Southwest Virginia Connectivity Plan

Covering Bristol, Buchanan, Dickenson, Russell, and Washington Counties

Prepared By: People Incorporated of Virginia
Date: November 2024

Acknowledgements

Connectivity Plan Authors
People Incorporated of Virginia Kelli Smith Brandi Day

The following contributors and organizations were critical to the planning process:
VA Department of Housing & Community Development (DHCD) **Virginia Community Action Partnership**

This plan was created as part of the Appalachia Digital Accelerator, a Connect Humanity program funded by the Appalachia Regional Commission with additional support from Truist Foundation, and the Ford Foundation.

TABLE OF CONTENTS

Table of Contents

EXECUTIVE SUMMARY

Executive Summary

People Incorporated (People Inc.) developed the preceding assessment in coordination with community partners. This plan seeks to address key barriers to digital equity across Bristol City, Buchanan, Dickenson, Russell, and Washington Counties in Southwest Virginia. Through comprehensive data analysis and community feedback, the plan identifies critical challenges in broadband access, digital skills, and cybersecurity, especially for rural and underserved populations.

The planning process included gathering in-depth input from community stakeholders and members of covered populations through community input sessions, surveys, and interviews, and is supported by a wealth of geographical and statistical data of broadband coverage. The analysis of this data led to the prioritization of **digital inclusion** as the priority area for implementation. Within the broad scope of digital inclusion, the community will further focus on the following priority goals:

1. **Improving Access:**
    - Southwest Virginia has seen substantial investment, particularly at the state level, toward improving broadband infrastructure in recent years. Even with high-speed reliable internet available, many households face significant barriers to accessing this utility, including cost, skill, lack of a device, and a limited understanding of the value of digital connection.
2. **Increasing Meaningful Use with Digital Skills:**
    - Many community residents face barriers to full digital participation by not being able to use all the digital opportunities available to them. Increasing digital skills will improve community members' ability to use broadband for a variety of purposes unique to their circumstances, but that could include health, education, employment, access to public benefits, and the completion of daily life tasks.
3. **Ensuring Digital Safety:**
    - Many of the populations who would most benefit from fuller digital participation are uniquely vulnerable to the many dangers that internet access can open up. Older adults, those with limited language skills, those with disabilities may not have the experience or skills to identify and avoid digital risks.

Through strategic partnerships with local stakeholders and funding alignment with state goals, the following plan aims to bridge the digital divide, fostering economic growth and improved quality of life for Southwest Virginia's communities.

SECTION 1

Community Context

Section 1. Community Context

A. General Community Demographic Information

People Inc. utilized demographic data from the U.S. Census Bureau's American Community Survey to obtain the following information relevant to the people who this plan serves:

Demographic	Bristol	Buchanan	Dickenson	Russell	Washington	Region
Total Population Number	17,036	20,246	14,089	25,763	53,985	131,119
Square Miles Covered	13	504	334	476	566	1,893
Number of People per Square Mile	1,310	40	42	54	95	69
Number of Residents Who Identify as White	14,892	19,571	13,769	24,849	51,390	124,471
Total Minority	2,589	868	468	1,092	3,473	8,490
Number of Residents Who Identify as Black	1,066	373	102	520	928	2,989
Number of Residents Who Identify as Hispanic or Latino	445	193	148	178	878	1,842
Number of Residents Who Identify as Indigenous	0	0	26	57	48	131
Number of Residents Who Identify as Other	1,078	302	192	337	1,619	3,528
Total Number of Households	7,299	7,494	5,543	10,438	22,013	52,787
Number of Households That Are Owner Occupied	4,596	6,117	4,281	7,812	16,548	39,354
Average Household Size	2.29	2.57	2.46	2.42	2.38	N/Av
Mean Household Income	$66,716	$55,860	$56,343	$60,359	$80,206	N/Av
Median Household Income	$45,250	$39,591	$40,143	$44,088	$59,116	N/Av
Mean Family Income	$86,539	$66,158	$69,235	$74,920	$97,062	N/Av
Median Family Income	$71,500	$46,783	$51,842	$63,176	$76,444	N/Av
Per Capita Income	$30,419	$24,126	$25,003	$25,939	$33,900	N/Av
Number of People Living Below the Poverty Line	2,840	4,878	3,062	4,925	6,303	22,008
Number of Low to Moderate Income Residents	5,192	7,264	4,861	7,747	10,529	35,593

Observations

The following discussion concerns social determinants in the service area that may impact or be impacted by digital equity.

Education

Educational opportunities from early childhood through post-secondary rely on digital connectivity. In rural areas like Southwest Virginia, many educational opportunities are far away, and good connectivity opens up access to opportunity for a region with historically low educational attainment.

Educational Attainment

The following table shows the educational attainment of the population aged 25 and over in each jurisdiction. Each area has a much higher percentage of the population with a high school degree or less than the state average.

Attainment	Bristol	Buchanan	Dickenson	Russell	Washington	Virginia
Less than 9th	2.6%	10.2%	7.2%	8.7%	4.1%	3.6%
9th-12th- No diploma	11.1%	15.5%	11.5%	8.4%	6.6%	5.3%
HS Graduate/ GED	30.6%	39.4%	39.3%	40.8%	35.8%	23.9%
Some college	24.7%	16.9%	21.2%	19.2%	18.9%	18.5%
2-year degree	8.1%	7.0%	9.4%	10.4%	10.0%	7.8%
4-year degree	11.8%	5.5%	9.3%	8.6%	15.7%	23.1%
Graduate degree	11.0%	5.4%	2.1%	4.0%	8.8%	17.9%

Source: US Census Bureau American Community Survey 2018-2022

School Funding

The table below shows the sources of funding per pupil in each of the service area counties. All but the City of Bristol have a total expenditure below the state average. Each of the locations receives a far larger portion of its funding from the state government than the average. This allocation is based on a state formula. Federal funding is, likewise, above the state average except for Washington County.

Sources of Financial Support				
	Local	State	Federal	Total
2019-2020				
Bristol	$2,729	$7,426	$2,005	$12,160
Buchanan	$4,567	$6,677	$1,564	$12,808
Dickenson	$3,278	$7,910	$1,520	$12,708
Russell	$1,970	$7,896	$1,596	$11,462
Washington	$3,815	$6,237	$999	$11,051
State	$6,770	$5,603	$867	$13,240
2020-2021				
Bristol	$3,284	$7,558	$3,131	$13,973
Buchanan	$3,411	$8,062	$2,382	$13,855
Dickenson	$2,763	$8,655	$2,216	$13,634
Russell	$2,251	$8,382	$2,401	$13,034
Washington	$3,970	$6,914	$1,325	$12,209
State	$6,669	$6,185	$1,352	$14,206
2021-2022				
Bristol	$3,821	$8,365	$4,184	$16,370
Buchanan	$2,467	$8,342	$3,523	$14,332
Dickenson	$2,513	$9,253	$2,310	$14,076
Russell	$1,959	$9,341	$2,600	$13,900
Washington	$4,847	$7,048	$1,814	$13,709
State	$7,134	$6,454	$1,936	$15,524

Source: Virginia Department of Education

The local jurisdictions, which are generally poor and lacking in revenue to support the education system, are able to spend a lower than average portion of their local revenue on education. Funding during the 2020-2021 and 2021-2022 school year received extra resources from the federal and state government due to Covid. When those revenue sources end during the 2024-2025 school year, the local governments will need to contribute a larger portion of their revenue to school funding, or risk reduced investment in education. With fewer financial resources, schools are less able to invest in building skills and knowledge in areas outside of those required by the state. This could mean fewer resources to support digital skills building.

Access to Quality Education

The rural nature of the community means that educational resources like schools, training centers, or childcare centers are largely disbursed. Travel times to universities and colleges are high. This is further exacerbated by the high number of residents without a vehicle and the limited public transportation system. The wide distribution of public schools also means that local students spend long periods of time on the bus riding to and from school each day, limiting their time for homework and other activities. While wifi enabled buses may help relieve some of this issue, inconsistent cellular service across the region means that it would not likely be a viable or useful option given the potential cost.

Healthcare

Population health indicators show that the community lags behind the state when it comes to health risk factors, mental health, and mortality. Limited availability of health care providers, geographic distance to services, access to health foods, and many other social determinants of health are at play. Increased digital connectivity provides a potential solution for both the prevention of poor health outcomes and the response to the current poor health status that many residents experience. Engagement in electronic health systems can help with automated reminders for preventive care like annual screenings, telehealth appointments can give access to specialists that might be based hours away, online grocery ordering can provide access to

healthy foods for residents with limited transportation or mobility, and on-demand virtual appointments means that problems can be addressed early on, before they become life threatening.

Healthcare Access

Much of the service area is considered a “healthcare desert” due to the lack of physicians and hospitals. Only Washington County has a rate of access to primary care physicians higher than the state or national average. Buchanan, Dickenson, and Russell counties are approximately one-third those rates.

This indicator reports the number of primary care physicians per 100,000 population. Doctors classified as "primary care physicians" by the AMA include: General Family Medicine MDs and DOs, General Practice MDs and DOs, General Internal Medicine MDs and General Pediatrics MDs. Physicians age 75 and over and physicians practicing sub-specialties within the listed specialties are excluded.

Report Area	Total Population	Primary Care Physicians	Primary Care Physicians, Rate per 100,000 Population
Service Area Average	132,362	67	**50.62**
Buchanan	20,613	5	24.26
Dickenson	14,078	3	21.31
Russell	26,647	7	26.27
Washington	53,695	42	78.22
Bristol	17,329	10	57.71
Virginia	8,590,563	6,486	75.50
United States	329,484,123	251,647	76.38

Data Source: US Department of Health & Human Services, Health Resources and Services Administration, HRSA - Area Health Resource File. Accessed via County Health Rankings. 2021

The table below provides the same data for mental health care professionals. Virginia has far fewer healthcare professionals on average than the nation at-large. Buchanan has approximately one-fifth the rate of the state and less than one-sixth the national rate. Dickenson and Russell counties are also severely lacking.

Report Area	Estimated Population	Number of Mental Health Providers	Mental Health Care Provider Rate (Per 100,000 Population)
Service Area Average	129,230	191	**147.8**
Buchanan	19,231	10	52
Dickenson	13,699	10	73
Russell	25,490	26	102
Washington	53,846	126	234
Bristol	16,964	19	112
Virginia	8,693,004	21,124	243
United States	333,191,688	1,045,210	313.7

Data Source: Centers for Medicare and Medicaid Services, CMS - National Plan and Provider Enumeration System (NPPES). Accessed via County Health Rankings.

Increased digital opportunities would help local residents with access to healthcare through telehealth appointments and could have a significant impact on this local need.

Food Deserts

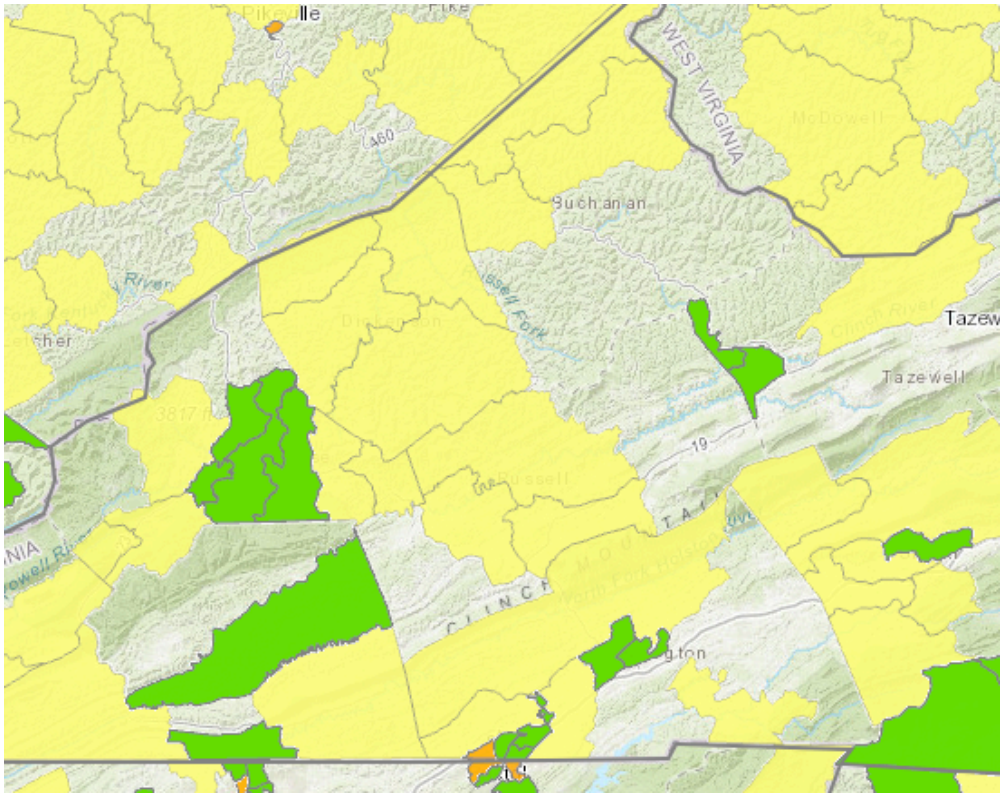
The USDA Food Access Research Atlas defines a food desert as any neighborhood that lacks healthy food sources due to income level, distance to supermarkets, or vehicle access. This report covers an area that has a population of 21,032 people living in food deserts and a total of 5 census tracts classified as food deserts by the USDA.

