DIGITAL OPPORTUNITY PLAN

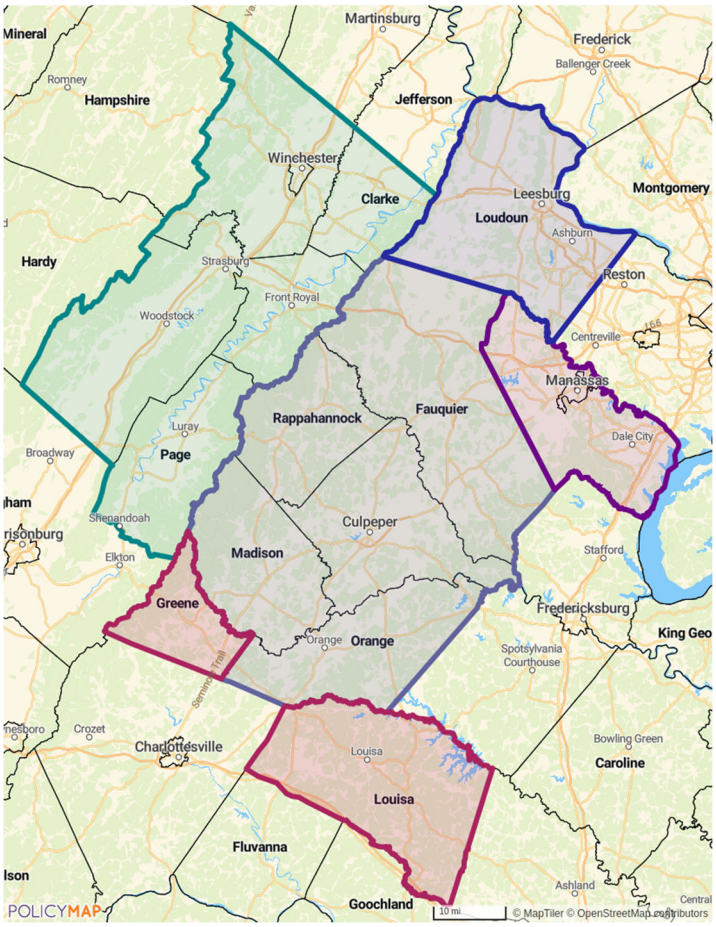
NORTH CENTRAL VIRGINIA: EXECUTIVE OVERVIEW

GEOGRAPHIC TERRITORY

People Incorporated was tasked with drafting a Digital Opportunity Plan for 17 counties and cities in the North Central region of Virginia. This area was subdivided into five smaller regions as shown on the map:

- Northern Shenandoah Valley: City of Winchester and the counties of Clarke, Frederick, Page, Shenandoah, and Warren
- Piedmont: Culpeper, Fauquier, Madison, Orange, and Rappahannock counties
- Greene and Louisa counties, which are part of the Thomas Jefferson Planning District and considered as a subset of that larger territory
- Greater Prince William Area: Prince William County and the cities of Manassas and Manassas Park
- Loudoun County

These regions were identified based on interviews with stakeholders and boundaries of service providers such as Workforce Development Boards, Community Colleges, and Planning Districts.



INSIGHTS

Based on interviews with stakeholders in the community, we identified the following priorities for each region.

	Northern Shenandoah Valley	Piedmont	Greene/Louisa	Greater Prince William Area	Loudoun
Priorities	1. Broadband/ Internet Access 2. Digital Literacy 3. Privacy/ Cybersecurity 4. Device Access and Affordability 5. Online Accessibility	1. Broadband/ Internet Access 2. Device Access and Affordability 3. Digital Literacy 4. Privacy/ Cybersecurity 5. Online Accessibility	1. Device Access and Affordability 2. Digital Literacy 3. Privacy and Cybersecurity 4. Broadband Access and Affordability 5. Online Accessibility	1. Digital Literacy 2. Privacy/ Cybersecurity 3. Device Access 4. Broadband Access NOTE: Online accessibility is not currently a part of their planning efforts or concerns.	1. Broadband Affordability 2. Privacy/ Cybersecurity 3. Digital Literacy 4. Online Accessibility 5. Device Access and Affordability 6. Broadband Access
Key Target Populations	1. Rural Residents 2. Aging Individuals 3. Individuals at 150% of Poverty or Less	1. Rural Residents 2. Aging Individuals 3. Individuals at 150% of Poverty or Less	1. Rural Residents 2. Aging Individuals 3. Individuals at 150% of Poverty or Less	1. Minorities 2. Individuals with Language Barriers 3. Aging Individuals	1. Individuals at 150% of Poverty or Less 2. Individuals with Language Barriers 3. Minorities
Resources Available	Low	Medium	Medium	High	High
% of Population Covered[1]	96.3%	94.5%	100%	79.4%	74%

When considering where and how to distribute resources throughout the large North Central Region, it is important to consider the need within the communities and the resources currently available. Both Loudoun County and the Greater Prince William Area are nearing 100% broadband coverage while large gaps remain in the other areas. The other three regions also lack cellphone service, which means that they cannot use Wi-Fi hotspots to offset the lack of internet access. The rural nature of the communities and lack of public transportation also means that travel to locations for Wi-Fi access is long and only an option for those who have sufficient transportation.

The U.S. Census Bureau Digital Equity Population Viewer and the Center for Regional Development at Purdue University have provided excellent tools to use as an objective indicator of need. The table on the following page is from the U.S. Census Bureau and shows the covered populations in each of the 17 jurisdictions that are part of the North Central region. As summarized on the table above, Loudoun and Greater Prince William have the smallest percentage of populations that fall within those targeted by the Digital Equity Act. This is primarily because the other regions are almost completely rural, but also because of high rates of poverty and aging individuals.

[1] Covered populations are defined by the Digital Equity Act. Calculation is based on the U.S> Census Bureau Digital Equity Population Viewer.

Digital Equity Population Viewer																	
	Northern Shenandoah Valley						Piedmont					Greene and Louisa		Greater Prince William			Loudoun
County	**Clarke**	**Frederick**	**Page**	**Shenandoah**	**Warren**	**Winchester**	**Culpeper**	**Fauquier**	**Madison**	**Orange**	**Rappahannock**	**Greene**	**Louisa**	**Manassas**	**Manassas Park**	**Prince William**	**Loudoun**
Rural/Urban	Rural	Rural	Rural	Rural	Rural	Not rural	Rural	Not rural	Rural	Rural	Rural	Rural	Rural	Not rural	Not rural	Not rural	Not rural
Total Population (2019)	14,619	89,313	23,902	43,616	40,164	28,078	52,605	71,222	13,261	37,051	7,370	19,819	37,591	41,085	17,478	470,335	413,538
Covered Population	14,619	89,313	23,902	43,616	40,164	20,046	52,605	60,025	13,261	37,051	7,370	19,819	37,591	33,770	13,705	372,391	305,827
Population that is Covered	100	100	100	100	100	71.4	100	84.3	100	100	100	100	100	82.2	78.4	79.2	74
Population w/ income <150% of Poverty	13.4	11.6	25.1	21.3	15.9	25.4	16	9.4	19.9	16.2	12.2	19.9	21.6	16.4	15.1	12	6.7
Population 60+	28.3	22.9	27.7	28.2	22.5	21.7	21.8	22.9	29.5	26.3	35	24	28.2	15.4	13	14.4	13.3
Incarcerated Population	0	1.1	0.4	0.1	0.1	0	2.3	0.1	0	1	0.1	0	0	0	0	0.3	0.1
Veterans	7.6	7.5	7.2	7.8	8.1	6.3	7.4	8.8	6.2	8.8	8.5	7.5	9	5.6	5.4	9.1	5.6
Population w/ Disabilities	11.5	12.2	20.5	16.4	14.4	15	12.8	10.4	14.1	17	16	14.1	17.5	6.7	9.2	7.8	5.9
Population w/ Language Barriers	13.7	14.2	17.9	16.7	16.2	22.1	19.1	12.4	13.5	17.3	14.1	16.1	17.8	30.7	33.2	23.9	15.7
ESL speakers	2	3.1	0.5	3.2	1.8	9	5.2	3.3	1.5	3.2	2	3.2	1.5	19.1	21.3	13.9	9.8
Population w/ Low Literacy Skills	17.7	16.5	25.1	19.8	19	23.9	22.1	14.4	18.1	18.2	15.4	20	22.1	28.5	27.7	20.5	11.3
Identifying as Minority	13.9	16.6	5.9	12.4	13.2	34	29.7	20	15.4	21.9	11.6	17.4	22	59.2	66.9	57.1	43.9
Living in Rural Area	100	100	100	100	100	0	100	65.2	100	100	100	100	100	0	0	4.3	20.6
HHs with No Fixed Broadband	0.5	16.9	0.5	8.8	8.1	0.2	0.1	9.7	0.0	0.2	8.2	0.1	32.0	3.9	1.6	2.7	0.4
Households w/ no Broadband/Computer	13.8	16	27.5	19.1	11.8	21.2	11.8	8.7	25.7	18.7	15.3	11.9	16.8	10.1	9.2	4.6	4

