost they need to recoup by the monthly service fee from these customers. At a \$50/month rate with no subsidy, it would take over 100 years for customer fees alone to provide a ROI. This is why the BEAD Investment Act is so critical, and why so many of our communities are still without service since the economics do not make sense for most ISPs without the subsidy in construction.

Table 23. Example Fiber Construction Financial Model

Note that this is a simple construction example. Cost estimates are based on the 2023 ROC Statewide Infrastructure Study located at www.wvroc.org. This does not include many factors that ISPs would use to determine feasibility including general operating, maintenance, customer service etc.

Factors ISPs need to consider include:

- How close together the targeted addresses are (again, dense clusters are cheaper/easier to serve)
- Estimated Take Rate, an area with existing providers typically has lower take rates, areas with no providers or cellular coverage, have higher.
- Average Revenue per user: based on the take rate estimates, make an assumption based on the type and level of packages customers will be able to pay. (i.e., prices from competitors, ability to pay for the service, etc.).
- Likelihood of challenges including:
 - Cost Overruns
 - Make ready delays
 - Permitting, Licensing, Authorization and Approval delays

In short, the costs of network development are extremely high, historically, many addresses have not received service due to the lack of return on investment, this again highlights the importance and

significance of the BEAD Deployment funds that are bringing 1.2 Billion into the State to facilitate build out to our most rural communities.

Digital Inclusion and Digital equity efforts can directly impact the economics of an ISP’s network in any given region. Increasing the amount of subscribers by giving them the skills, devices, affordability measures needed, or by improving local online access can make a difference. Using the same example as above, Table 26 outlines an example outlining the difference between a take rate of 30% vs 70%:

Example ISP yearly revenue projection:

Example 13 mile Fiber route.		
Total number of demand points (possible customers)	20	Using the same route from our example above
Average plan cost per month/customer	\$70.00	This assumes some customers will have cheaper options, and some, including businesses, will have higher.
Number of customers at a 30 % take rate (number of customers subscribing)	6	Take rate is again, the number of possible customers that actually subscribe to a provider’s service.
Total projected annual revenue for 13 mile stretch based on 30% take rate	\$5,040.00	
Number of customers at a 70% Take rate	14	Take rate is again, the number of possible customers that actually subscribe to a provider’s service.
Total projected annual revenue for 13 mile stretch based on 70% take rate	\$10,080.00	

Table 24. Example ISP Yearly revenue projection

When ISPs are making decisions about which routes to maintain, grow etc. they have to look at the annual projections. Any connected location has back-end and customer support costs. If a tree falls, there needs to be adequate staffing to make sure there is a tech with a truck who is able to respond. Digital Equity and Digital Inclusion efforts can help increase demand for services, and ultimately their business case for continued growth in the community.



APPENDIX D

Funding

Appendix D. Funding

D.1 Current funds available for Digital Equity projects.

There are a variety of funding options available for Digital Equity. The ones outlined below in Table 25 are unique in that they are specifically for funding Digital Equity and Digital Inclusion projects. Many other sources of funding including grants for workforce development, training, social services, recovery etc. have been used to help stand up programs but are usually focused around the main goals of that grant program.