Report Area	Food Desert Census Tracts	Other Census Tracts	Food Desert Population	Other Population
Service Area	5	30	21,032	120,577
Buchanan	0	7	0	24,098
Dickenson	0	4	0	15,903
Russell	0	7	0	28,897
Washington	2	11	7,050	47,826
Bristol	3	1	13,982	3,853
Virginia	269	1,617	1,147,233	6,853,791

Data Source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2019.

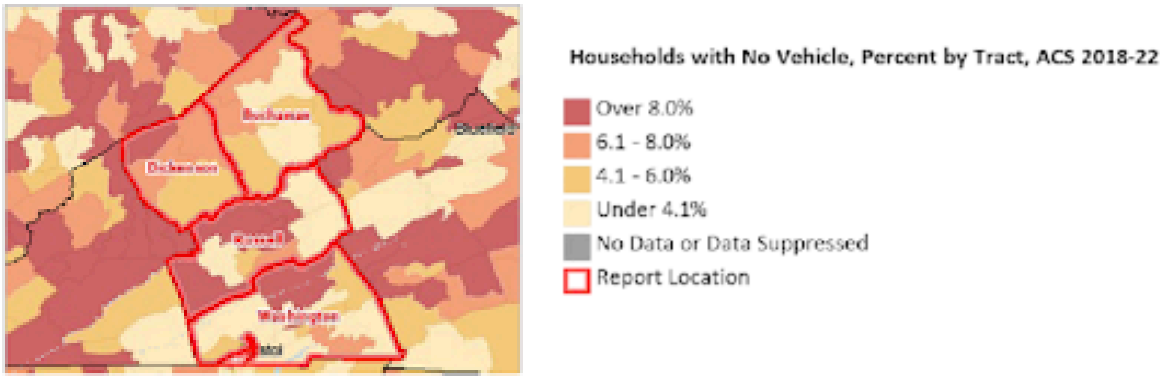
The following map is from the U.S. Department of Agriculture and shows food deserts in the target area. The green areas display tracts of low-income and low access, while yellow shows areas with low-income and low access for those who have vehicles. Access to food is a problem in the region. Larger grocery stores with a wide variety of foods exist in the county-seats and population centers for each locality, and many of these provide pickup and delivery services that

could broaden access for those living in food deserts if they have the connectivity and knowledge on how to use them.



Transportation Access

There are few public transportation routes in the region, and they generally operate only during the traditional work day. They are not considered a reliable source of transportation for appointments, shopping, or school. The region is considered to be car dependent. The map below shows the households with no vehicles. The areas with the highest rates of households with no vehicle are also those least likely to have internet access.



Access to the internet and improved digital skills would improve access to much-needed resources allowing residents to shop, work, attend appointments, and access educational opportunities without needing to secure transportation.

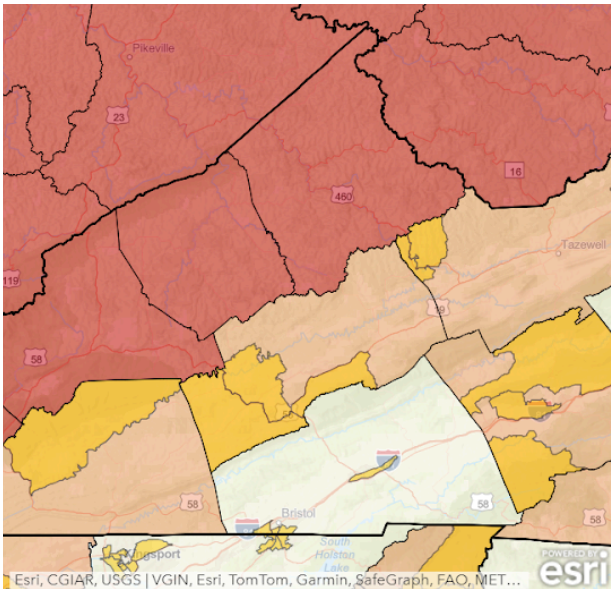
Social Support

The degree to which a community exhibits certain social conditions, including high poverty, low percentage of vehicle access, or crowded households, may affect that community's ability to prevent human suffering and financial loss in the event of disaster. These factors describe a community's social vulnerability. The social vulnerability index is a measure of the degree of social vulnerability in counties and neighborhoods across the United States, where a higher score indicates higher vulnerability.

Report Area	Socioeconomic Theme Score	Household Composition Theme Score	Minority Status Theme Score	Housing & Transportation Theme Score	Social Vulnerability Index Score
Service Area Average	0.65	0.36	0.10	0.46	**0.47**
Buchanan	0.86	0.34	0.11	0.60	0.63
Dickenson	0.82	0.64	0.01	0.77	0.72
Russell	0.73	0.24	0.02	0.33	0.42
Washington	0.40	0.21	0.08	0.38	0.27
Bristol	0.91	0.80	0.39	0.50	0.79
Virginia	0.37	0.37	0.73	0.41	0.40
United States	0.54	0.48	0.71	0.62	0.58

Note: This indicator is compared to the state average.
Data Source: Centers for Disease Control and Prevention and the National Center for Health Statistics, CDC - GRASP. 2020.

Internet access increases social capital by providing access to online forums, news, social media, and email. By expanding an individual's social circle beyond the immediate community, their access to social capital is increased. This is most important for areas with high social vulnerability.



Community Economic and Workforce Status

The economy of the plan community has long been driven by mining and adjacent manufacturing industries. Regional economic development strategies focus on tourism, cybersecurity, and advanced manufacturing, all of which are dependent, in different ways, on robust broadband infrastructure and a technologically skilled workforce.

Since 2007, the Appalachian Regional Commission has recognized that some areas in non-distressed counties have substantially higher poverty or lower income levels than national averages and should be considered economically distressed. These areas should be an important focus of Commission assistance. Accordingly, the Commission designates as "distressed areas," those census tracts in at-risk and transitional counties that have a median family income no greater than 67 percent of the U.S. average and a poverty rate 150 percent of the U.S. average or greater. Designations are revised annually using the latest five-year estimates from the American Community Survey.

Conclusions

As is common in Appalachia, this region of Southwest Virginia suffers from economic, social, and infrastructure deficiencies that indicate a need for investment in broadband infrastructure and programs to promote digital equity. The high-poverty area already received little financial support from the state and federal government, particularly in the most rural counties of Buchanan, Dickenson, and Russell. Increased digital connectivity would help alleviate barriers to access for healthcare, improve education opportunities, and increase community connectedness.

B. Current Internet Adoption and Use

This section aims to provide Southwest Virginia with a diagnosis of the current health of broadband infrastructure and services in the community. The results of this Connectivity Plan will enable Southwest Virginia to strategically target and prioritize areas 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.

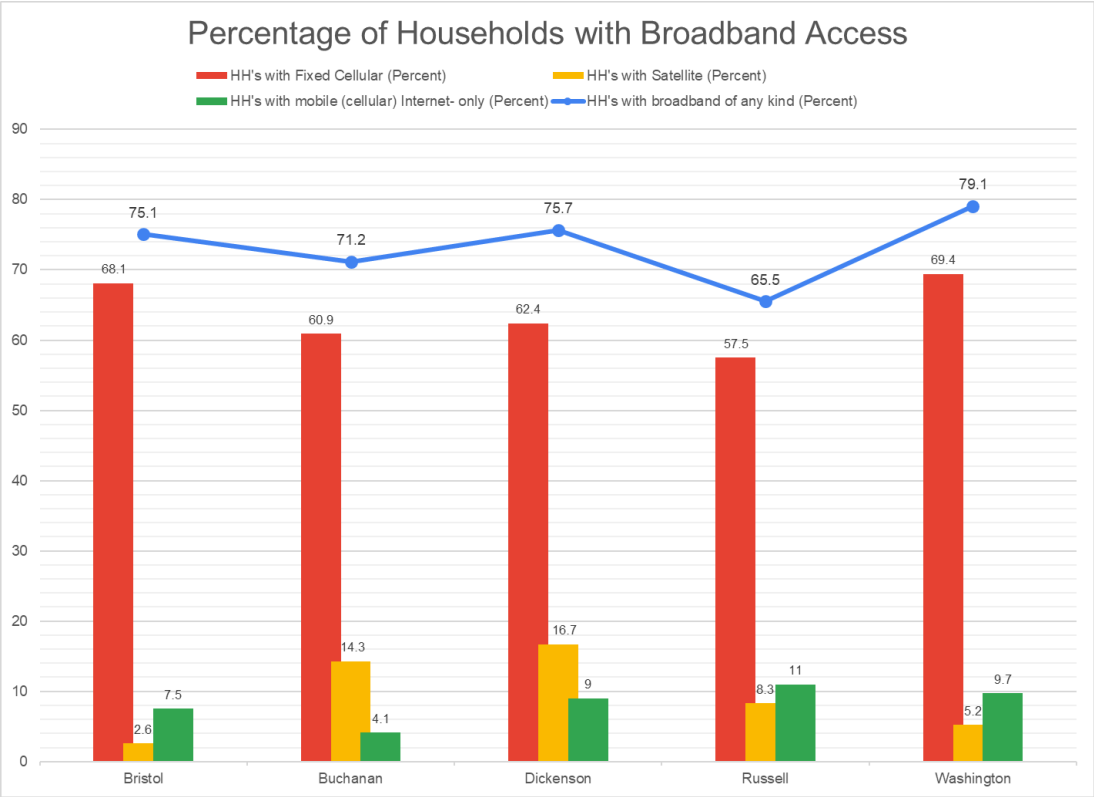
Broadband adoption

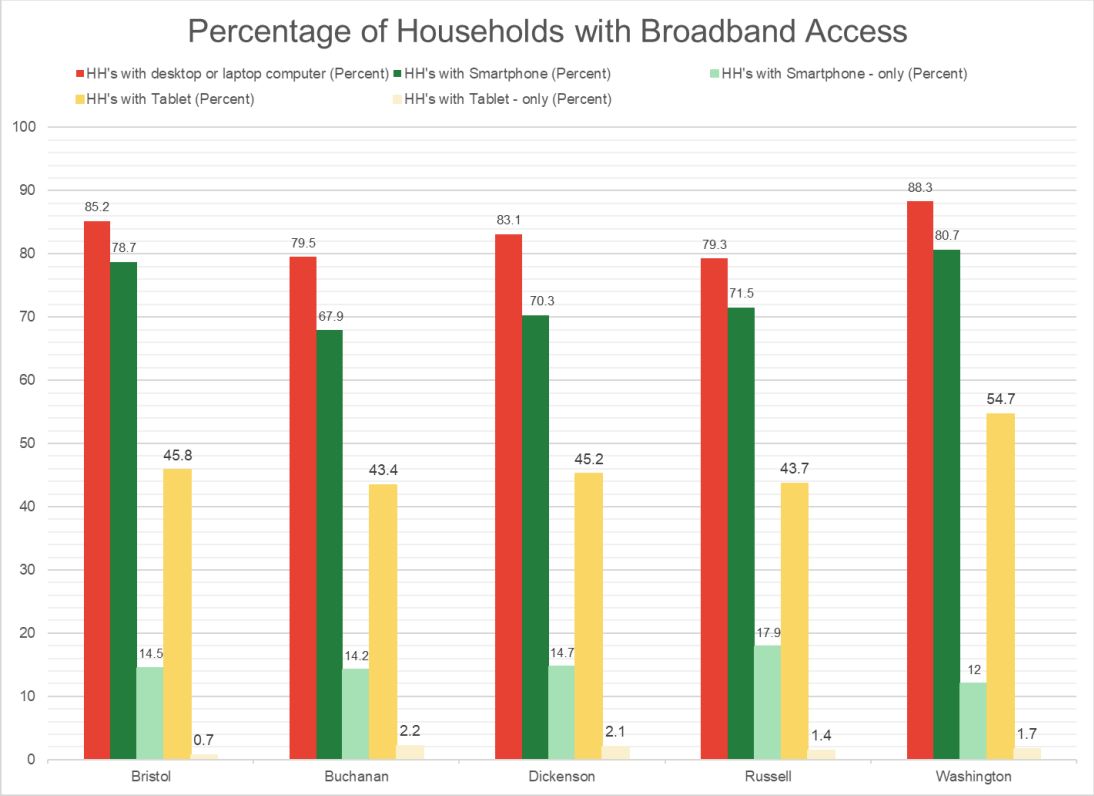
Broadband usage data from the U.S. Census Bureau's American Community Survey illustrates the overall profile of internet adoption.