Source: https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html

The data on the following page is from Purdue University. It represents the Digital Divide Index, a score the considers both infrastructure and socioeconomic barriers to Digital Equity. The numbers are presented for both a national and statewide comparison. As they show, the Northern Shenandoah Valley has the highest barriers to Digital Equity followed by Greene and Louisa and Piedmont. Loudoun County has the second lowest score in the state behind the City of Falls Church. Prince William County is behind it in third place. The City of Manassas is also among the ten lowest scores in the state.

The Digital Divide in Virginia's North Central Region																	
	Northern Shenandoah Valley						Piedmont					Greene and Louisa		Greater Prince William			Loudoun
	Page	Shenandoah	Warren	Clarke	Frederick	Winchester	Orange	Madison	Culpeper	Rappahannock	Fauquier	Greene	Louisa	Prince William	Manassas	Manassas Park	Loudoun
National Index																	
Digital Divide Score:	35.77	29.82	19.00	20.16	19.75	19.21	20.78	25.35	16.06	22.82	15.08	20.82	24.87	3.79	6.05	8.81	1.8
Infrastructure Score	39.43	33.15	18.57	21.99	22.50	17.14	18.16	26.86	17.27	25.13	19.60	22.84	24.28	1.78	3.66	2.73	2.51
Socioeconomic Score	24.79	20.44	15.14	14.16	13.08	16.67	18.35	18.48	11.49	15.83	7.98	14.51	19.84	4.62	6.70	11.90	0.82
Virginia Index																	
State Ranking	29	53	92.00	89	88	91	82	68	105	79	109	87	63	131	127	116	132
Digital Divide Score:	72.01	59.54	39.16	40.55	40.56	39.35	41.98	50.86	32.50	43.95	29.55	40.59	51.71	9.53	14.82	25.35	5.64
Infrastructure Score	67.81	56.51	31.59	37.36	38.28	29.93	30.95	45.77	29.31	42.51	32.90	38.41	41.43	3.11	6.35	4.79	4.31
Socioeconomic Score	54.16	44.38	34.32	31.25	30.43	36.16	39.49	40.21	25.63	32.02	17.55	30.35	45.59	12.58	18.16	36.65	5.17
Average Download Speed (Mbps)	97.8	79.0	172.3	121.9	159.4	193.2	164.6	109.1	172.4	57.9	133.1	121.5	113.1	223.9	220.9	239.9	204.6
Average Upload Speed (Mbps)	10.4	10.8	38.8	20.3	32.2	51.3	85.8	15.2	50.7	9.1	23.5	18.0	67.3	113.5	109.4	125.3	120
Population with no access to 100/20 (Mbps)	83.90%	97.90%	54.20%	75.20%	65.50%	18.20%	50.70%	83.20%	53.90%	100%	78.60%	89.9%	75.3%	2%	3.60%	0.10%	7.40%
No internet access	23.20%	17.10%	10.10%	12.10%	12.20%	14%	10.50%	15.10%	9.50%	11.70%	7.10%	9.5%	15.4%	2.60%	2.90%	4.70%	2.40%
No computer device	20.30%	12.40%	7.40%	5.30%	9%	10.60%	8.30%	8.30%	6.40%	3.80%	5%	5.4%	7.3%	1.90%	4%	2.70%	1.80%
Less than HS degree	17%	11%	11.70%	8.30%	11.60%	12.70%	10.40%	12.40%	11.10%	8.30%	7.20%	11.6%	10.8%	10.40%	14.20%	20.40%	6.10%
Poverty Rate	12.30%	11.40%	10.90%	5.80%	6.70%	13.30%	11.30%	8.70%	7.20%	6.10%	5.90%	10.1%	10.8%	5.80%	5.60%	4.40%	3.40%
Age 65+	20.90%	21.60%	16.10%	20.90%	17.40%	16.30%	19.80%	22.80%	15.40%	25.40%	16.40%	17.9%	19.7%	10%	10.40%	8.50%	9.60%
Disability Rate	19.60%	16.80%	13.60%	13.40%	11.70%	14.70%	16.30%	13.90%	12.60%	13.50%	10%	13.8%	16.1%	8%	7.90%	8.50%	6.10%
Internet Income Ratio	5.18	5.9	6.18	6.59	6.83	4.33	5.29	5.49	5.18	3.91	5.37	3.40	8.57	6.13	6.54	13.42	7.82

Source: http://pcrd.purdue.edu/ddi

CONCLUSIONS

The lack of barriers in these Northern Virginia jurisdictions is a clear indicator that, although a digital divide remains, they are less urgently in need of additional resources to create digital opportunities for their residents. Both Prince William and Loudoun counties already have extensive programs in place to address these issues with millions of dollars invested. The primary need in both locations is for affordability options to accommodate lower income populations as this is where there is a gap in services.

Greene and Louisa counties will benefit from being part of the Thomas Jefferson Planning District where Albemarle County and the City of Charlottesville are already leading the way with their own plan but may need to develop their own resources to ensure they receive assistance for local residents. The resources currently available to them are through organizations that serve the entire region such as the Community College, Workforce Development Board, and Jefferson Area Board for Aging. Not all of these resources are available locally even though residents of the counties are eligible to receive services if they travel to Charlottesville.