Program	Description	More info:
Digital Equity Act Competitive Grant program → Summer 2024	Opened Summer 2024. A second round is possible in 2025. At time of publication this has not been published. , Nationally competitive grant program for Digital Equity and Inclusion Projects. Open to a wide range of applicants. More information: https://broadbandusa.ntia.gov/funding-programs/Digital_Equity_Competitive_Grant_Program	Updates and materials: https://broadbandusa.ntia.gov/funding-programs/Digital_Equity_Competitive_Grant_Program
West Virginia Office of Broadband DEA Capacity Subgrant Program: Digital Skills → Spring 2025 → TBD 2026* → TBD 2027*	Expected to open early 2025. State level grant for digital skills, training, navigator programs etc. 5 year period of performance, Open to a wide range of applicants.	Draft Produres on broadband.wv.gov : https://broadband.wv.gov/wp-content/uploads/2023/11/WV-BEAD-Digital-Navigator-Non-Deployment-Draft-Program-Procedures-Nov2023.pdf
West Virginia Office of Broadband DEA Capacity Subgrant Program: Device access → Spring 2025* → TBD 2026* → TBD 2027*	Expected to open early 2025. Fund organizations looking to provide new, used, or refurbished digital/internet enabled devices. 5 year period of performance. Open to a wide range of applicants.	Draft Produres on broadband.wv.gov : https://broadband.wv.gov/wp-content/uploads/2023/11/WV-BEAD-Device-Distribution-Non-Deployment-Draft-Program-Procedures-Nov2023.pdf
West Virginia Office of Broadband DEA Capacity Subgrant Program: Local Digital Equity Planning → Spring 2025* → TBD 2026*	Expected to open early 2025. Focused on county, city, or regional governments to create local digital equity plans. 1 year period of performance.	Procedures pending.

Program	Description	More info:
USDA Distance Learning and Telemedicine Program	Expected to open Spring 2025. Open to a wide range of applicants including state/local government, non profit, for profit, and groups. Can be used for equipment, facilities, software, instructional programming, some technical assistance if it pertains to telemedicine or distance learning	Grant landing page: https://www.rd.usda.gov/progr_ams-services/telecommunications-programs/distance-learning-telemedicine-grants
<i>*pending final approval and subject to change</i>		

Table 25. Digital Equity Adjacent Grant Programs

D.2 Other funding models

There are a variety of other unique funding models available for these types of programs. Because the targeted populations cover such a wide range of residents, many businesses, philanthropies, and other stakeholders have an interest in supporting them. For example, a philanthropic organization may only support efforts assisting low-income youth, they may be willing to partner with a larger digital literacy program if partners can show that they are targeting and supporting their target population.

Grant programs

There are grants that can be used to cover certain aspects of Digital Inclusion programs. Workforce-related grants could cover skills training as it pertains to helping folks join the workforce, Healthcare-related grants could support devices, training as pertains to telehealth. Even if there isn't a clear grant program for your project, thinking about what partners and other angles would see the work as “theirs” can help identify additional funding opportunities and partnerships.

Public private partnerships

This is a familiar concept within traditional economic development work, however it does have some significant potential for Digital skilling and access programing. Many industries benefit from their customers or clients having access to and being able to use online services. In addition, Business and industry often spends significant amounts of time and money on training new employees and building up pipelines. Digital skilling and access programs also have the potential to decrease costs for them in the long run. While developing public-private partnerships can take time and effort, the benefits could be long-term sustained funding for digital inclusion initiatives. These could be local banks, healthcare, industry, or other local businesses.

ISPs participating

Internet Service Providers, as mentioned above, have a very clear interest in making sure that their networks are being utilized. They can participate in a variety of ways from providing direct (grant) support to programs, to donating equipment/devices, to being willing partners in educational activities. For any digital inclusion project, it may be a great step to reach out to your local ISPs to see if/what they're already doing and how they may be willing to come to the table.

CRA funding

There have been some instances where Bank CRA funding could be used for these efforts. There are significant changes coming to the CRA process over the next few years so it may be best to work directly with your local banking representative to determine what they can/cannot do.

D.3 Project planning 101

For any project that is seeking funding, there are several key items to consider.

Match:

When working with a funder, whether government or private philanthropic organizations, it is very common for there to be a required match. Match is the dollar amount and/or in-kind time that an organization is able to pitch into their project. Some funders calculate match differently but the most common method is a % of the total request. For example, say an organization is Requesting \$40,000 from a funder. If that funder requires a 25% match, the organization would be required to come up with and supply \$10,000 in matching funds along with the request. This would bring the total project cost up to \$50,000 total investment leveraged. For more information please visit:

<https://www.learngrantwriting.org/blog/match-funding-grants/>

Partners

Identifying and securing partnerships can be a very important step in developing your project. When selecting partners, look for organizations that you have worked with in the past, and/or organizations that have similar goals.