Internet/Usage Statistic	Bristol	Buchanan	Dickenson	Russell	Washington	Region	Virginia
Number of Total Households	7,299	7,494	5,543	10,438	22,013	52,787	3,289,776

Percentage of Households with Broadband of Any Kind	75.1%	71.2%	75.7%	65.5%	79.1%	74.4%	88.7%
Percentage of Households with Fixed Cellular	68.1%	60.9%	62.4%	57.5%	69.4%	64.9%	82.1%
Percentage of Households with Satellite	2.6%	14.3%	16.7%	8.3%	5.2%	8.0%	6.0%
Percentage of Households with Mobile (Cellular) Internet Only	7.5%	4.1%	9.0%	11.0%	9.7%	8.8%	11.1%
Percentage of Households without a Device	14.8%	20.5%	16.9%	20.7%	11.7%	15.7%	6.0%
Percentage of Households with One or More Devices	85.2%	79.5%	83.1%	79.3%	88.3%	84.3%	94.0%
Percentage of Households with a Desktop or Laptop Computer	85.2%	79.5%	83.1%	79.3%	88.3%	84.3%	81.6%
Percentage of Households with a Smartphone	78.7%	67.9%	70.3%	71.5%	80.7%	75.7%	88.5%
Percentage of Households with Only a Smartphone	14.5%	14.2%	14.7%	17.9%	12.0%	14.1%	7.7%
Percentage of Households with a Tablet	45.8%	43.4%	45.2%	43.7%	54.7%	0.4%	65.7%
Percentage of Households with Only a Tablet	0.7%	2.2%	2.1%	1.4%	1.7%	1.6%	0.8%

US Census Bureau American Community Survey – 2022 5-year estimates


Percentage of Households with Broadband Access
HH's with Fixed Cellular (Percent)
HH's with Satellite (Percent)
HH's with mobile (cellular) Internet- only (Percent)
HH's with broadband of any kind (Percent)
90
80
70
60
50
40
30
20
10
0
75.1
71.2
75.7
65.5
79.1
68.1
60.9
62.4
57.5
69.4
2.6
14.3
16.7
8.3
5.2
7.5
4.1
9
11
9.7
Bristol
Buchanan
Dickenson
Russell
Washington


Percentage of Households with Broadband Access
HH's with desktop or laptop computer (Percent)
HH's with Smartphone (Percent)
HH's with Smartphone - only (Percent)
HH's with Tablet (Percent)
HH's with Tablet - only (Percent)
100
90
80
70
60
50
40
30
20
10
0
85.2
78.7
14.5
45.8
0.7
79.5
67.9
14.2
43.4
2.2
83.1
70.3
14.7
45.2
2.1
79.3
71.5
17.9
43.7
1.4
88.3
80.7
12
54.7
1.7
Bristol
Buchanan
Dickenson
Russell
Washington

The table shows the use of the Affordable Connectivity Program within the service area as of January 2024. With the program now unfunded, these subscribers face an even greater affordability gap.

County Name	Total Subscribers
Buchanan County	2,530
Dickenson County	1,646
Russell County	2,369
Washington County	3,371
Bristol city	2,994
Source: Universal Service Administrative Company as of January 2024	

Based on the internet usage and median household income information of Southwest Virginia, the following observations can be made:

A large portion of households do have access to the internet, but it is primarily through cellular data, which is insufficient for any significant use. Cellular data plans often have caps on usage or are only available on the one mobile device subscribed to the service, meaning that service is not available to the entire household.

A larger number of households have an electronic device than have access to the internet. Despite the fact that cellular service is the largest source of internet access, a relatively small percent of households have only a cellular phone as opposed to a computer or laptop.

C. Community Engagement

In addition to the robust publicly available data shared earlier in this section, People Inc. worked closely with partners throughout the community to gather first-hand insights about connectivity challenges, opportunities, and hopes for the future.

Southwest Virginia developed the following digital equity mission, vision, and values based on this work:

Vision Statement	Individuals and households within Southwest Virginia have the access, devices, and knowledge they desire to safely access online resources including employment, education, and essential services.
Mission Statement	People Inc., along with other community stakeholders, will ensure that disadvantaged community members have access to the resources, programs, and services they need to participate fully in the digital world.

Values	Equity - All community members, regardless of income or location, have the ability to participate digitally. Flexibility - All communities and families have different digital needs, and digital equity strategies need to be flexible to address the unique needs and challenges of all community members Respect - While many community members might not understand digital equity or have much experience participating in a digital world, all DE strategies should be delivered with respect and in a way that no one feels embarrassed to be accessing support.

Planning Process Summary

Southwest Virginia's development of its Digital Equity vision, mission, goals, and values involved participation from the following stakeholders:

- American Red Cross
- Appalachian Independence Center
- Blue Ridge Jobs Corps Center
- Bristol Faith in Action
- Bristol Redevelopment and Housing Authority
- City of Bristol
- Cumberland Mountain Community Services
- DARS
- Dickenson Star
- Highlands Community Services
- Lonesome Pine Regional Library
- Mount Rogers Community Services Board
- Mount Rogers Health District
- Mount Rogers Regional Adult Education Program
- Mountain Empire Community College
- New River/Mount Rogers Workforce Development Board
- Regional Adult and Career Education
- Russell County Public Library
- United Way of Bristol
- United Way of Southwest Virginia
- Virginia Career Works New River Mount Rogers
- Virginia Department of Corrections
- Washington County Public Library
- Washington County Public Schools

People Inc. engaged the above partners through individual locality specific input sessions, surveys, and a day-long planning retreat. The planning retreat was especially essential for the

clear definition of digital equity challenges the region faces and the development of goals and strategies to address these challenges.

People Inc. also solicited direct input from community members, particularly those belonging to Digital Equity Act Covered Populations. The input was collected through community input sessions in each locality, and a digital equity survey administered in conjunction with the Virginia Department of Housing and Community Development.

Asset Mapping Tool Development, Data Collection, and Dissemination

As part of Southwest Virginia's Digital Equity planning process, People Inc. developed an asset map to build a comprehensive picture of the existing digital equity assets in the region (see Appendix 3). The asset map consists of the following:

Digital Equity organizations

- People Incorporated of Virginia
- Southwest Virginia Workforce Development Board

Organizations running digital inclusion programs

- Mount Rogers Regional Adult Education Program
- Mountain Empire Community College
- Virginia Highlands Community College
- Buchanan County Technology & Career Center
- Southwest Virginia Community College
- Washington County Career and Technical Education Center

Organizations serving covered populations

- United Way of Southwest Virginia
- Bristol Redevelopment and Housing Authority

Anchor institutions

- Bristol Public Library
- Bristol Virginia Public Schools
- Buchanan County Public Schools
- Buchanan County Public Library
- Russell County Library
- Washington County Public Library
- Lonesome Pine Regional Library

To develop the Digital Equity Asset Map, People Inc. used a template developed by the Virginia Department of Housing and Community Development. With that, the following steps were taken:

1. Scanned websites from traditional Digital Equity partners such as libraries and public schools to collect information about resources.
2. Conducted surveys of partners to collect detailed information about services and resources.
3. Gather data and other detailed information from attendees at focus groups.

All information was compiled into the template for review and dissemination.

Throughout the Digital Equity planning process, People Inc. leveraged partnerships to assist with gathering asset data and promoting awareness of the Asset Map develop process. The partners listed above, while being components of the asset map, also assisted with the identification of additional digital equity assets.

People Inc. shared all asset information with DHCD as part of its community needs assessment process. Per their Digital Opportunity Plan, the state intends to maintain a database of resources. People Inc. is deferring to them for implementation of this.

The Digital Equity Asset map for the community is in Appendix 3.

Stakeholder Engagement and Collaboration

As part of an inclusive Digital Equity planning process, People Inc. understands that it must work collaboratively with additional stakeholders, including Community Anchor Institutions to ensure that identified priority populations in the community are engaged throughout the process, especially during the planning and implementation phases, to ensure that equitable internet for all is achieved. A table in Appendix 1 lists the participating organizations and Appendix 2 gives a schedule of the events.

Through a diverse and collaborative approach, People Inc. 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 Virginia's Digital Equity goals.

Community Survey

Insights from local community input sessions and stakeholder meetings were supported by the provision of a detailed survey. The survey was developed by research firm S.I.R. based out of Richmond, VA. The Virginia Department of Housing and Community Development contracted with S.I.R. to create and distribute a survey to seek direct feedback from identified stakeholders and priority populations to capture needs, unique challenges, and recommended engagement strategies to increase broadband access and adoption. People Inc. and other community partners assisted directly with survey distribution, focusing on getting responses from those in covered populations. People Inc. distributed the survey directly to its client base, and promoted the survey through social media, a press release, and partner networks. In addition, paper copies were made available at community events targeted to covered populations. These in-person survey efforts were the most effective. A copy of the survey is in Appendix 4.

The survey collected data for the entire Southwest Virginia peninsula including the four counties and one city addressed by this plan and the counties of Bland, Carroll, Grayson, Lee, Scott, Smyth, Tazewell, Wise, Wythe and the cities of Galax and Norton. Efforts to collect surveys

were also facilitated by Appalachian Community Action and Development Agency, Inc., Clinch Valley Community Action Agency, Mountain Community Action Program, Inc., and Rooftop of Virginia Community Action Program, Inc.

Although the area exceeds the boundaries of this plan, the region is considered relatively homogenous; therefore, the results are applicable within the smaller region as well as the larger. The key findings from the survey include:

- Most respondents (68%) have both a home internet subscription and a wireless cellular plan.
- Of the people who do not access the internet at home, 37% do not because it is too expensive and 34% do not because it is not available in their area.
- Most respondents (52%) spend between $50 and $100 each month on their internet service (not as a part of a cellular plan).
- Respondents (85%) are most likely to use a smartphone to access the internet.
- Respondents are comfortable doing most tasks on the internet, except attending doctor's appointments.
- Most respondents (72%) have not applied to a program for internet accessibility, and just over one-third (37%) are aware of these programs.
- Respondents are most interested in low-cost or free internet services and digital devices. The following chart shows the interest in specific proposals.

Identification of Priority Populations and Barriers

People Inc. worked with the stakeholders outlined in previous sections to identify priority covered populations and the primary barriers the community will seek to address.

Based on the demographic and internet usage of Southwest Virginia, the following covered groups have been identified as priority populations most at risk for being impacted by the digital divide:

- Individuals who primarily reside in a rural area
- Covered households (150% of poverty or less)
- Population with language barriers (primarily those with low levels of literacy
- Aging individuals

Secondary data and community input has also highlighted the primary barriers to digital participation as:

- Lack of digital access
- Lack of digital skill

Increasing digital access and skills for the identified priority populations will directly impact the goals of the community, and also align with the state goals from both BEAD and Digital Opportunity Plans as shown in the following table:

State Goal	Description	Mitigation Approach
Digital Opportunity Plan Goal 1: Virginians will have access to affordable, reliable high speed internet BEAD Goal: Conduct state-wide needs assessment and develop programs to reach full broad-band adoption	While broadband infrastructure projects are well underway, residents still face barriers to accessing high speed internet, including affordability of service, lack of a device, or resistance to the value that having access could add to their life.	Increase number of community organizations offering digital navigator and technical assistance programs. Increase the percentage of covered populations who have access to a computer device that can connect to the internet.
Digital Opportunity Plan Goal 2: Virginians will have access to digital learning resources and sustainable devices	Community members are not able to participate fully in the digital world, including daily life tasks, education, and workforce, because of a lack of digital skills. Digital upskilling, including the ability to use the internet safely, is needed to both improve individual lives and the overall economy of the region.	Reduce adoption gap by making digital literacy training available to all Virginians. Ensure training is sensitive to stigma around lack of skill and easily accessible.

SECTION 2

Digital Access

Section 2. Digital Access

A. Digital Access Data

Section 1 outlaid general information related to access, include the levels of service subscription and device adoption in the community. This section dives deeper into the digital access data that directly informs the goals and strategies outlaid later in the section.