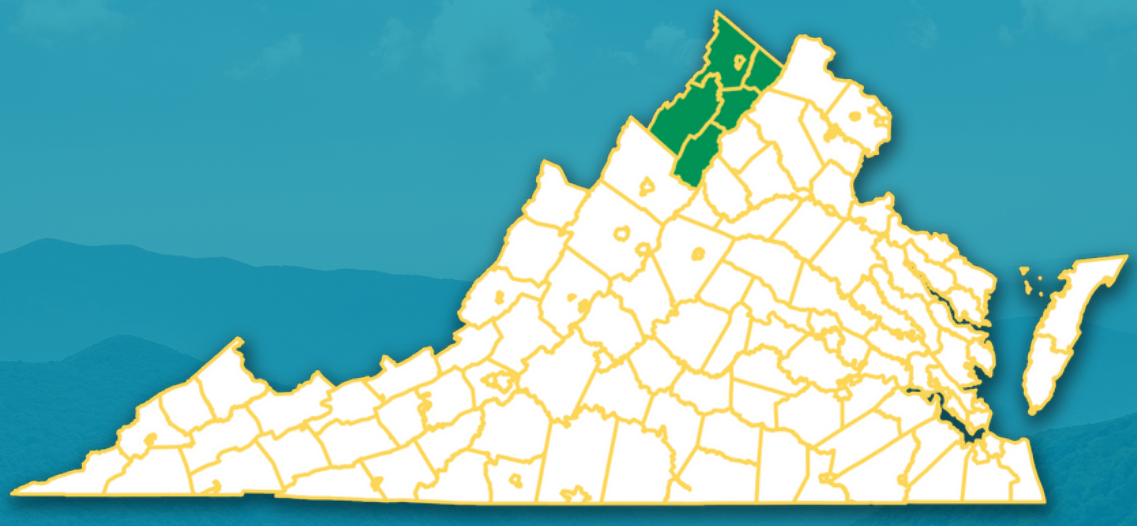
The Piedmont region has more disparate access to services. Madison County is the furthest behind in broadband access after the FCC removed Starlink as an eligible provider of FDOP services and their other bidder defaulted on the contract. While they are working with the Thomas Jefferson Planning District Commission to expand broadband access, their latest proposal was rejected pushing them another year behind in efforts to increase access for residents. The most viable option for them now is additional funding that will allow Starlink or other non-broadband resources to provide more immediate connections.

While infrastructure continues to be developed, the three rural regions must develop a sound program for digital literacy training. Current efforts are primarily piecemeal relying on local libraries, community colleges, and workforce programs. A coordinated effort with additional resources would help alleviate the burden placed on understaffed and underfunded organizations.

In addition, there was a consistent message throughout community conversations that residents need a guide to figure out what they need and how to obtain it. A Digital Navigator is a popular solution to this need as it will provide the flexibility residents need to learn what they do not know and how to move forward to fill the gaps in their knowledge and obtain the resources they need.

Regional Digital Opportunity Plan

Northern Shenandoah Valley Region



Clarke · Frederick · Page · Shenandoah
Warren · Winchester

People inc.
Building Futures, Realizing Dreams™

August 2023

TABLE OF CONTENTS

Executive Summary 5
Introduction and Vision for Digital Opportunity 10
- Defining Digital Equity 10
- Vision for Digital Equity in Northern Shenandoah Valley 10

Current State of Digital Opportunity: Barriers and Assets 11
- Existing Resources, Programs and Strategies Working to Address Digital Equity 11
- Regional Demographics 12
- Barriers to Digital Equity 12
  - Individuals who Primarily Reside in a Rural Area 13
  - Covered Households (150% of Poverty or less) 13
  - Population with Language Barriers 14
  - Aging Individuals (60+) 15
  - Individuals with Disabilities 15
  - Other Primary Target Populations 16
  - Additional Target Populations for Northern Shenandoah Valley 16

Collaboration and Stakeholder Engagement 21
- Survey Distribution Efforts 21
- Focus Group Outcomes 22
- Interviews with Key Informants 24
- Identified Needs to Create Digital Opportunity 25

Implementation 27
- Barriers to Digital Opportunity 27
- Target Populations 30
- Implementation Strategy 33
  - Coordination with Key Partners and Stakeholders 33
- Priorities for Implementation 34
- Timeline 44
- Mechanisms for Plan Update 45
- Statewide Activities 45

Conclusion 47

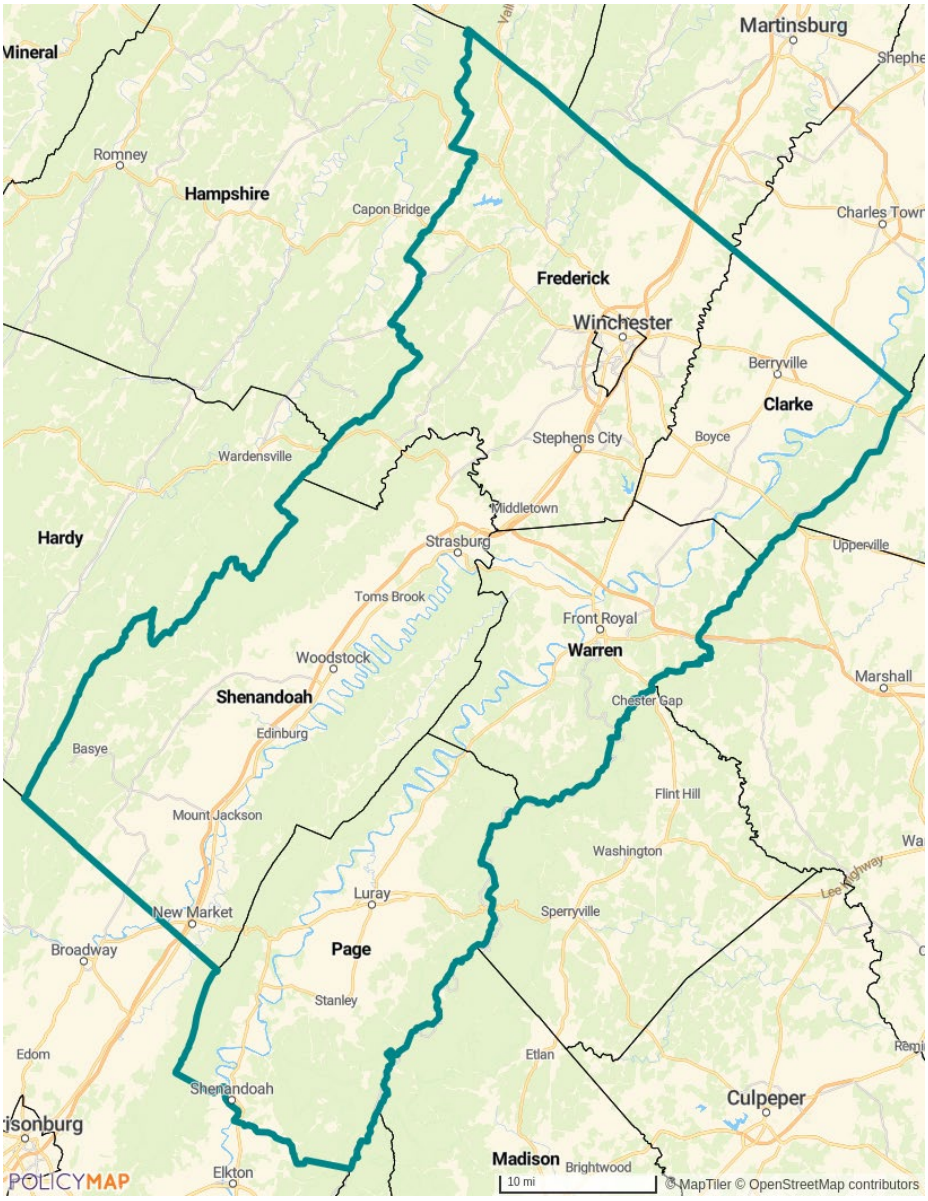
Appendices
- A. Virginia Digital Divide Index Scores
- B. Asset Inventory
- C. Community Engagement Tracker13
- D. List of Organizations

EXECUTIVE SUMMARY

ORIGIN OF PROJECT

In 2023, People Incorporated of Virginia began an extensive community input and data collection effort in order to create a Regional Digital Opportunity Plan as part of a statewide effort overseen by the Virginia Department of Housing and Community Development (DHCD). This goal of the project was to identify the barriers to effective and meaningful use of broadband for selected populations, identify key factors in the service area that define unique service challenges, and develop a preliminary plan to address them for implementation by both public and private sectors.