When selecting partners it is important to make sure that they understand and fully have capacity to work on the project in the ways they are proposing. There is always inherent risk in partnership, but the more time you can spend with them during the planning process, like any relationship, the less likely there will be misunderstandings or communication breakdowns later on.

Once you have determined the outline of the partnership, it is recommended that you write down your shared work plan and/or MOU. This provides important context in case staff changes occur or something happens down the line. Some good tips here:

<https://grantwriters.net/blog/tips-for-finding-the-best-partners-for-your-grants/>

Project plan

The project plan or work plan is an important component of your project. It includes specific timelines, activities, and responsibilities assigned to your staff and partner organizations. For more information please visit: <https://writing.wisc.edu/handbook/grants/> and

<https://www.ncoa.org/article/succeed-at-grant-proposals-have-a-plan-and-a-process>

Funding Strategy and Remaining Gaps

Activity	Description	Example Key Stakeholders	Possible Funding Sources
1. Project Objectives	Define the goals and objectives of the project.	Government Agencies, Private Partners, Community	Grants, Public Funds, Private Investments
2. Partnership Formation	Identify key partners and their roles in the project.	Government Agencies, ISPs, Infrastructure Providers	Public-Private Partnerships, Joint Ventures
Public Sector	Government agencies responsible for regulation, funding, and oversight.	Local, State, and Federal Government	Grants, Bonds, Public Funds
Private Sector	Internet Service Providers (ISPs), infrastructure providers, and technology companies.	ISPs, Infrastructure Providers, Technology Companies	Private Investments, Loans, Equity
Community Engagement	Involvement of the local community and organizations.	Community Groups, Nonprofits, Local Businesses	Community Contributions, Grants
3. Financial Planning	<u>Develop a financial plan for the project.</u>	<u>Financial Analysts, Project Managers</u>	<u>Grants, partnerships</u>
Budget Allocation	Allocate funds for staffing, supplies, travel, curriculum, devices etc.	Project Managers, Financial help.	Public Funds, Grants, Loans
4. Funding Sources	<u>Identify sources of funding for the project.</u>	<u>Funding Agencies, Private Investors</u>	<u>Grants, Loans, Equity</u>
Government Grants	Federal, state, or local grants	Government Agencies, State Agencies	Government Grants
Philanthropy	Grants, pilot funds	Local, Regional, National Philanthropy	Philanthropy
Private Partnerships	Attract private investors for equity or debt financing.	Private Partners, Investors, ISPs	Private Investments,
5. Project Management	<u>Define the structure for decision-making and oversight.</u>	<u>Project Manager, Project Partners</u>	
Steering Committee	A committee overseeing the project's progress and compliance.	Steering Committee Members	Decision-Making Protocols

Project Manager	Appoint a project manager responsible for day-to-day operations.	Project Manager	Reporting, Execution
Reporting and Monitoring	Implement mechanisms for progress reporting and performance monitoring.	Project Manager, Oversight Team	Reporting Framework
8. Performance Metrics	<u>Define key performance indicators (KPIs) for the project.</u>	<u>Project Manager, Oversight Team *note some national orgs. Can offer support for tracking.</u>	<u>KPIs and Measurement Metrics</u>
Broadband Accessibility	Measure the percentage of the population with access to broadband.	Oversight Team/ PM	
Covered population metrics	Measure items relating to covered populations and their success in your program	Oversight team/PM	
Service Quality	Monitor the quality of broadband services provided.	Oversight Team	Service Level Agreements (SLAs)
9. Review and Adaptation	Establish a process for project review and adaptation.	Steering Committee, Project Manager	Review Schedule, Adaptation Strategies

Table 26. Project Planning Table

D.4 Measurement and Tracking strategies

Implementation Strategies and DEA Measurable Objectives

Measuring the impact of any new or existing digital inclusion project will be critical to show the success, areas of improvement, and secure longer term funding for projects moving forward. As community members and organizations develop project ideas to address the barriers identified above, it will be important to plan for measurement on the front end.