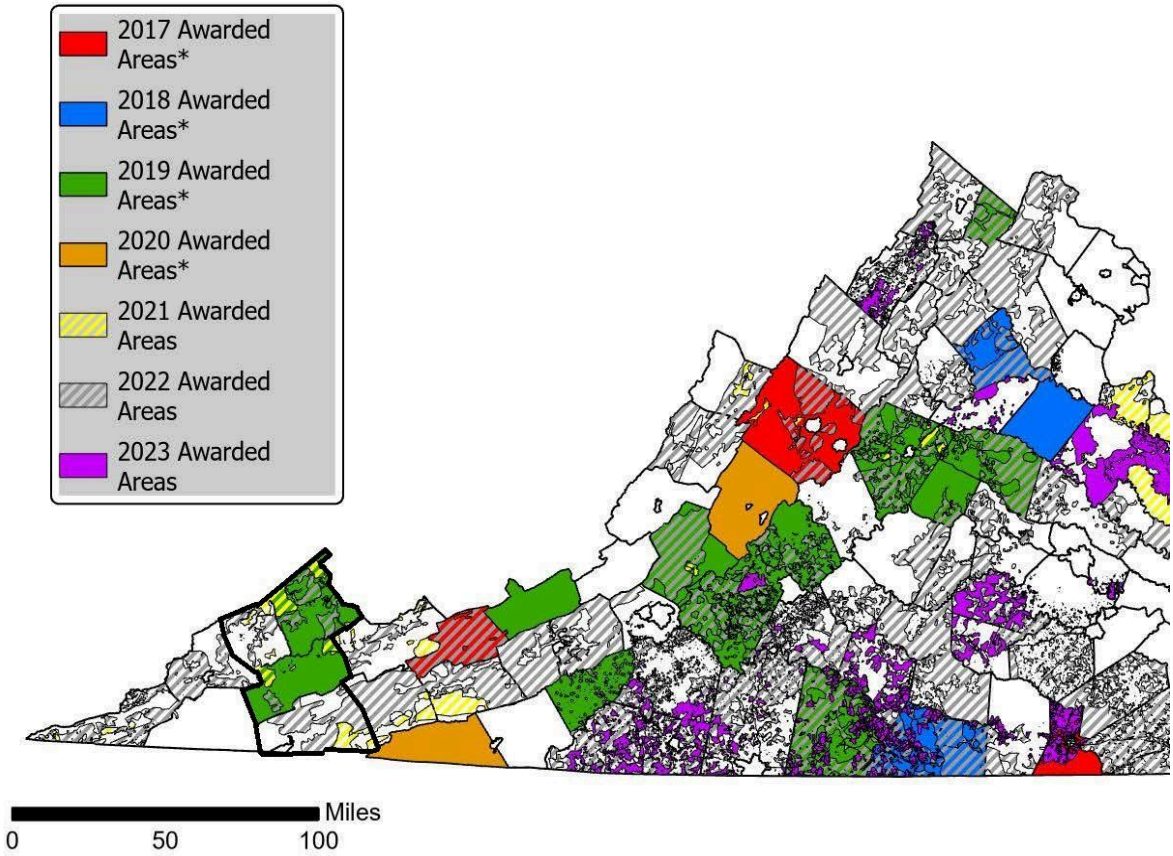
The specific access barriers by priority covered population include the following:

Covered Population	Description
Individuals who primarily reside in a rural area	1. Access: The mountainous terrain and low-density development have made infrastructure deployment in the area slow and difficult. Traveling to public access points can be challenging given long distances and limited transportation systems.
Individuals who live in covered households	1. Affordability of Internet Services: For people in poverty, internet service is often, at best, a luxury. Many survive with cell phone service, which they do consider a priority. 2. Access to Devices: As with internet service, many who want to access the internet do so with their cell phone, which is inadequate for activities such as job searching, homework, and accessing benefits.

Broadband Infrastructure

The initial component required for digital access is available broadband infrastructure. While this plan is not focused on the implementation of infrastructure projects, it does rely on the existing infrastructure and projects currently underway to expand that infrastructure.

Virginia has been investing substantially in expanding broadband infrastructure in the state and in communities featured in this plan for many years through sources including Community Development Block Grants, ARC programs, the Commonwealth Connect Fund, and the Virginia Telecommunications Initiative (VATI). Since 2017, VATI funding has been made available to local units of government with ISP partners to expand broadband infrastructure, with the most recent round of awards being announced in July 2024. The map below displays VATI awards since its inception in 2017. All of the communities in this project have seen substantial state investment in infrastructure development through VATI.



*Exact project area shapefiles were not collected prior to the 2021 award cycle. VATI awardees prior to 2021 are highlighted in their entirety; however, these award areas do not cover the entire County.

Published Date: June 2023
Sources: US Census, DHCD
For details, please contract DHCD staff at vati@dhcd.virginia.gov

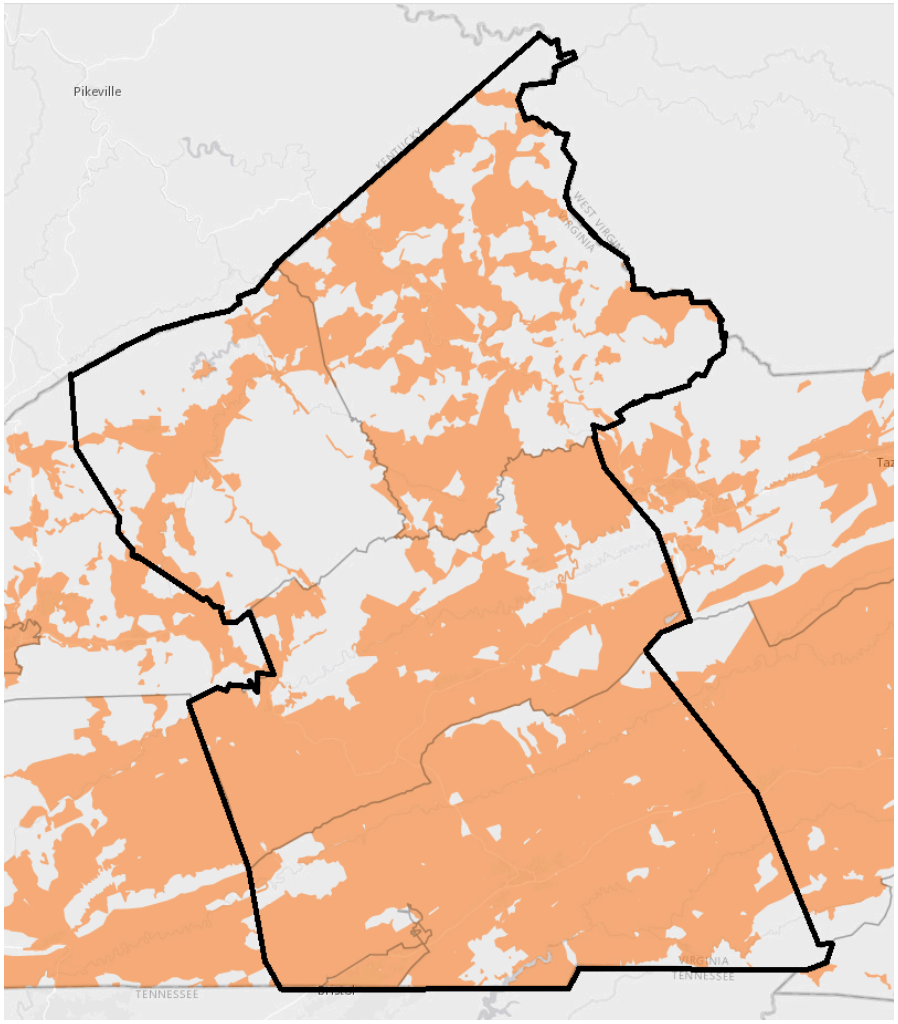
VATI awards made to plan communities include:

- 2019 - $455,581 to Russell County, leveraging $2,106,280 in partnership with iGo
- 2020 - $226,560 to Cumberland Plateau Planning District (Buchanan, Dickenson, and Russell Counties), leveraging $528,643 in partnership with Point Broadband
- 2021 - $7,870,000 to Mount Rogers Planning District (Washington County) in partnership with Point Broadband
- 2022 - $65,883,228 to Mount Rogers Planning District (Washington County), leveraging $33,052,600 in partnership with Point Broadband
- 2022 - $23,478,429 to Cumberland Plateau Planning District (Buchanan, Dickenson, and Russell Counties), leveraging $6,459,000 in partnership with Point Broadband

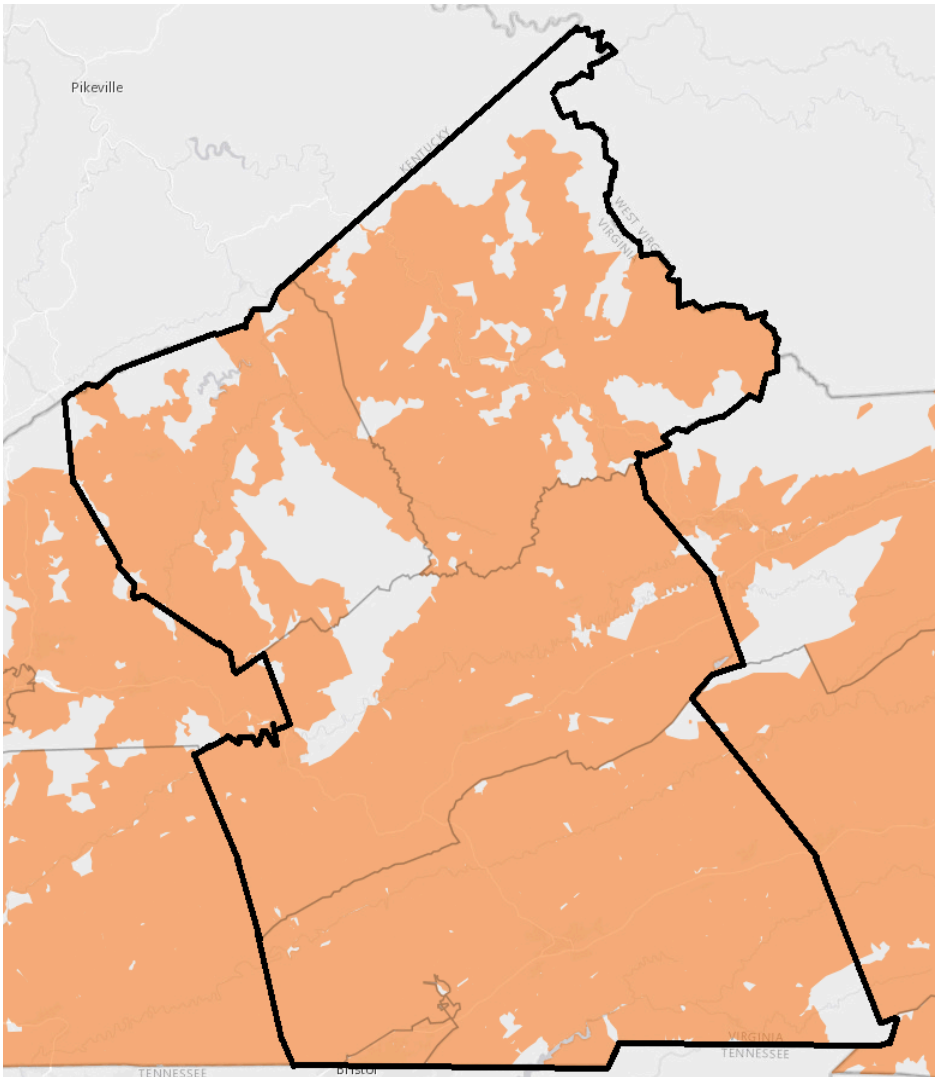
2022 VATI awards to Mount Rogers and Cumberland Plateau planning districts were designed to achieve universal coverage in all communities included in this plan by anticipated project completion in 2025.

The Virginia Office of Broadband maintains a publicly available, interactive mapping webpage that displays broadband coverage and assets for the state, as well as an interactive speed test. This webpage, Commonwealth Connection, is updated regularly with new data obtained by the state through a contractual relationship with Virginia Tech. The maps below display broadband coverage levels at different speeds and types as of the most recent data (December 2023). Given that the 2022 VATI projects are still under construction, their anticipated connectivity is not displayed in the maps.

Census Blocks with speeds of 100mbps upload and 20mbps upload available to at least 95% of addresses, any broadband technology. Orange are areas that meet the described speeds/coverage, and gray does not.



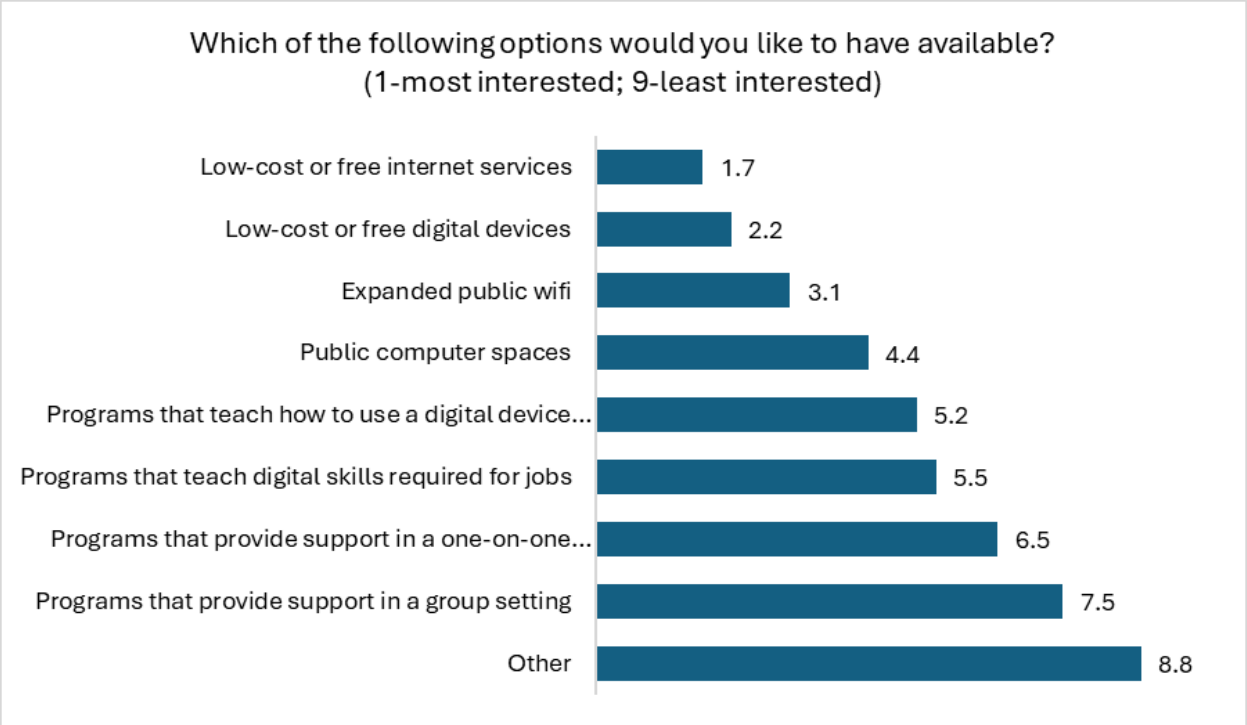
Census Blocks with at least 80% addresses served by fiber. Orange are areas that meet the described speeds/coverage, and gray does not.