The region includes five counties and one city spanning nearly 1,631 square miles and home to over 240,000 Virginians. The region includes the city of Winchester and the counties of Clarke, Frederick, Page, Shenandoah, and Warren. The map below shows the region.



FRAMEWORK OF ASSESSMENT

The National Digital Equity Alliance states the "Digital Divide is the issue, Digital Equity is the goal, and Digital Inclusion is the work." The framework for this report supports this belief by first defining the specific obstacles creating the digital divide, developing a plan to achieve digital equity, and recommending implementation methods with inclusivity as a guiding principle.

A comprehensive assessment process, including evaluation of existing data, facilitation of focus groups and community listening sessions, coordination of key informant interviews, cataloguing existing resources, and distribution of a statewide digital survey provided a broad data set from which to draw conclusions and recommendations. Participants in this process included schools and educational services, municipal representatives from departments such as management, library services, social services, corrections, and economic development, employment services, Community Action Agency program participants, non-profit staff, government programs, community members, internet service providers, regional thought leaders and subject matter experts. The resulting plan identifies both the barriers to digital equity and an implementation plan to eliminate them. These efforts focused on the region at large and the Target Populations identified by the Digital Equity Act of 2021, including:

- Individuals living in households below 150% of the federal poverty level;
- Aging individuals;
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility;
- Veterans;
- Individuals with disabilities;
- Individuals with a language barrier, including individuals who—
    - Are English learners; and
    - Have low levels of literacy
- Individuals who are members of a racial or ethnic minority group; and
- Individuals who primarily reside in a rural area

Barriers exist throughout the region, along with inequities mirroring those found in society at large. Those digital-equity-barriers magnify social inequalities which further highlight the disproportionate impact on those with low incomes, persons with disabilities, the incarcerated, aging individuals, veterans, those with language barriers, members of racial or ethnic minority groups, and those who live in rural locations. Many of the recommendations included can be implemented across the entire region with modifications reflecting local conditions. Population-specific challenges faced by across the region are also included.

DIGITAL DIVIDE IS THE ISSUE, DIGITAL EQUITY IS THE GOAL, AND DIGITAL INCLUSION IS THE WORK.

Despite the large and diverse area included in this assessment there are overarching commonalities in the obstacles faced. Proposed solutions provide realistic goals that address the needs of communities within the coalition service area, and for those subsets that have distinctly unique concerns. Consequently, funding to implement regional Digital Opportunity Plan activities will have the highest impact where it is attuned to the shifting dynamics within the region. Funding will need to be extremely flexible and responsive to the particular

obstacles of numerous target populations across the region to best overcome the barriers to digital equity faced by those living and working there.

The planning team assessed our region on the activities needed to ensure digital inclusion as identified by the Digital Equity Act of 2021 which include:

- **Broadband Availability & Affordability:** Is high-quality broadband available at a price residents are willing to pay?
- **Online Accessibility & Inclusivity:** Are websites accessible, readable, and functional for the general public, those with disabilities, and those with language barriers?
- **Digital Literacy:** Do individuals know enough about using a computer and the internet to take full advantage of it?
- **Online Privacy & Cybersecurity:** Are individuals able to protect themselves on the internet from identity theft, online predators, and other threats?
- **Device Availability & Affordability:** Can individuals get access to a computer or afford to buy one?

ACTION STEPS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. DEVELOP A COHESIVE, COORDINATED REGIONAL APPROACH TO PROMOTING DIGITAL OPPORTUNITIES.

The first step in coordinating a regional approach to addressing the digital inequities in the region is to identify an organization to serve as the coordinating entity and lead agency for Digital Opportunity effort. The Northern Shenandoah Valley Region recommends using the Continuum of Care for Homeless Services as a format. The lead agency should be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development that consider capacity, experience, and ability to serve the entire region. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will oversee the Northern Shenandoah Valley Digital Opportunity Network and be responsible for coordinating participation in plan implementation and renewal efforts among stakeholders.

2. ESTABLISH A DIGITAL NAVIGATOR PROGRAM TO PROVIDE COMPREHENSIVE TECHNICAL SUPPORT AND TRAINING TO MEET THE SPECIFIC INDIVIDUAL NEEDS OF THE LOCAL POPULATION.

The most vulnerable populations within the Northern Shenandoah Valley will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new

opportunities as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population within the 1,631 square miles of the region, a Network of Navigators should be established to work with local residents.

Either the lead agency or another organization selected by RFP will be responsible for operating the Digital Navigator Network consisting of a small group of lead Navigators who train and coordinate efforts with a network of subcontracted Navigators working throughout the region. These subcontractors will work for trusted partner organizations that have strong ties to the target populations and are able to engage with them on multiple levels in a to address needs beyond digital opportunities. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

3. PROMOTE DIGITAL OPPORTUNITIES IN A WAY THAT CREATES THE GREATEST IMMEDIATE IMPACT.

There are several VATI projects underway in Northern Shenandoah Valley that will bring broadband service to residents over the next two years. In the meantime, many residents already have physical access to a broadband connection and have other barriers to equity that must be overcome such as digital literacy, device access, cybersecurity/privacy, and affordability. The plan outlines a path to addressing these issues over the short and long-term. Priorities include:

- Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs.
    - One popular format is a multi-generational approach in which youth are trained to be mentors and teachers to older adults.
- Develop a list of available computer resource centers in the community for referral.
- Expand number of computers available for Workforce Agencies to loan or give to clients.
- Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.
    - Such a program may offer new computers or refurbished computers purchased in partnership with a national organization that provides such services to nonprofits.
- Implement a regional marketing campaign to teach teenagers about the dangers of social media.
- Educate parents about the dangers of social media and how to address these issues with their children.
- 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.

4. ADDRESS THE LONG-TERM NEEDS OF THE COMMUNITY.

Multiple VATI projects are currently underway that will address access issues for a large portion of the unserved population. Further efforts to address access and affordability will, for the most part, require significant financial investments in order to make a large impact. As a result, these issues are lower on the regional priority list despite the urgency of obtaining internet access.

Short-term solutions to the problems of access and affordability include:

- Conduct outreach about ACP and other resources available to assist with affordability of internet access.
- Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost.

Medium and long-term solutions to the problems of access and affordability include:

- Satellite installation for most remote households in lieu of waiting for broadband 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.

INTRODUCTION AND VISION FOR DIGITAL OPPORTUNITY

DEFINING DIGITAL EQUITY

The Northern Shenandoah Valley Region embraces the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

While recognizing that this is a suitable definition of Digital Opportunity overall, the stakeholders in Northern Shenandoah Valley understand that there are more distinct needs within the region that must be considered. Needs and desires to access the internet vary widely and Digital Opportunity efforts needs to reflect this.

VISION FOR DIGITAL EQUITY IN NORTHERN SHENANDOAH VALLEY

The digital world will provide equal access for local residents to the same opportunities for employment and services, including telehealth. Residents will not be restrained by a lack of transportation, a disability, or income when engaging in the economy or society at large.