Some example measurement objectives are listed below:

- **Digital Literacy Programs:**
 - **Objective - Improve digital literacy and technology skills among underserved populations.**
 - Example strategy: collaborate with libraries, schools, and community centers to offer digital literacy workshops.
 - Potential measurement: Pre/post testing for literacy courses, number of attendees completing programs, attendance at workshops, devices “earned” through learn and earn programming.
- **Online Accessibility and Inclusivity of Public Resources and Services:**

Objective - Ensure everyone has the same opportunity to engage with public resources and services online to increase civic participation.

- Example strategy: Addressing online accessibility and inclusivity of public resources and services across the applicable covered populations within the community by partnering with local government to update websites and improve accessibility of their online resources.
- Potential measurement: Community surveys, number of websites that are accessible,

● **Awareness and Use of Cybersecurity and Online Privacy Tools:**

Objective - Empower individuals, organizations, and communities to protect their digital assets, personal information, and online activities from cyber threats and privacy breaches.

- Example strategy: Increase digital security awareness, use of cybersecurity, and online privacy measures/tools across the applicable covered populations within the community by partnering with local tax prep support services to do outreach and provide training to the community.
- Possible measurement: Increase in residents using online banking, privacy tools, accessing healthcare records. etc.

● **Availability and Affordability of Consumer Devices:**

Objective - Ensure access to affordable devices and software.

- Example strategy: Increase availability and affordability of consumer devices across the applicable covered populations in the community by working with the local high school tech center to begin a device refurbishment program.
- Potential measurement: Increase of residents using appropriate devices, number of devices distributed, number of devices refurbished.

● **Community Technology Hubs:**

Objective - Establish community centers equipped with technology resources.

- Example strategy: Fund and support the creation of technology hubs in underserved communities by offering technical assistance for grant writing, partnership development to help connect businesses with a stake in it to the community center etc.
- Potential measurement: Number of residents using resources, number of workshops held at these hubs, funding to increase the number of the hubs.

● **Public-Private Partnerships:**

Objective - Foster collaboration between government, businesses, and nonprofits.

- Example strategy: Create pathways for the establishment of public-private partnerships for the benefit of covered populations within the community by creating incentives for businesses to invest in digital equity initiatives.
- Potential measurement: Percentage of funding coming from private investment and businesses.

Appendix E. Example Resources

DEI Inventory Example:

Asset Category	Description	Key Contacts / Responsible Parties
1. Infrastructure	Physical resources supporting digital access.	
Public Wi-Fi	Locations with public Wi-Fi access.	
Computer Labs	Community or organization-owned computer labs.	
Broadband Availability	Availability and quality of broadband connections.	
Device Loan Programs	Programs offering device loans to underserved individuals.	
Digital Inclusion Centers	Centers providing digital literacy training and resources.	
2. Devices	Availability of computing devices.	
Desktop Computers	Number and availability of desktop computers.	
Laptops	Number and availability of laptops.	
Tablets	Number and availability of tablets.	
Smartphones	Number and availability of smartphones.	
3. Training & Support	Programs and resources for digital literacy training.	
Digital Literacy Workshops	Availability of workshops and training programs.	
Online Learning Platforms	Platforms for online courses and resources.	
Technical Support	Availability of technical support for digital issues.	
Digital Instructors	Trained individuals or volunteers providing instruction.	