Broadband Affordability

High-speed fiber is the desired broadband solution for the community because of its reliability and speed, but affordability of this utility remains a barrier to access for many families, especially those meeting the Digital Equity Act (DEA) definition of covered households.

In the community survey, respondents were asked to select possible digital equity programs or solutions they were interested in. As the graph below shows, the top selections were low-cost or free internet services and low-cost or free devices.



Input sessions with members of covered populations and stakeholders also revealed the following findings around broadband affordability:

- "Centralized locations" for free internet, such as a library or other venue for computer/internet access, are insufficient to meet the needs of residents in rural areas who still need to travel 20 minutes or more to reach those areas
- Homeless shelters need internet access for residents.
- With the ending of the Affordable Connectivity Program (ACP), families do not have access to subsidy of internet costs
- Families need choices of internet providers to improve cost and quality
- Households on limited income prioritize paying for mobile coverage ahead of in-home internet service

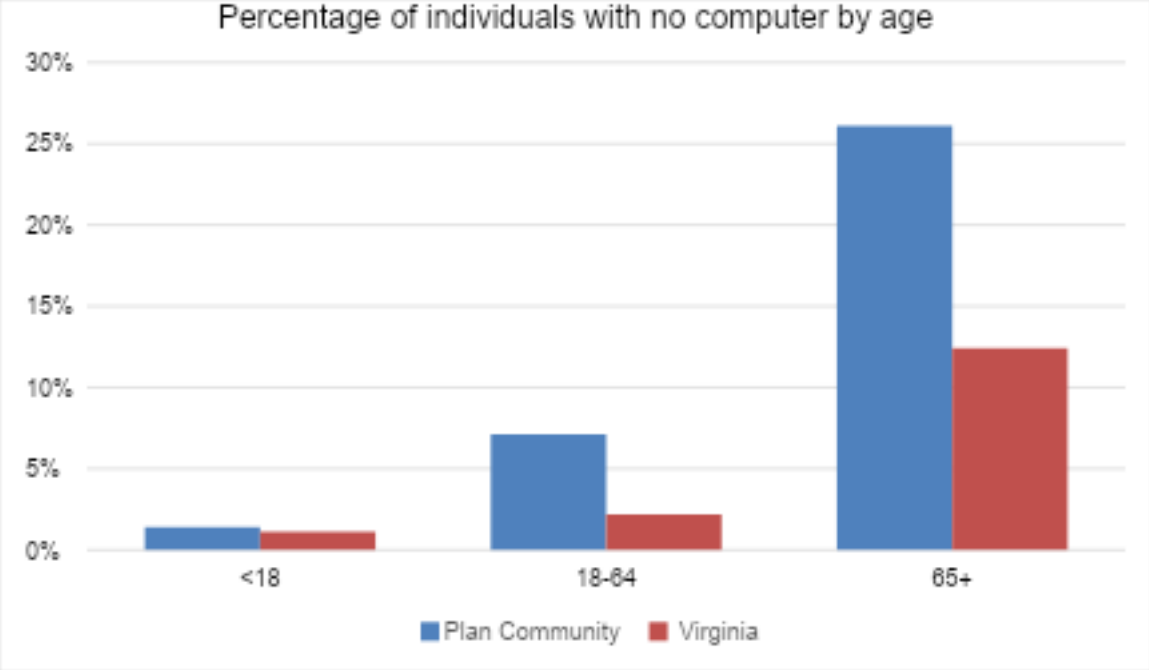
Appendix 5 shows the current broadband providers in the community and the cost of their products, as advertised. While some providers offer low-cost plans at $20 or $30 a month, not all do, and the speeds for these low-cost plans are significantly lower, with some only offering 3 mbps at the $20 a month rate. Plans that offer gig level speeds range from $60-$200 per month. Covered households are especially challenging when it comes to affording high speed broadband service.

Device Access and Affordability

As evidenced in the graph above from the digital equity community survey, community members are very interested in low-cost or free digital devices. The same survey showed that most community members (85%) are accessing the internet through their smartphone, rather than a

laptop or tablet. Devices with larger screens, keyboards, and larger storage capacities are essential for individuals who might be pursuing post-secondary education, for students completing homework, or for remote work opportunities.

The graph below displays the percentage of individuals with no computer by age. In the plan community, over 26% of older adults lack a device. Given that this is a priority population for digital equity work, addressing the device access gap for this group will be important. It's also important to note that device access is an issue for the adult population overall, given that the proportion of adults 18-64 with no computer in the plan region (7.15%) is over twice the state level (2.2%).



US Census Bureau. American Community Survey. 2022 5-year estimates.

B. Digital Access Goals and Strategies

Existing Programs and Strategies

Strategies to address issues with digital access, including internet service and device access, will seek to build on existing efforts in the community. These programs are absolutely essential to helping close the digital divide, but there are still gaps that have not been able to meet the full community need. Asset mapping identified the following existing programs to address access for priority covered populations:

Program/Service	Remaining Gap
Hotspot and device lending through public libraries	Libraries have limited supply of devices and hotspots. Hotspots have data caps. Hotspots only work if cellular service is adequate.
Device lending through public school systems	Devices are only available to enrolled children, and not all schools or grade levels allow for devices to be taken home.
ACP program was still underway during community input period	No existing programs to subsidize the cost of in-home broadband service.
Public wifi and computers available at public libraries	Residents must have reliable transportation to access these hubs. Libraries have limited hours, meaning that resources are necessarily available when residents need them.
Device lending or distribution through human services and community development programs.	Devices are only available to those enrolled in the program, so it reaches a limited number of community members.

Guiding Statements for Access Strategies

- Access to the internet allows individuals to identify and apply for employment opportunities or pursue education.
- High-quality internet and a computer at home enable individuals to work from home or operate a business.
- A device other than their smartphone can optimize the use of internet and computer based applications, making it easier and more time-efficiency for individuals.
- Programs that facilitate affordable access on an individual/household level are best implemented in conjunction with programs that are already serving the specified covered population

Access Implementation Strategies

Objective - Increase the availability of affordable high-speed internet access.

- Allow residential addresses to connect to existing broadband lines currently restricted to businesses only.
- Conduct outreach about resources available to assist with affordability of internet access
- Subsidize installation of internet access for individuals who can't otherwise afford it identified as high priority including parents with children in school, individuals engaged in workforce programs, individuals enrolled in education programs
- Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost

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

- Accommodate immediate needs for internet and devices by expanding availability of Wi-Fi hotspots and computer centers through upgrades to existing sites to improve safety and comfort; expanding hours; increasing capacity with more computers or higher-grade internet service; and/or increase the number of locations.

Objective - Ensure access to affordable devices and software.

- Develop a list of available computer resource centers in the community for referral.
- Expand distribution of devices in conjunction with existing community programs, including workforce development, human services, and social services.
- Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.

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

- Develop a regional collaborative organization to coordinate digital opportunity efforts. The collaborative should have an organization selected through a competitive process responsible for coordinating efforts.

New Programs/Resources

In addition to the existing programs detailed above, People Inc. identified areas where new digital inclusion resources and programs must be funded, developed, and implemented to meet the needs of the respective covered populations and fulfill the identified objectives.

Covered Population	Program or Resource Need
Individuals who primarily reside in a rural area	1. Ongoing infrastructure development. This will continue with currently funded VATI projects and potential BEAD projects that will be undertaken by Planning District Commissions or local governments 2. Digital Navigator who can provide one-on-one technical assistance over the phone or in-person to directly reach individuals in remote areas, helping them access device programs and low-cost internet plans.

Individuals who live in covered households	1. Digital Navigator who can provide one-on-one technical assistance over the phone or in-person to directly reach individuals in remote areas, helping them access device programs and low-cost internet plans. 2. Broad-ranging implementation of internet access services such as mesh wireless services in apartment properties to provide free service to tenants, increased access at libraries, Wi-Fi enabled public transportation buses, or more public Wi-Fi locations/services to reach the broadest number of people at once rather than implementing costly short-term subsidy programs. 3. Device donation, repair, and redistribution programs specifically targeted to those most in need and pre-qualified through programs such as TANF, Workforce programs, Free/Reduced Lunch, Medicaid, or other services.
Aging individuals	Digital Navigator services to help clients identify the resources available to them and provide services one-on-one both in person and over the phone.
Individuals with a language barrier: Individuals who are English learners, Those with low levels of literacy	Digital Navigator services to help clients identify the resources available to them and provide services one-on-one both in person and over the phone.

Alignment with State Objectives and Digital Equity Act Measurable Objectives

Alignment with state objectives across agencies and with the Digital Equity Act will maximize impact and access to funding for plan implementation. The tables below outline key state objectives and measurable objectives from the Digital Equity Act, noting how this community connectivity plan supports those goals.

State Plans	Desired State Impact and Measurable Objective Alignment	Connectivity Plan Alignment
Increasing Economic Competitiveness (State)	Broadband access for businesses and their employees has been identified as key to Virginia's ability to attract and retain businesses of all sizes. Expanded access is expected to increase and expand businesses and employment throughout Virginia and, specifically, Southwest Virginia.	The plan outlines strategies for increasing access, especially aligned with improving the regional workforce.

Bolstering Virginia's Education System	Broadband is key to ensuring all students in Virginia and Southwest Virginia, regardless of age or location, have equal opportunity for a strong education from preschool through high school, and beyond, including post-secondary education. This priority aligns directly with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.1, 1.2, 1.3, 2.3, and 3.1.	All of the school districts within this plan's region have device access for students. The plan includes strategies to increase device distribution for those in post-secondary training and education programs.
Safeguarding Virginia from Recurrent Environmental Challenges and Crime	This is a two-pronged goal. The first is ensuring that when broadband networks are built, they are built in a way that is resilient to the climate challenges that Virginia faces today and will face in the coming decades. The second is creating a safer environment by ensuring those recently released from incarceration are digitally literate and understand how to navigate the online world through areas like online communications, applying for a job, and online banking. This priority aligns directly with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.1, 1.3, 2.1, 2.2, 2.3, 3.1, and 3.2.	This plan does not address the environmental impact of broadband networks. That will be negotiated by federal, state, and local governments. The local jails lack tools and resources to provide digital skills to inmates to prepare them for post-incarceration. While incarcerated individuals are not a priority covered population for this plan, these individuals will likely belong to other priority populations including covered households and rural areas, and also benefit from device distribution and digital navigator services.
Economic and Workforce Development	Virginia recently established a statewide workforce development agency to align all workforce programs under one umbrella. Alignment of digital opportunity efforts with this new agency will be critical to advancing digital skills needed in the 21st century workplace. This priority aligns directly with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.3, 2.3, and 3.1.	The programming recommendations in this plan include incorporating device access and digital navigation with existing workforce programs.

SECTION 3

Digital Skills

Section 3. Digital Skills

A. Digital Skills Data

This section dives deeper into the digital skills data that directly informs the goals and strategies outlaid later in the section.