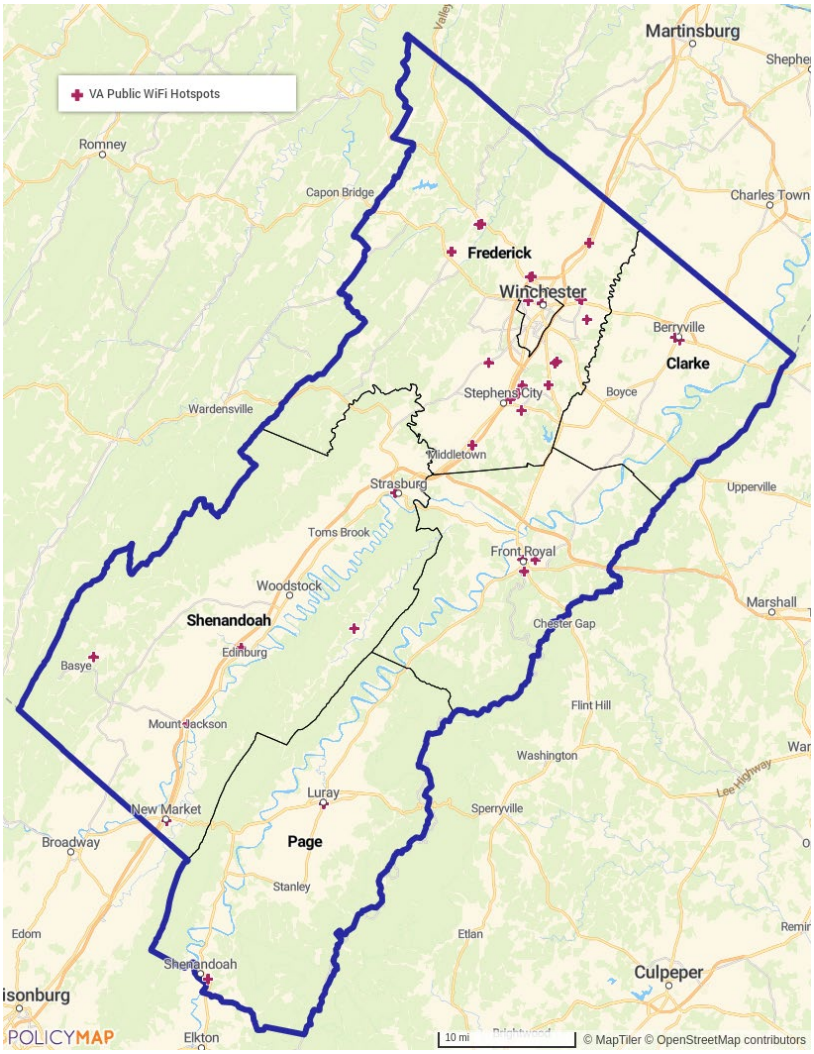
CURRENT STATE OF DIGITAL OPPORTUNITY: BARRIERS AND ASSETS

EXISTING RESOURCES, PROGRAMS AND STRATEGIES WORKING TO ADDRESS DIGITAL EQUITY

The attached Asset Inventory provides a more detailed assessment of the resources already in place to address barriers to Digital Equity. Highlights include:

- Every school district provides a device loan program for students.
- The Workforce Development Board, through one or more agencies, provides a variety of digital literacy classes ranging from basic computer skills to more advanced courses tailored to specific workplace needs.
- The local libraries have taken on a lead role in the community to provide digital literacy programs. Although not specifically targeted, these classes generally serve seniors. Many of the libraries also offer opportunities to address maintenance and technical concerns and device-specific issues. Libraries are also key Wi-Fi access locations and important device access centers.

The map below shows the public Wi-Fi hotspots available in Northern Shenandoah Valley. The data is provided by Commonwealth Connect.



In addition to the locally provided assets, the Affordable Connectivity Program has been instrumental in providing affordable access to many households in Northern Shenandoah Valley. However, there is still much that needs to be done for local residents to fully benefit from it. Data from Education Superhighway shows a 25.9% adoption rate in Northern Shenandoah Valley.[1]

REGIONAL DEMOGRAPHICS

The data on the table below is from the U.S. Census Bureau's Digital Equity Act Population Viewer.[2] The Census Bureau partnered with National Telecommunications and Information Administration to calculate the population qualified for Digital Equity Act services based on the targeted populations identified in the legislation. Because the majority of the region is rural, the covered population in each county is 100% except for the City of Winchester. Overall, the population is 96.3% covered.

County	Clarke	Frederick	Page	Shenandoah	Warren	Winchester	Total
Rural/Urban	Rural	Rural	Rural	Rural	Rural	Not Rural	
Total Population (2019)	14,619	89,313	23,902	43,616	40,164	28,078	215,790
Covered Population	14,619	89,313	23,902	43,616	40,164	20,046	207,758
Population that is Covered	100%	100%	100%	100%	100%	71.4%	96.3%
Population w/ income <150Poverty	13.4%	11.6%	25.1%	21.3%	15.9%	25.4%	15.6%
Population 60+	28.3%	22.9%	27.7%	28.2%	22.5%	21.7%	23.6%
Incarcerated Population	0%	1.1%	0.4%	0.1%	0.1%	0%	0.5%
Veterans	7.6%	7.5%	7.2%	7.8%	8.1%	6.3%	7.4%
Population w/ Disabilities	11.5%	12.2%	20.5%	16.4%	14.4%	15%	13.5%
Population w/ Language Barriers	13.7%	14.2%	17.9%	16.7%	16.2%	22.1%	15.8%
ESL speakers	2%	3.1%	0.5%	3.2%	1.8%	9%	3.3%
Population w/ Low Literacy Skills	17.7%	16.5%	25.1%	19.8%	19%	23.9%	18.7%
Identifying as Minority	13.9%	16.6%	5.9%	12.4%	13.2%	34%	16.9%
Living in Rural Area	100%	100%	100%	100%	100%	0%	85.1%
HHs with No Fixed Broadband	0.5%	16.9%	0.5%	8.8%	8.1%	0.2%	6.9
Households w/ no Broadband/Computer	13.8%	16%	27.5%	19.1%	11.8%	21.2%	15.8%

Source: U.S. Census Bureau's Digital Equity Act Population Viewer

BARRIERS TO DIGITAL EQUITY

The barriers to digital equity are similar for all target populations in the Northern Shenandoah Valley region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Access
2. Digital Literacy
3. Privacy and Cybersecurity

[1] This calculation is based on data provided in the ACP Enrollment Dashboard for locations in Northern Shenandoah Valley. Adoption rates in the region vary widely from 8% to 68%. https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard

[2] https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html

4. Device Access and Affordability
5. Online Accessibility

INDIVIDUALS WHO PRIMARILY RESIDE IN A RURAL AREA

Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 85.1% of the population in the Northern Shenandoah Valley Region resides in a rural area. This is, unquestionably, the most significant target population when considering barriers to digital equity and it is the cohesive element driving the barriers.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
85.1%	1. Access: The mountainous terrain and low-density development have made infrastructure deployment in the area slow and difficult. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Use of non-broadband options such as low-orbit satellite and fixed wireless to provide connections to remote locations quickly. 2. Ongoing infrastructure development. 3. Digital Navigator who can provide one-on-one technical assistance over the phone or in-person to directly reach individuals in remote areas.

COVERED HOUSEHOLDS (150% OF POVERTY OR LESS)

As is common in rural areas, poverty is a significant concern in the region. Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 15.6% of the households in the Northern Shenandoah Valley Region have incomes within the targeted range of 150% of poverty or less. This has the second greatest impact on access to digital equity and is the biggest driver in the City of Winchester where this demographic represents a quarter of the population.