Asset Category	Description	Key Contacts / Responsible Parties
4. Community Partnerships	Collaborations with other organizations and entities.	
Educational Institutions	Partnerships with local schools, colleges, or universities.	
Nonprofit Organizations	Collaborations with nonprofits focused on digital equity.	
Public Libraries	Partnerships with local libraries for digital resources.	
Local Businesses	Partnerships with businesses providing digital access.	
5. Funding & Grants	Financial resources and grant opportunities.	
Grants & Donations	Grants and donations supporting digital equity efforts.	
Funding Sources	Identified sources of funding for ongoing initiatives.	
6. Outreach & Awareness	Efforts to raise awareness about digital equity.	
Outreach Campaigns	Campaigns to inform the community about available resources.	
Marketing Materials	Brochures, flyers, or websites promoting digital equity.	
Community Events	Events to engage the community and raise awareness.	
7. Data & Assessment	Data collection and assessment mechanisms.	
Data Collection Tools	Tools for collecting data on digital equity efforts.	
Impact Assessment	Evaluation methods for assessing the impact of initiatives.	

Table 27. DEI Inventory Example

Example Community Survey Questions

Continued stakeholder outreach and engagement can be a good way to not only check to ensure that planned programs are working as anticipated, but also to better understand existing challenges and tailor services as needed.

Example: Digital Equity Community Survey

Section 1: Demographics

1.1. Name:

1.2. Email:

1.3. Phone Number:

1.4. Are you representing a specific organization or community group?

If so, please specify:

Yes (Please specify) _____ No

Section 2: Current Broadband Access

2.1. Do you currently have access to a reliable high-speed broadband internet connection at your place of residence?

Yes No I don't know

2.2. If you answered "No" or "I don't know" to the previous question, please briefly explain the challenges or barriers you face in accessing broadband internet:

(Open-ended response)

Section 3: Internet Use and Adoption

3.1. How frequently do you use the internet for personal, educational, or professional purposes?

Daily Weekly Monthly Rarely Never

3.2. What are the primary reasons for using the internet? (Check all that apply)

Education Work or employment Healthcare and telemedicine Communication (email, social media, etc.) Entertainment Accessing government services Other (please specify)

3.3. Have you encountered any specific challenges or limitations in using the internet for your needs? If so, please describe:

(Open-ended response)

Section 4: Strategies and Recommendations

4.1. What strategies or initiatives do you believe would be most effective in increasing broadband access and adoption in our community?

(Open-ended response)

4.2. Are there any specific programs, resources, or partnerships that you would recommend to address digital inequities and promote broadband access?

(Open-ended response)

4.3. Do you have any other suggestions, comments, or insights regarding digital equity and broadband access that you would like to share?

(Open-ended response)

Example Summary of Community Survey Responses Template:

Digital Equity and Inclusion Community Survey Summary

Survey Period: [Date Range]

Total Responses: [Total Number of Respondents]

Survey Purpose: To assess the digital inclusion needs and challenges within our community and gather input on potential solutions.

Key Findings:

Digital Access and Devices:

- *Access to Devices:* Approximately [Percentage]% of respondents reported having access to personal computing devices (laptops, desktops, tablets, or smartphones).
- *Digital Divide:* [Percentage]% of respondents mentioned experiencing challenges due to a lack of personal devices, highlighting the existence of a digital divide.

Internet Connectivity:

- *Broadband Access:* [Percentage]% of respondents indicated that they have access to reliable broadband internet connections.
- *Internet Reliability:* [Percentage]% of respondents reported experiencing frequent internet connectivity issues, affecting their online activities and work.

Digital Literacy and Training:

- *Digital Literacy:* [Percentage]% of respondents expressed a need for digital literacy training and resources to improve their digital skills.
- *Training Availability:* [Percentage]% of respondents were unaware of available digital literacy programs in the community.

Community Resources:

- *Awareness of Resources:* [Percentage]% of respondents were unaware of existing community resources, such as public Wi-Fi hotspots or computer labs, for accessing digital services.
- *Access to Support:* [Percentage]% of respondents mentioned that they lacked access to technical support for digital issues.