The specific access barriers by priority covered population include the following:

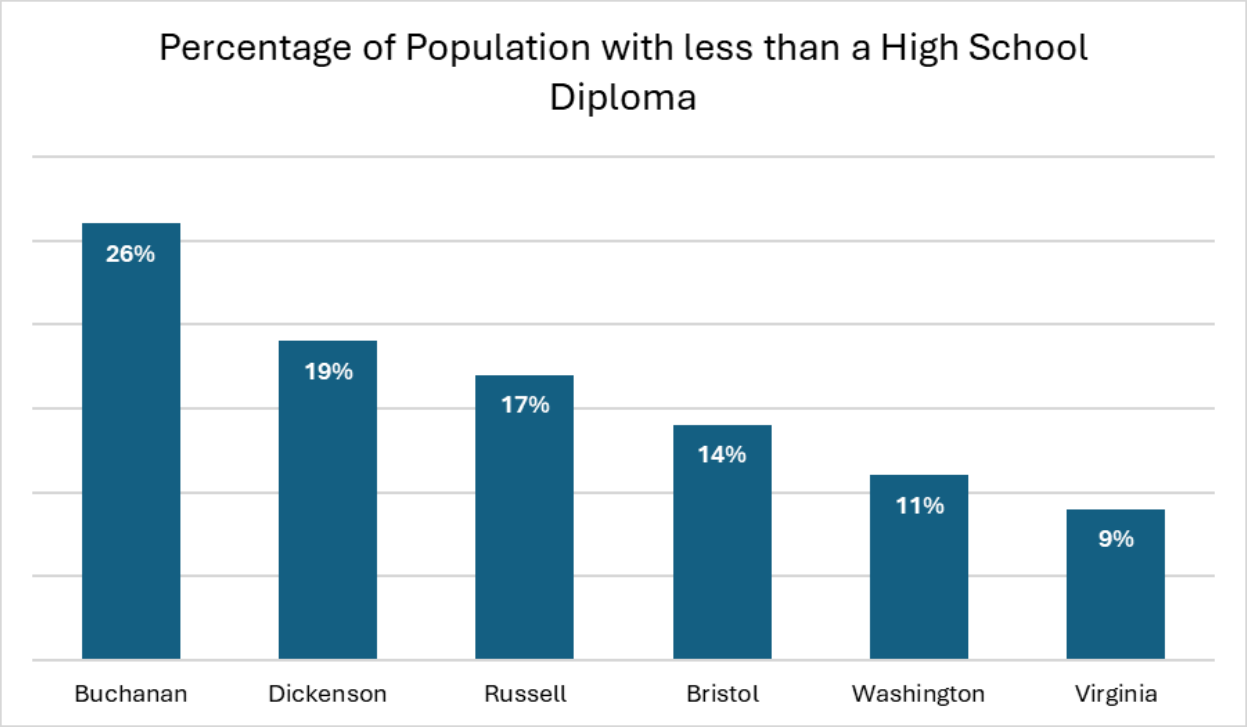
Covered Population	Description
Individuals who primarily reside in a rural area	**Digital Literacy:** The distances to central locations such as libraries and community colleges coupled with few public transportation options and many households having only one (or fewer) cars means it is difficult for residents to access learning opportunities.
Individuals who live in covered households	**Digital Literacy:** When struggling with the demands of life in poverty, learning to use a computer is low on a person's priority list. Without easy access to the internet or a computer, additional training becomes nearly impossible.
Those with low levels of literacy	**Digital Literacy:** For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. Given the small portion of local residents who speak a language other than English (2,261 total in the region), accommodating this need is not considered a priority. However, to address the intertwined issues of literacy, digital skills, and poverty, specific classes for those with low literacy skills will need to be developed.
Aging individuals	**Digital Literacy:** For many older adults in Southwest Virginia, life online is more of a nuisance than an opportunity. They would prefer to find solutions to the increasing lack of customer service centers and brick-and-mortar stores than embrace online banking and Amazon. Given the lack of digital skills in the communities overall, it is even more difficult for them to learn. This is especially true for those on the older end of the age scale. **Cybersecurity and Privacy:** While the problem is not limited to older adults, many people who were interviewed did express a concern about the impact increased access to the internet might have with regards to scams and identity theft on

	the aging population. This issue is closely tied to Digital Literacy and can be addressed in many of the same ways.

While not a covered population, the community has also identified that small business owners/entrepreneurs are a potential target population for digital skill building strategies. Many entrepreneurs in the region, especially those who also belong to other covered populations, lack the digital skills to take advantage of technology that could enhance their productivity and profitability.

Digital Skills

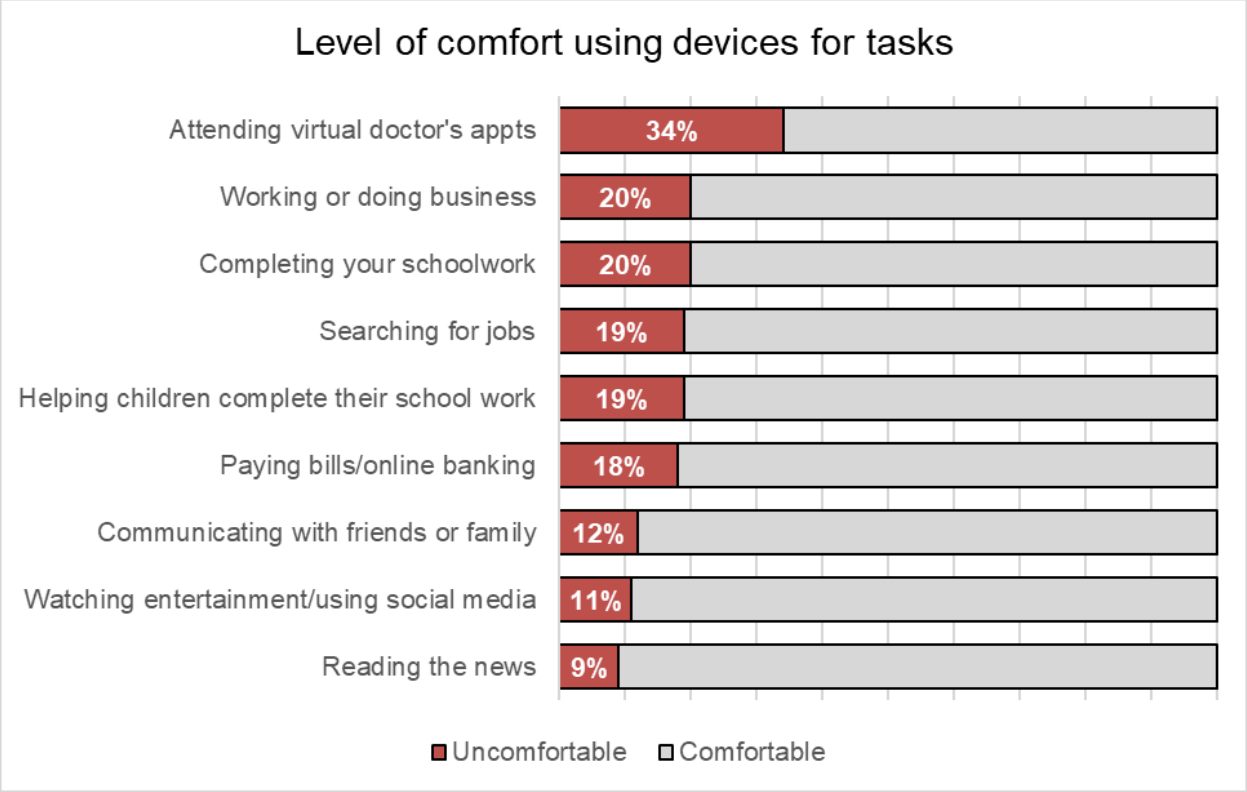
While not much large-scale data on digital skills is available, there are proxy indicators and direct feedback from community members and stakeholders and key data points underlining this priority focus area.



American Community Survey. 2022 5-year estimates.

In the region, 15.6% of the population over 25 (over 15,000 people) does not have a high school diploma or equivalent. While not a direct indicator of lack of digital skills, many of the individuals likely did not have formal educational exposure to digital skills like using computers, email, or basic word processing. According to the National Skills Coalition, 92% of jobs require digital skills, while one-third of workers have low or no digital skills.

The Digital Opportunity Survey conducted in partnership with the Virginia Department of Housing and Community Development also highlighted that many community members remain uncomfortable with using internet connected devices for various daily activities, particularly virtual healthcare.



Cybersecurity and Online Safety

Cybersecurity has been a buzzword in the region in recent decades. Cybersecurity is a key targeted industry for economic growth, with new training programs available at local community colleges, and investment in building cybersecurity skills beginning in middle schools through programs like Go-TEC, a program developed to introduce students to tech related career pathways.

Even so, digital safety remained a key concern surfaced by community members and key community organizations during input and planning sessions. The community is primarily concerned with fraud and phishing attacks targeted at older adults. According to the FBI, adults over age 60 accounted for the most cybercrimes complaints and reported the largest financial losses due to cyber crime in 2022.

Over 40,000 individuals aged sixty and older live in the plan community, and the median age continues to rise, indicating that this covered population will likely be a key population for some time.

B. Digital Skills Goals and Strategies

Existing Programs and Strategies

Strategies to address issues with digital skills, including digital literacy and digital safety, will seek to build on existing efforts in the community. These programs are absolutely essential to helping close the digital divide, but there are still gaps and haven't been able to meet the full community need. Asset mapping identified the following existing programs to address access for priority covered populations:

Program/Service	Remaining Gap
Computer classes through local school systems	These are only available to students.
Computer workshops through local libraries	Some libraries have organized skills building programs, while others provide one-on-one support when requested. Not all are formal programs advertised in the community, and most require that individuals come to the library for services.
Computer training through local adult education workforce development organizations	Digital skill building is focused on preparing for the job market through training, job-specific digital skills, and using the internet for job search and application. Limited funding and capacity means these programs cannot reach all interested job seekers.
Computer classes through the local housing authority	Public housing provider offers computer skills classes as part of their drop-in social support center. Classes are only available to residents of that public housing provider, Digital skills resources provided through other affordable housing providers in the community could expand the reach of services.

Guiding Statements for Digital Skills Strategies

- Digital literacy programs delivered by trusted organizations in comfortable settings give individuals an opportunity to learn about technology in a way that alleviates their fears and embarrassment.
- Unbiased, reliable assistance to identify the technology they need and/or the internet options available to them helps individuals make the best choice for themselves and their families.
- Increased digital skills and confidence allows individuals to take advantage of personal growth opportunities available to them online such as books, music, and free classes.
- Increased digital skills allow individuals to use online services such as banking and health charts, which are increasingly becoming a necessary part of life.
- Individuals sometimes “don’t know what they don’t know,” and are unaware of the digital skills they could develop. This can be a barrier to truly assessing the digital skills gap and connecting with community members who might benefit from programs.
- Digitally literate parents and caregivers are better able to assist their children with school and stay current with school communications.
- Health status for the region could be improved with greater ability for residents to access providers and medical treatments through telehealth
- Digital skills and safety training can empower residents to avoid scams and keep their personal information safe

Digital Skills Implementation Strategies

Objective - Improve digital literacy and technology skills among underserved populations.

- Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs.
- Develop a regional Digital Navigator program.

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

- Implement a regional marketing campaign to teach teenagers about the dangers of social media.
- Implement a marketing campaign to educate individuals about the need to protect their privacy online and how to avoid scams.
- E-mail blasts or other news distribution detailing popular scams currently occurring.

New Programs/Resources

In addition to the existing programs detailed above, People Inc. identified areas where new digital inclusion resources and programs must be funded, developed, and implemented to meet the needs of the respective covered populations and fulfill the objectives outlined above.

Covered Population	Program or Resource Need
Individuals who primarily reside in a rural area	1. Digital literacy/digital skill building programs that are available in-person in locations easily accessible to all residents. Co-locating digital literacy programming in conjunction with other community services accessed by rural residents is desirable.
Individuals who live in covered households	1. Digital literacy/digital skill building programs available in a variety of settings and for all levels of knowledge. Programs should be offered in a variety of formats including in-person, online, group, and one-on-one. Digital literacy programming should be offered in partnership with device distribution programs to ensure that individuals living in covered households can put their new skills to use. 2. Digital navigator services to help individuals identify the resources available and help them navigate the enrollment process.
Aging Individuals (60+)	1. Digital literacy/digital skill building programs available in a variety of settings and for all levels of knowledge. Ideal settings for this population include libraries, senior centers, and churches. 2. Digital navigator services to help individuals identify the resources available and help them navigate the enrollment process. 3. Communication/awareness campaigns around cyber threats including active scams that are distributed by a trusted source such as law enforcement, the library, or a digital navigator.
Individuals with a language barrier: Individuals who are English learners, Those with low levels of literacy	1. Digital literacy/digital skill building programs available in a variety of settings and for all levels of knowledge. Ideal settings for this population include adult education/GED programs and other community programs where they may already be accessing services (library,etc.). 2. Digital navigator services to help individuals identify the resources available and help them navigate the enrollment process.

Alignment with State Objectives and Digital Equity Act Measurable Objectives

Alignment with state objectives across agencies and with the Digital Equity Act will maximize impact and access to funding for plan implementation. The tables below outline key state objectives and measurable objectives from the Digital Equity Act, noting how this community connectivity plan supports those goals.

State Priorities	Desired State Impact and Measurable Objective Alignment	Connectivity Plan Alignment
Bolstering Virginia's Education System: ALL in VA	Broadband is key to ensuring all students in Virginia and Southwest Virginia, regardless of age or location, have equal opportunity for a strong education from preschool through high school, and beyond, including post-secondary education. This priority aligns directly with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.1, 1.2, 1.3, 2.3, and 3.1.	This plan includes provisions to build digital skills to enhance access to education programs, and the ability for families and adult learners to build the skills they need to succeed academically.
Economic and Workforce Development **Virginia Workforce Combined Plan**	Virginia recently established a statewide workforce development agency to align all workforce programs under one umbrella. Alignment of digital opportunity efforts with this new agency will be critical to advancing digital skills needed in the 21st century workplace. This priority aligns directly with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.3, 2.3, and 3.1.	The New River Mount Rogers Workforce Development Board is actively working to advance digital literacy skills among its clients. This plan highlights the needs and strategies to enhance digital skills to bolster the region's workforce and economic future.
Health Outcomes VDH Strategic Plan	The Office of Broadband will explore partnerships with the Virginia Department of Health and University of Virginia's telehealth programs, which were considered in developing this plan. This priority aligns with Goals 1, 2 and 3 of the Virginia Digital Opportunity Plan, including Measurable Objectives 1.3, 2,1, 2.3, and 3.1.	This plan highlights the skills gap specific to telehealth and includes objectives to improve digital skills for covered populations to better access medical care.
Civic and Social Engagement	Robust civic and social engagement is critical for a thriving society. Technology will be able to foster that as outlined in the Virginia Connectivity Plan. Civic and social engagement will be critical as a method to ensure all aspects of the regional and state plan remain relevant. This priority aligns directly with Goals 1, 2 and 3 of this Digital Opportunity Plan, including Measurable Objectives 1.2, 1.3, 2,1, 2.2, 2.3, and 3.1.	Technology was an important tool used for civic engagement during the Southwest Virginia planning process. The ability to know what's happening in the community and connect with local programs and other community members is an important component of meaningful use.