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
15.6%	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. It was cited by stakeholders as the second biggest reason why people in the region do not have internet access following the cost of service. 3. 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. **SOLUTIONS TO DIGITAL EQUITY:**

	1. Expansion of outreach efforts and assistance in enrolling households in the Affordable Connectivity Program and/or other subsidy programs as they become available. 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. 4. Digital Navigator services to help clients identify the resources available to them and "navigate" through the enrollment process. 5. Digital Literacy courses available in a variety of settings and for all levels of knowledge, including online, to help individuals grow their skills in order to engage in the online world.

POPULATION WITH LANGUAGE BARRIERS

In identifying the percentage of the population with language barriers, the U.S. Census Bureau's Digital Equity Act Population Viewer considers both those who speak English less than "very well" and those who have low levels of literacy.[3] There is some overlap in these two populations. In Northern Shenandoah Valley, only 3.3% of the population is identified as speaking English less than "very well." The primary concern is low levels of literacy, which accounts for 18.7% of the population.

Percent of Population: 15.8% *English as a Second Language:* 3.3% *Low Levels of Literacy:* 18.7%	**BARRIERS TO DIGITAL EQUITY:** 1. Digital Literacy: For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. 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. There is a secondary problem for those speaking English as a Second Language in that this population often has immigration concerns as well that makes them reticent to accept assistance. 2. Online Accessibility: Language options are an important part of the accessibility of websites. Spanish is the second most prevalent language in the region. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable.

[3] The estimate of those with Language Barriers is derived from 2015-2019 ACS 5-Year file (for speaks English less than "very well") and 2017 Program for the International Assessment of Adult Competencies (PIAAC) Household file and 2012/2014/2017 PIAAC State and County Small Area Estimates of Adult Skills on Literacy and Numeracy (for low literacy) from the National Center for Education Statistics.

AGING INDIVIDUALS (60+)

Aging Individuals comprise the third largest group among the target populations in Northern Shenandoah Valley according to the U.S. Census accounting for 23.6% of the population. For the most part, their barriers are the same as the population at large. The biggest difference is in how they would need to be approached.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
23.6%	1. Digital Literacy: For many older adults in Northern Shenandoah Valley, 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. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge to help individuals grow their skills in order to engage in the online world. Ideal settings include libraries, senior centers, and churches as well as one-on-one in the person's home. 3. Intergenerational education programs in which youth mentors receive training to teach digital skills to older adults. 4. Library of videos about how to identify scams, protect your information online, and other cybersecurity/privacy issues that can be viewed as needed. 5. E-mail alerts about active scams sent from trusted sources such as the library, law enforcement agencies, or a Digital Navigator.

INDIVIDUALS WITH DISABILITIES

There was not a significant discussion among stakeholders about this population group, but it does represent a large portion of the region and they do have specific barriers and needs that should be considered when creating digital opportunities. The table below shows the percent of the local population with these types of disabilities. While the other data has been based on the U.S. Census' Digital Equity Population Viewer, which used data from 2019, the data below is from the U.S. Census Bureau's 2021 American Community Survey Five-Year Estimates.

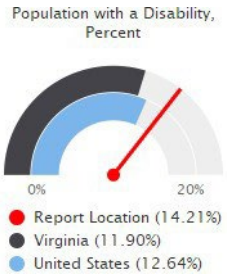
	Clarke	Frederick	Page	Shenandoah	Warren	Winchester
Total civilian noninstitutionalized population	14,525	88,665	23,544	43,727	40,238	27,941
Total population with a disability	**1,946**	**10,403**	**4,624**	**7,353**	**5,481**	**4,110**
Percent with a Disability	**13.4%**	**11.7%**	**19.6%**	**16.8%**	**13.6%**	**14.7%**
hearing difficulty	4.9%	3.8%	4.8%	5.2%	3.5%	3.5%
vision difficulty	2.8%	2.4%	3.5%	2.5%	2.8%	3.2%
cognitive difficulty	5.9%	4.9%	8.5%	6.5%	5.9%	7.1%

ambulatory difficulty	5.9%	6.4%	11.5%	9.7%	6.6%	6.7%
self-care difficulty	2.6%	2.4%	3.8%	4.1%	2.5%	2.2%
independent living difficulty	6.9%	5.4%	11.1%	7.3%	5.9%	6.7%

Source: US Census ACS 5-Year Estimates Subject Tables, 2021

Percent of Population:

14.2%[4]



BARRIERS TO DIGITAL EQUITY:

1. Online Accessibility: The only barrier unique or augmented for those with disabilities is online accessibilities. Stakeholders did agree that this is a problem. However, given the significance of the other barriers and the size of the disabled population with vision and hearing problems, it is not considered as high of a priority.

SOLUTIONS TO DIGITAL EQUITY:

1. Improvements to the online accessibility of local websites in keeping with ADA standards and the Web Accessibility Initiative.

OTHER PRIMARY TARGET POPULATIONS

The other target populations in the region represent a minimal portion of the whole and do not have barriers different than those already discussed. Therefore, there is no need to create any specific programs or services targeted to them. There are no prisons in the Northern Shenandoah Valley.

Other Target Populations	
% of Population who are Incarcerated	0.5%
% of Population who are Veterans	7.4%
% of Population speaking English as a Second Language	3.3%
% of Population who Identify as Minorities	16.9%
Non-US Citizens	*4.0%*

ADDITIONAL TARGET POPULATIONS FOR NORTHERN SHENANDOAH VALLEY

In addition to the target populations identified in the Digital Equity Act of 2021, the Northern Shenandoah Valley Region has two other specific target populations that need to be prioritized. Although they also fall within the other categories, primarily individuals in rural areas and, often, households at or below 150% of poverty, students and parents have specific, high-priority needs.

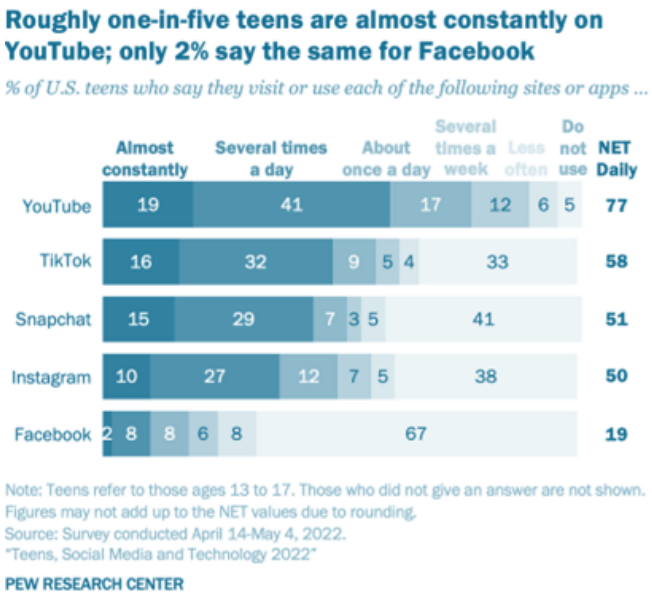
STUDENTS

The following table shows internet and computer access data for students three and over enrolled in school within Northern Shenandoah Valley according to the U.S. Census Bureau's ACS Five-Year Estimates for 2021. Because these are five-year estimates spanning a period that pre-dates the Covid-19 pandemic when most students were provided with computers or other digital devices and more households registered for internet service, these percentages might be slightly understated.

[4] This number from the 2021 ACS Five-Year Estimates of the U.S. Census is a slight variation from the U.S. Census Bureau's Digital Equity Act Population Viewer, which shows 24.4% of the population with a disability based on 2019 data.