Partnerships and Collaboration:

- *Existing Collaborations:* [Percentage]% of respondents were unaware of any ongoing partnerships between local organizations and the community to address digital inclusion.
- *Interest in Collaboration:* [Percentage]% of respondents expressed interest in community partnerships to enhance digital equity initiatives.

Awareness and Outreach:

- *Awareness Campaigns:* [Percentage]% of respondents indicated that they had not come across any awareness campaigns promoting digital equity and inclusion.
- *Interest in Awareness:* [Percentage]% of respondents expressed a desire for increased outreach efforts to raise awareness about available resources.

Example: Engagement Activity Matrix

Community Engagement Activities for Digital Equity	Description	Objective/ Outcome	Date/ Time	Location/ Venue	Lead/ Coordinator	Resources Needed	Notes
1. Community Meeting	Hold a town hall-style meeting	Share information on internet access options	[Date]	[Location]	[Lead Name]	Presentation materials, AV equipment	Agenda and speakers confirmed
2. Stakeholder Roundtable	Convene key stakeholders	Discuss strategies and partnerships	[Date]	[Meeting Venue]	[Lead Name]	Meeting agenda, invitees	Stakeholders confirmed to attend
3. Community Webinar	Host an online information session	Raise awareness and educate community members	[Date]	[Online Platform]	[Lead Name]	Webinar platform, speakers	Webinar registration open
4. Public Awareness Campaign	Launch a digital equity	Raise awareness and promote	[Date Range]	[Online and Local]	[Lead Name]	Marketing materials, media outreach	Social media content planned
5. Focus Group Discussions	Organize small group discussions	Gather in-depth insights and suggestions	[Date Range]	[Community Locations]	[Lead Name]	Facilitators, discussion guides	Focus group topics identified

Table 28. Example Engagement Activity Matrix

Example Outreach and Engagement Planning Table

Component	Description	Key Activities	Timeline	Responsible Party
Needs Assessment	Assess the digital equity needs of the target communities.	E.g., Conduct surveys and focus groups to gather data on digital access and literacy.	i.e., Q1-Q2	i.e., Digital Equity Team
Stakeholder Mapping	Identify key stakeholders and partners for collaboration.	Identify local nonprofits, government agencies, and businesses interested in digital equity.	i.e., Q1-Q2	Digital Equity Team
Community Engagement	Engage with underserved communities to understand their specific challenges and needs.	Host community meetings and workshops to gather input.	i.e., Q1-Q2	Outreach Coordinator
Digital Literacy Programs	Develop and implement digital literacy programs.	Create a curriculum for digital skills training; Partner with libraries and community centers to offer workshops.	i.e., Q1-Q2	Education Coordinator
Device Distribution	Ensure access to affordable devices for underserved populations.	Establish partnerships with device manufacturers; Organize device distribution events.	i.e., Q1-Q2	Technology Coordinator
Broadband Expansion	Work on improving internet access in underserved areas.	Partner with ISPs to extend coverage; Set up public Wi-Fi hotspots.	i.e., Q1-Q2	Infrastructure Team
Technology Hubs	Establish community technology hubs.	Identify suitable locations and secure funding; Equip hubs with computers and internet access.	i.e., Q1-Q2	Facilities Coordinator

Policy Advocacy	Advocate for policies supporting digital equity.	Engage with policymakers and advocate for digital inclusion legislation.	i.e., Q1-Q2	Advocacy Team
Private Sector Engagement	Collaborate with businesses for support.	Reach out to local companies for sponsorship and support; Organize corporate volunteer programs.	i.e., Q1-Q2	Partnerships Coordinator
Progress Monitoring	Continuously track and evaluate progress.	Collect data on key performance indicators; Adjust strategies based on results.	Ongoing	Data Analyst
Community Outreach Events	Host community events to promote digital equity.	Organize digital fairs, workshops, and awareness campaigns.	Ongoing	Outreach Coordinator

Table 29. Example Outreach and Planning Table