SECTION 4

Financial Plan

Section 4. Financial Plan

The financial plan below outlines potential funding sources, implementation costs, and funding plans focused on the potential Digital Equity programs and approaches outlined in Section 2.

Digital Equity Grant Assessment
Community stakeholders have identified the following as potential funders/grant opportunities for digital equity implementation

Funder	Grant Program	Alignment with Community DE Goals/Strategies	Notes
National Telecommunications and Information Administration (NTIA)	Digital Equity Competitive Grant Program	Allowable uses and focus on covered populations align with community strategies and goals.	Grants are fairly large scale (up to $12 million) so regional or statewide approaches might be best suited. Requires match of 10% total project costs.
National Telecommunications and Information Administration (NTIA)	State Digital Equity Capacity Grant Program (Administered by Virginia Office of Broadband)	Focus on device access, digital skilling, and safe use which aligns exactly with community strategies and goals.	State anticipates grants being available in early spring 2025. Can apply as an individual or consortium.
Banks	TBD	CRA focus can align with DE work.	Would likely need to apply with partners for larger scale projects to appeal to larger banks like Truist, Wells Fargo, etc.
ISPs	Programs depend on ISP, with newer ISPs in the area that do not have formal programs	ISPs with an appetite for charitable contribution would align. Also, it could increase their bottom line because increased digital skills and use could increase subscription levels.	VACAP has begun building relationships with some ISPs, but the major ISP in the project area (Point Broadband) is new and its charitable giving history is unknown.
National Telecommunications and Information	BEAD	Digital equity allowable uses (only if infrastructure requirements are completed) align with the community's focus area.	Virginia Office of Broadband estimates having some BEAD non-deployment funds available for DE work, though

Administration (NTIA)			won't actually know for a while.
GOVirginia Foundation	Capital Implementation Project	Grant program focuses on creating higher paying jobs in the region. Could align if digital skilling and meaningful use efforts are aligned with economic development and workforce strategies.	Non-competitive. If the regional council approves, it does not need to go to state level review. Must have meaningful regional collaboration.

Previously Obtained Grants

Many stakeholders in the plan region have obtained various grants to support previous digital equity work. These include:

- *Digital Opportunity Planning Grants from the Virginia Department of Housing and Community Development to People Inc. in April 2023 to develop regional digital opportunity plans in support of the state's plan to be submitted to NTIA*
- *Digital Navigator grants to People Inc. from Rural LISC in 2020 and 2022 to train staff as digital navigators, supplement the cost of devices, and cover the cost of North Star*
- *Appalachia Digital Accelerator grants through Connect Humanity/ARC to support the development of this plan*

Priority Funding Sources and Timeline

While the table above notes many possible funding streams, community stakeholders have prioritized the following sources:

NTIA Digital Equity Act Competitive Funding

- As of September 2024, the Virginia Community Action Partnership has applied to NTIA for $12 million in digital equity implementation funding. Approximately $1.3 million of this is directed toward communities included in this plan.
- The Just Transition Fund, a private foundation focused on coal impact communities, has committed $50,000 to VACAP to help reach the desired match level for the grant
- Proposed activities include device distribution, and digital navigation and skill-building embedded in human services programming provided by Community Action Agencies, including People Inc.
- Funding decisions anticipated by end of 2024

Virginia State Capacity Grants

- People Inc. and VACAP have been in close communication with the Virginia Broadband Office through this planning process, and the state has shared that their priorities for distributing their initial NTIA DEA capacity funds will be through subgrants to community organizations and local governments.

- The state's funding priorities for these grants are programs that include device distribution, digital navigation, and digital skills building.
- If NTIA funds are awarded, state capacity funds can expand the reach of the initially funded programs by reaching additional organizations, communities, and individuals
- The state tentatively anticipates that applications for the first round of state capacity grants should open in early 2025, dependent on NTIA approval.

Sustainability

A key component of the access and digital skills strategies outlined in this plan is their relationship to existing organizations and services in the community. The underlying assumption, based on feedback from many community members, is that interventions are more likely to be successful for covered populations when they are implemented by trusted partners and in conjunction with services already being accessed so as to reduce barriers. In addition to supporting higher levels of participation, this approach also lends itself to increased financial sustainability for the strategies outlined in this plan.

By incorporating digital equity strategies into workforce, education, economic development, and human services programming already existing in the community, this region has the opportunity to blend digital equity work into funding streams specific to these issue areas. This allows for a broad potential of future funding sources, and the ability to use existing funding streams to fund digital equity work.

Much like social determinants of health, digital access and skills can directly impact long-term outcomes of families in areas outside of connectivity, like health, education, and employment. The initial strategies outlined in this plan, priorities from the state, and long-term sustainability plan all center on digital equity as an approach that will help improve the community in many facets.

Conclusion

To achieve digital equity in Bristol City, Buchanan, Dickenson, Russell, and Washington Counties in Southwest Virginia, this plan prioritizes targeted programs and actions designed to address the region's specific barriers to connectivity, skills, and digital safety.

Top Recommended Programs for Implementation:

1. **Digital Navigators and Device Access Programs**: Establish digital navigator services within community organizations to provide personalized assistance for residents. These navigators can guide individuals in securing low-cost devices and affordable internet plans, especially in rural and economically challenged areas.
2. **Affordable, High-Speed Internet Initiatives**: Implement mesh wireless systems in multi-unit housing and expand free or low-cost Wi-Fi access across public spaces.

Subsidies and partnerships with local ISPs are essential to support affordable broadband, with a focus on families, older adults, and those in rural areas.

3. **Digital Skills and Literacy Programs**: Offer ongoing, accessible training through libraries, schools, and community centers to improve digital literacy. Classes should range from foundational skills to advanced competencies, such as online job applications and telehealth access. This will allow residents to engage meaningfully with essential services, economic opportunities, and educational resources.
4. **Cybersecurity and Online Safety Campaigns**: Launch a regional awareness campaign tailored to at-risk populations, particularly older adults, to educate about online threats. Trusted local organizations, such as libraries and community service groups, should lead these efforts, providing practical tools for recognizing and avoiding scams.

Path Forward

Implementing these programs requires committed collaboration among local governments, community organizations, ISPs, and state agencies. By fostering these partnerships and securing necessary funding, Southwest Virginia can bridge the digital divide, ensuring every resident has the tools and knowledge to participate fully in today's digital world. This plan envisions a future where digital connectivity and skills are a pathway to opportunity and resilience for all Southwest Virginians.

APPENDIX

Appendix

Appendix 1: Community Stakeholder Engagement

Stakeholder Name	Priority Population	Role(s)	Data Collected
American Red Cross	Community Anchor	Plan Development	Attended focus group
Lonesome Pine Regional Library	Community Anchor	Plan Development	Provided input about available resources
Washington County Public Library	Community Anchor	Community Outreach	Hosted focus group
City of Bristol	Local Government	Plan Development	Attended focus group
Mount Rogers Community Services Board	Health Organization	Plan Development	Provided input about available resources
Mountain Empire Community College	Institutions of Higher Education	Community Outreach	Information Technologies director was invited
Mt. Rogers Regional Adult Education Program	Local Education Agency	Plan Development	Attended focus group
Regional Adult and Career Education	Local Education Agency	Plan Development	Attended focus group
United Way of Southwest Virginia	Represents Covered Populations: rural, covered households	Data Collection	Provided input about available resources
Appalachian Independence Center	Represents Covered Populations: rural, covered households, those with disabilities	Plan Development	Attended focus group
Cumberland Mountain Community Services	Represents Covered Populations: rural, covered households, those with disabilities	Plan Development	Representative attended work group meeting
DARS	Represents Covered Populations: rural, those with disabilities, aging individuals	Plan Development	Representative attended work group meeting

Highlands Community Services	Represents Covered Populations: rural, those with disabilities, covered households	Plan Development	Attended focus group
Dickenson Star	Other	Community Outreach	Sent press release regarding survey
Bristol Redevelopment and Housing Authority	Public Housing Authority	Plan Development	Hosted focus group
Blue Ridge Jobs Corps Center	Workforce Organization	Data Collection	Sent Asset survey and invited to Stakeholder mtg.
New River/Mt. Rogers Workforce Development Board	Workforce Organization	Plan Development	Representative attended work group meeting
Virginia Career Works New River/Mt. Rogers	Workforce Organization	Data Collection	Sent Asset survey and invited to Stakeholder mtg.

Appendix 2: Community Engagement Events

Community Engagement Activities	Description	Objective/ Outcome	Date	Location/Venue	Notes
Focus Group Discussions	Organize small group discussions	Gather in-depth insights and suggestions	5/11/2023	Washington County Library, Abingdon, VA	Participant represented individuals with language barriers, those in rural areas, and aging individuals
Stakeholder Roundtable	Convene key stakeholders	Discuss strategies and partnerships	5/11/2023	Virginia Highlands Small Business Incubator Abingdon, VA	Participants represented individuals with disabilities, aging individuals, those in rural areas, and those with a language barrier.
Focus Group Discussions	Organize small group discussions	Gather in-depth insights and suggestions	5/12/2023	1235 W State St, Bristol, VA 24201	
Focus Group Discussions	Organize small group discussions	Gather in-depth insights and suggestions	5/13/2023	11378 Dante Mountain Rd, Trammel, VA	

Community Webinar	Host an online information session	Raise awareness and educate community members	6/1/2023	Online	
Focus Group Discussions	Organize small group discussions	Gather in-depth insights and suggestions	6/1/2023	Bristol Redevelopment and Housing Authority, Edmond Street, Bristol, VA	The group was primarily concerned about privacy and cyber-security issues. They have access to subsidized internet. They are worried about the impact of social media and the vulnerability of their personal information online.
Stakeholder Roundtable	Convene key stakeholders	Discuss strategies and partnerships	7/14/2023	Abingdon Small Business Incubator	

Appendix 3. Digital Equity Asset Map

Organization Name	*Type of Resource*	*Description*	*Geography Served*
Bristol Public Library	*computer classes/workshops, computer access, wifi access*		*Bristol*
Bristol Redevelopment and Housing Authority	*computer access, wifi access, computer classes/workshops, advocacy for broadband or other needs*	*The EnVision Center provides computer access for residents of BRHA as well as the communities of Bristol, VA and TN. Computer literacy classes are offered as well. Folks are welcome to come in and access the wifi during computer lab hours - Mon-Fri from 1:00 - 4:00 p.m.*	*Bristol*
Bristol Virginia Public Schools	*computer loan*	*We provide 1 to 1 laptops to grades 2-12. Grades 6-12 can take them home. Grades 2-5 stay in carts in the classroom. We provide 1 to 1 ipads for grades Pre-K through 1st and they stay in carts as well. We provide online safety training yearly and as needed to the students. We try to include an online safety component to parents as well at an event at the schools in the evenings.*	*Bristol*
Buchanan County Public Schools	*computer access, computer classes/workshops*	*All students in Pre-K through grade 12 have devices to use at home. The curriculum includes technological skills for each grade level. Plans are to continue to incorporate greater internet safety awareness and information. An internet safety plan has been developed and is being implemented. The curriculum in the business departments of all high schools has been revised and upgraded to focus on information technology. Equipment in each department has been upgraded to support the revised curriculum.*	*Buchanan County*
Buchanan County Public Library	*wifi access*		*Buchanan County*
Buchanan County Technology & Career Center	*computer classes/workshops*	*All four high schools have Certiport testing Software for CTE credentialing testing. High Schools and BCCTHLC also use the Wise Financial Credentialing Test with their students. IC3 certification is offered at the Buchanan County Technology & Higher Learning Center. Some BCCTHLC classes prepare students for state board exams or state certifications.*	*Buchanan County*