Student Population without a Computer and/or Internet Subscription						
	Clarke	**Frederick**	**Page**	**Shenandoah**	**Warren**	**Winchester**
Population 3 and older	97.9%	96.5%	97.0%	96.1%	96.6%	96.2%
Enrolled in school:	21.9%	24.0%	19.9%	21.0%	21.6%	25.7%
Pre-K to 4th Grade	29.7%	31.1%	39.6%	33.6%	36.6%	31.2%
No subscription or no computer	0.9%	5.9%	8.0%	8.0%	7.6%	7.5%
5th to 8th Grade	19.2%	25.4%	22.0%	24.8%	22.9%	21.8%
No subscription or no computer	3.5%	8.4%	8.2%	12.3%	2.7%	5.5%
9th to 12th Grade	29.8%	24.6%	24.3%	25.4%	23.2%	20.2%
No subscription or no computer	3.2%	9.2%	6.4%	8.9%	1.0%	15.4%
Undergraduate or Higher	21.3%	18.9%	14.0%	16.2%	17.4%	26.8%
No subscription or no computer	4.5%	2.3%	6.3%	7.9%	0.8%	4.7%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021						

With school work increasingly being done online, students who are victims of the digital divide are falling further behind. They have difficulty completing school assignments without regular access to email and online tools. Students need convenient access to the internet and a reliable device.



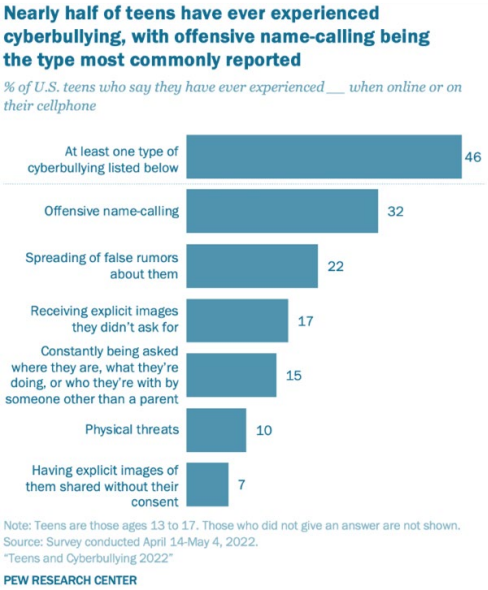
There is growing concern about the dangers of children and teens being online, which creates another barrier to digital equity. A 2022 survey from Pew Research Center found that teens are almost always online using a variety of platforms.[5]

While the impact of this is still being studied, there is mounting evidence that both digital devices and social media negatively impact students. For instance, one recent study correlated eight hours or more of screen time per day with increased risk of depression in teens. "Excessive time on social media has been linked to "fear of missing out," cyberbullying, emotional insecurity, and body-image problems. The time devoted to social media also inhibits in-person socializing, exercise and sleep, all of which are crucial for adolescents' emotional well-being."[6] Students will need resources to help navigate this barrier if internet expansion is to have more of a positive impact than negative.

Even teenagers admit the negative impact of social media with the Pew survey finding that nearly half of teens have been bullied or harassed online.

[5] Gelles-Wetnick, Risa. "Teens and social media: Key findings from Pew Research Center surveys," Pew Research Center, April 24, 2023. https://www.pewresearch.org/short-reads/2023/04/24/teens-and-social-media-key-findings-from-pew-research-center-surveys/
[6] Wilcox, W. Bradford and Riley Peterson. "It's Time to Treat Big Tech Like Big Tobacco," American Enterprise Institute, January 20, 2023. https://www.aei.org/op-eds/its-time-to-treat-big-tech-like-big-tobacco/

With this in mind, all attempts to increase internet and device access for students must also be concerned with protecting students from the dangers that lurk on the internet. Although Virginia Standards of Learning require digital literacy training for students, the extent and quality of that training varies. More standardization and resources would help improve outcomes.

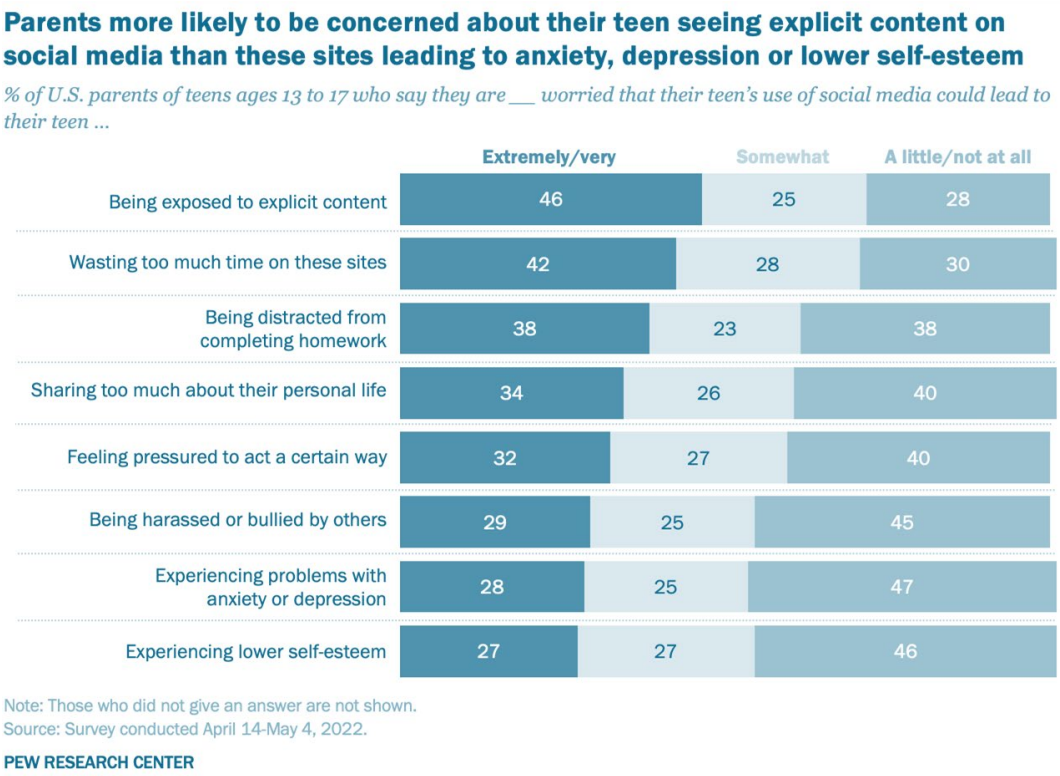


Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
23.0%	1. Broadband Access: As is the case with the rest of the region, broadband access for students is limited due to availability and/or affordability. 2. Device Access: Access to devices is primarily addressed for older students in public schools but remains a barrier for those in undergraduate and graduate programs. 3. Cybersecurity and Privacy: While privacy is a growing concern for students who need to learn basic information about protecting their identity online, this wide-ranging topic encompasses the much larger concern of social media use and its impact on teens. This was one of the most-mentioned topics in focus groups. **SOLUTIONS TO DIGITAL EQUITY:** 1. While infrastructure expansion continues, the best option for addressing access options for students is to create more public Wi-Fi centers with longer hours at libraries and other community centers. 2. Providing assistance to families with school-aged children in accessing non-broadband resources such as Starlink while broadband infrastructure continues to be put in place will also increase access in a targeted manner to this high-priority population. This assistance can be in the form of a subsidy for installation or a Digital Navigator to help select the right option and assist with the enrollment process. 3. Homework hours before and after school where students can remain and complete their homework with assistance while using school-based internet is also an option for those who have transportation available. 4. Prioritizing subsidies for internet service to families receiving Free and/or Reduced Lunch will assist with those who face affordability barriers. Creating an automatic approval for these families for programs such as the ACP will also increase the likelihood that they will be used.