Lonesome Pine Regional Library	*computer access, computer loan, wifi access, wifi hotspot*	*Public library - 23 ipads, 23 chrome books, 8 lap tops to loan*	*Dickenson County*
Mount Rogers Regional Adult Education Program	*computer access, computer classes/workshops, computer loan, wifi access*	*We have 10 Chromebooks that we loan throughout the Mount Rogers Region. We also have 5 older hp laptops that we loan across the region.*	*Bristol City and Washington County*
Mountain Empire Community College	*computer access, computer classes/workshops*	*MECC is the community college for the area. It provides computer classes for skilled and unskilled learners*	*Dickenson County*
People Incorporated of Virginia	*Digital navigation, device distribution*	*We may provide computers to WIOA clients when it is required for their participation in training. They have to be eligible for the WIOA program first before they are considered for this supportive service. The VA Career Works One-Stop Centers offer public computer access for the purpose of job search/employment.*	*Bristol City, Buchanan, Dicken, Russell, and Washington Counties*
Russell County Library	*computer classes/workshops, wifi access*		*Russell County*
Southwest Virginia Community College	*computer access, computer classes/workshops, technical support, wifi access*		*Buchanan, Dickenson, and Russell Counties*
Southwest Virginia Workforce Development Board	*computer access, computer classes/workshops, computer loan, wifi access, technical support*	*The entity provides workforce development opportunities to various groups in multiple counties*	*Buchanan, Dickenson, and Russell Counties*
United Way of Southwest Virginia	*computer access, computer classes/workshops, technical support*	*Childhood Success program offers computer access and classes.*	*Bristol City, Buchanan, Dickenson, Russell, and Washington Counties*
Virginia Highlands Community College	*computer classes/workshops, computer access, wifi access, wifi hotspot*	*Provides access to computers, internet access, and computer training*	*Bristol City and Washington County*

Washington County Career and Technical Center	*computer classes/workshops*	*The CTE programs offers course studies in Cybersecurity Fundamentals, CCNA Cybersecurity Systems Technology, and Computer Network Hardware Operations I-IV .*	*Washington county*
Washington County Public Library	*computer access, computer classes/workshops, technical support, wifi access*	*WCPL currently has 20 hotspots to loan will all checked out at any given time (same group of people checking them out) used primarily for recreational use; expanded wi-fi access available at all libraries with wi-fi available outside of the building (until 11:00 pm); technical support provided in-person and over the phone; computer access via public computer labs in each library; on-demand computer/technology assistance offered on a one-to-one basis based on needs of guest; subject specific classes are also offered based on need.*	*Washington County*

Appendix 4. Community Survey

Commonwealth of Virginia

Digital Opportunity Access Survey: Informed Consent

You are invited to participate in a survey about digital opportunity and access in Virginia. The goal of this is to understand how citizens of Virginia access and utilize internet services. Participation in this survey is voluntary, taking an estimated 10-12 minutes to complete.

This study is being conducted by Southeastern Institute of Research (SIR) in partnership with the Virginia Department of Housing and Community Development and Guidehouse Inc. The goal of this study is to help DHCD understand the current state of digital access and availability in Virginia. Questions you feel do not apply, you may skip and you may end the interview at any time. However, we strongly encourage participation and greatly appreciate your feedback.

If you have any questions about this study or about your rights as a research participant, please contact Dr. Bryan Shelly, Director of Research at SIR (804-358-8981, ext. 157 or bryan.shelly@SIRhq.com).

Thank you for your time!

Survey Questions:

1. What is your primary language? _____

2. What is your zip code? _____

3. In what city/county do you live? _____

4. Do you have internet access (WiFi) at home? (home internet and/or through a cellular plan)
   - ⬭ I have a home internet subscription and cellular plan.
   - ⬭ I have a home internet subscription only.
   - ⬭ I have a cellular plan only.
   - ⬭ I do not have any internet access at home.

5. How do you access the internet at home? (Bubble in all that apply)
   - ⬭ Cellular data plan (access internet through mobile wireless network)
   - ⬭ Fiber optic (fiber direct to building)
   - ⬭ Cable modem (same network as cable TV)
   - ⬭ Satellite internet service (satellite dish)
   - ⬭ Fixed wireless (uses radio signals and line of sight, e.g., 5G)
   - ⬭ DSL (uses a standard phone line, but does not interfere with phone service)
   - ⬭ Dial-up (uses a standard phone line)
   - ⬭ Not sure

6. If you do not have internet access, what is the main reason why?
   - ⬭ Don't see the need for it
   - ⬭ Not available in my area
   - ⬭ Internet speed is too slow
   - ⬭ My device does not connect
   - ⬭ Too expensive
   - ⬭ I use the internet somewhere else
   - ⬭ Concerns about online privacy and security
   - ⬭ Other (please explain):_____

7. What is the name of your wireless cellular plan provider/plan?
   - ⬭ Verizon
   - ⬭ AT&T
   - ⬭ Xfinity
   - ⬭ Cox
   - ⬭ T-Mobile
   - ⬭ Boost Mobile
   - ⬭ Cricket Mobile
   - ⬭ Mint Mobile
   - ⬭ Other _____

8. What is the name of your home's internet provider/plan?

   _____

9. How much do you pay each month for internet service (NOT including cellular plan)?
   - ⬭ $0 to $35
   - ⬭ $36 to $50
   - ⬭ $51 to $75
   - ⬭ $76 to $100
   - ⬭ $101 to $125
   - ⬭ $125+

10. Would you be willing to pay more for better internet service?
   - ⬭ Yes
   - ⬭ No
   - ⬭ Unsure

11. How much would you be willing to pay for internet service per month (NOT as part of a cellular plan)?
   - ⬭ $0 to $9
   - ⬭ $10 to $35
   - ⬭ $36 to $50
   - ⬭ $51 to $75
   - ⬭ $76 to $100
   - ⬭ $101 to $125
   - ⬭ $125+

12. Please rate your internet service provider(s) on the following. (0 = dissatisfied; 1 = satisfied)
   ___Customer Service
   ___Internet Speed
   ___Internet Reliability
   ___Value I get for the price I pay

13. Do you have a cap on monthly internet usage?
   - ⬭ Yes (please list the limit, e.g., 5 GB):_____
   - ⬭ No
   - ⬭ Unsure

14. How often do you experience disruptions or download/upload speeds that are slower than expected?
   - ⬭ Never
   - ⬭ Rarely (less than 3x a month)
   - ⬭ Somewhat frequently (1-2x a week)
   - ⬭ Frequently (More than 2x a week)

15. Have you experienced any of these problems trying to get internet? (Bubble in all that apply.)
   - ⬭ Provider failed to schedule a service installation within 10 business days of request
   - ⬭ Credit challenges with obtaining an internet plan
   - ⬭ Provider does not offer convenient and reliable installation times
   - ⬭ Provider denied the request for service
   - ⬭ Provider does not offer the technology, or service type, at this location
   - ⬭ Subscribed speed not achievable
   - ⬭ Other (please explain):_____

16. Which of these do you use to access the internet? (Bubble in all that apply.)
   - ⬭ Smart phone
   - ⬭ Desktop computer
   - ⬭ Laptop computer
   - ⬭ Tablet/e-reader
   - ⬭ Smart TV or connectors (e.g., Roku, FireTV, AppleTV)
   - ⬭ Gaming system
   - ⬭ Other:_____
   - ⬭ I do not own a digital device.

17. When you use the Internet, what kind of activities do you do online? (Bubble in all that apply.)
   - ⬭ Email friends/family
   - ⬭ Make purchases online (books, music, electronics, travel, etc.)
   - ⬭ Read the news
   - ⬭ Read blogs
   - ⬭ Play games
   - ⬭ Pay bills
   - ⬭ Call long distance or international
   - ⬭ Gather financial information
   - ⬭ Search for work/employment
   - ⬭ Watch videos/listen to music
   - ⬭ Social networking
   - ⬭ Meet new people online

18. How comfortable are you using digital devices to do these tasks? (Please only bubble in items you are comfortable with.)
    - ⬭ Helping children complete their schoolwork or access online learning
    - ⬭ Complete your schoolwork
    - ⬭ Working or doing business
    - ⬭ Searching for job
    - ⬭ Reading the news
    - ⬭ Watching entertainment or using social media
    - ⬭ Communicating with friends or family (not on social media)
    - ⬭ Attending virtual doctor's appointments
    - ⬭ Paying bills, online banking, accessing personal information (e.g., medical records, taxes, etc.)

19. Where do you frequently access the internet? Please rank in order of frequency by dragging each item up or down (1 = most frequent).
    ___At home
    ___At a public space (e.g., public library, park, community center, recreation hall, etc.)
    ___At a commercial space (e.g., coffee-shop, internet café, bar, etc.)
    ___At a school (e.g., grade school, college, educational institution, etc.)
    ___At work
    ___Other:_____

20. What options would you like to have available? Please rank order of priority (1 = highest priority).
    ___Low-cost or free digital devices
    ___Low-cost or free internet service
    ___Expanded public WiFi
    ___Public computer spaces where you can access WiFi and use a digital device for free
    ___Programs that teach how to use a digital device and access the internet
    ___Programs that teach digital skills required for jobs
    ___Programs that provide support for my digital needs in a one-on-one setting
    ___Programs that provide support for my digital needs in a group setting
    ___Other: _____

21. Do you know about any digital resources or programs in your area—like places to rent devices or take a digital class? If so, what are they?
    _____

22. Have you canceled your internet service or cut back your internet to a less expensive service, within the past 12 months?
    - ⬭ Yes, I have canceled my internet service.
    - ⬭ Yes, I have cut back my internet service to a less expensive option.
    - ⬭ No, neither

23. Have you ever applied for any of the following programs? (Bubble in all that apply.)
    - ⬭ FCC Lifeline Program
    - ⬭ FCC Affordable Connectivity Program
    - ⬭ Other (please explain):_____
    - ⬭ I have not applied to any of these
    - ⬭ I'm not sure

24. Are you aware of these programs?
    - ⬭ Yes
    - ⬭ No
    - ⬭ I'm not sure

25. What is your gender?
    - ⬭ Female
    - ⬭ Male
    - ⬭ Other/Nonbinary

26. Are you of Hispanic, Latino, or Spanish origin?
    - ⬭ No
    - ⬭ Yes, Mexican, Mexican American, Chicano
    - ⬭ Yes, Puerto Rican
    - ⬭ Yes, Cuban
    - ⬭ Yes, another Hispanic, Latino, or Spanish origin (i.e., Nicaraguan, Colombian, etc.)

27. What is your race or races? (Bubble in all that apply)
    - ⬭ White
    - ⬭ Black or African American
    - ⬭ American Indian or Alaska Native
    - ⬭ Asian
    - ⬭ Native Hawaiian or Pacific Islander
    - ⬭ Other:____

28. Which of the following categories do you most identify with? (Bubble in all that apply.)
    - ⬭ Low-income
    - ⬭ Aging (60+)
    - ⬭ Incarcerated Individuals (non-federally)
    - ⬭ Veterans
    - ⬭ Individuals with disabilities
    - ⬭ Individuals with a language barrier/low literacy
    - ⬭ Individuals who are members of a racial or ethnic minority group
    - ⬭ Individuals who primarily reside in a rural area

29. What is your age?
    - ⬭ 18 to 24
    - ⬭ 25 to 34
    - ⬭ 35 to 44
    - ⬭ 45 to 54
    - ⬭ 55 to 64
    - ⬭ 65 or over

30. What best describes your employment status?
    - ⬭ Employed, working 40 or more hours per week
    - ⬭ Employed, working 1-39 hours per week
    - ⬭ Not employed, looking for work
    - ⬭ Not employed, not looking for work
    - ⬭ Student
    - ⬭ Retired
    - ⬭ Disabled, not able to work

31. Please indicate how many individuals live in your household including you. (List numbers)

    Adults ages 18-65: ___
    Adults over the age of 65:___
    Children under 18:___

32. Which of the following best represents your total combined annual household income?
    - ⬭ Less than $25,000
    - ⬭ $25,000 to $49,999
    - ⬭ $50,000 to $99,999
    - ⬭ $100,000 to $149,999
    - ⬭ $150,000 or more
    - ⬭ Not sure/Prefer not to respond

33. What is your highest level of school completed?
    - ⬭ Less than high school
    - ⬭ High school diploma (or GED)
    - ⬭ Some college
    - ⬭ Associate's degree
    - ⬭ Bachelor's degree
    - ⬭ Master's degree
    - ⬭ Professional degree beyond a master's degree

Appendix 5. Internet plans by cost and speed

Provider	Geographic Area	Download Speed	Monthly Cost
Xfinity	Dickenson – limited coverage Russell – limited coverage Washington – Moderate coverage Bristol – Substantial coverage	75	$20.00
		200	$35.00
		400	$55.00
		800	$70.00
		1,000	$60.00
		1,200	$85.00
Bright Speed	Washington – moderate coverage Bristol – moderate coverage	40	$50.00
Point Broadband	Buchanan – substantial coverage Dickenson – moderate coverage Russell – substantial coverage Washington – substantial coverage Bristol – substantial coverage	300	$59.00
		500	$69.00
		1000	$79.00
Charter	Buchanan – moderate coverage Dickenson – limited coverage Russell – limited coverage Washington – limited coverage Bristol – substantial coverage	30	$20.00
		100	$30.00
		300	$50.00
		500	$70.00
		1,000	$90.00
Shentel	Russell – moderate coverage	150	$65.00
		300	$80.00
		500	$110.00
		1,000	$200.00
Scott County Telephone	Dickenson – limited coverage Russell – limited coverage	3	$40.00
		5	$50.00
		100	$60.00
		500	$80.00
		700	$90.00

		1,000	$100.00
Hillcom	Dickenson – substantial coverage	50	$100.00