PARENTS

Like children, parents have most of the same barriers as the rest of the population in the region, but they need to be addressed as a high priority concern and in a slightly different way. Their needs are interwoven with those of the students but should be considered in addition to those of students.

A report by Pew Research Center identified the following as concerns parents have about their children being online.



Parents are going to need resources to address these barriers as internet and computer access expands.[7]

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
34.5%	1. Device Access: While students are typically provided with access to devices, the same is not true for parents. For those with young children who are not provided with devices, it is difficult to keep up with communications from the school. 2. Digital Literacy: Many parents do not have the digital skills they need to manage the online systems the schools use to communicate with them and/or to help their children with their homework. 3. Cybersecurity and Privacy: Parents are concerned about the cybersecurity and privacy implications of students gaining increased access to the internet as well as the impact of social media. **SOLUTIONS TO DIGITAL EQUITY:**

[7] Gelles-Wetnick, Risa. "Explicit content, time-wasting are key social media worries for parents of U.S. teens," Pew Research Center, December 15, 2022. https://www.pewresearch.org/short-reads/2022/12/15/explicit-content-time-wasting-are-key-social-media-worries-for-parents-of-u-s-teens/

	1. Provide devices for even younger students enrolled in schools so that parents can use them to access online student management systems. 2. Provide opportunities for parents to learn how to use the school student management system through Parent Teacher Organization programs or in other casual environments. 3. Offer digital literacy classes for parents that are specifically tailored to the information they will need to assist their students such as browsing the internet and using Google products. 4. Provide education and resources to parents to help them understand the online dangers their children face and learn how to monitor their child's activities.

COLLABORATION AND STAKEHOLDER ENGAGEMENT

SURVEY DISTRIBUTION EFFORTS

People Incorporated distributed the Digital Equity survey to clients (via e-mail, postcard, and in person), stakeholders, and members of the community in each of the counties within the region placing specific emphasis on the targeted populations. The survey was distributed electronically through the Western Virginia Continuum of Care and Page County Chamber of Commerce. Handley Regional Library provided paper and website distribution in Winchester and Clarke and Frederick counties.

Although there were paper copies of the survey available, the majority of responses came from those who could complete it online as that was the population easiest to reach with messaging and the population who had easiest access to the survey. People Incorporated made extensive efforts to market the survey via social media, which had a marked increase in the responses.

<u>Social Media</u>

- Paid ads:
  - May 16 – May 23: Boosted Facebook post advertising community forums- ad run in Winchester, Shenandoah County, Warren County, Page County, and Clarke County
    - Reach: 12,120
    - Link Clicks: 190
  - June 21 – July 19: Facebook/Instagram ad for survey – ad run in Clarke County, City of Bristol Virginia, Manassas, Manassas Park, Russell County, Shenandoah County, Rappahannock County, Frederick County, Washington County, Warren County, Dickenson County, Fauquier County, Page County, Culpeper County, Prince William County, and Buchanan County
    - Reach: 133,400
    - Link Clicks: 2,403
- All posts
  - Twitter
    - April 29: community forums – 78 impressions
    - May 7: community forums – 97 impressions
    - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 70 impressions
    - May 16: Community forums – 83 impressions
    - May 17: Northern Shenandoah Valley forums – 34 impressions
    - May 18: Shenandoah forum – 32 impressions
    - May 21: Community forums – 54 impressions
    - June 12: Survey – 76 impressions
    - June 15: Survey – 100 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: Survey – 73 impressions
    - July 14: Survey – 28 impressions
  - Facebook
    - April 30: Community forums – 10,159 impressions
    - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 552 impressions
    - May 16: Page, Shenandoah, Warren counties and in Winchester forums – 21,918 impressions

        - June 13: Survey
    - Instagram
        - June 29: Survey reel – 48 accounts reached
    - LinkedIn
        - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 83 impressions
        - May 19: Luray forum – 130 impressions
        - June 12: Survey – 191 impressions

People Inc. Digital Newsletter

- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)
- July 3 - "Have you taken the digital equity survey?" (3 link clicks)

Postcard Mailing

- Mailing to People Inc. clients without e-mail addresses
- Mailing to purchased list in high-priority areas

FOCUS GROUP OUTCOMES

People Incorporated hosted a series of focus groups from May through early July 2023 to seek feedback from individuals in the region. These meetings were advertised via e-mail, social media, flyers, and direct invitation over the phone and in person. In addition to clients and general members of the public, which were targeted through general marketing and outreach efforts, we also directly contacted strategic partners including the local school systems, community colleges, county administrators and members of the boards of supervisors, adult education providers, public libraries, and workforce development offices.

Outreach efforts included:

Social Media

- **Paid ads:**
    - May 16 – May 23: Boosted Facebook post advertising community forums- ad run in Winchester, Shenandoah County, Warren County, Page County, and Clarke County
        - Reach: 12,120
        - Link Clicks: 190
    - June 21 – July 19: Facebook/Instagram ad for survey – ad run in Clarke County, City of Bristol Virginia, Manassas, Manassas Park, Russell County, Shenandoah County, Rappahannock County, Frederick County, Washington County, Warren County, Dickenson County, Fauquier County, Page County, Culpeper County, Prince William County, and Buchanan County
        - Reach: 133,400
        - Link Clicks: 2,403
- **All posts**
    - Twitter
        - April 29: community forums – 78 impressions
        - May 7: community forums – 97 impressions
        - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 70 impressions
        - May 16: Community forums – 83 impressions

        - May 17: Northern Shenandoah Valley forums – 34 impressions
        - May 18: Shenandoah forum – 32 impressions
        - May 21: Community forums – 54 impressions
        - June 12: Survey – 76 impressions
        - June 15: Survey – 100 impressions
        - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
        - June 28: Survey – 73 impressions
        - July 14: Survey – 28 impressions
    - Facebook
        - April 30: Community forums – 10,159 impressions
        - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 552 impressions
        - May 16: Page, Shenandoah, Warren counties and in Winchester forums – 21,918 impressions
        - June 13: Survey
    - Instagram
        - June 29: Survey reel – 48 accounts reached
    - LinkedIn
        - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 83 impressions
        - May 19: Luray forum – 130 impressions
        - June 12: Survey – 191 impressions

Web Stories

- Register for upcoming community forums – www.peopleinc.net (Web Story)
- People Inc. to host community forums on bridging the digital divide - www.peopleinc.net (Press Release)
- Help Create Digital Opportunity For All - www.peopleinc.net (Web Story)
- **Northern Shenandoah Valley** – 5 unique press releases out week of May 8
    - People Inc. CANCELS forum on 'Bridging the Digital Divide' on May 20 at Luray Meadows, Page Valley News, May 11
    - People Inc. to host forum on broadband, digital divide on Thursday, NVDaily.com, May 15
    - Non-profit to hold community forums on internet access in the Northern Valley this week, WHSV.com, May 15
    - Town Talk: Double Header Event - A conversation with Sam Barber, Reaching Out Now and People Inc., Royal Examiner, May 15

Online Advertisements

- Evvnt.com calendar listing reaching 34 publishers for community forum in Edinburg on May 18th. (23 link clicks)
- Email campaign to 2,000 Evvnt.com subscribers for community forum in Edinburg on May 18th. (67 opens, 7 link clicks)

People Inc. Digital Newsletter

- May 1 - "Help us bridge the digital divide" (1 link click)
- June 1 - "People Inc. hosts forums on bridging the digital divide across Virginia" (10 link clicks)
- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)

- July 3 - “Have you taken the digital equity survey?” (3 link clicks)

There was little interest in the subject of digital equity during the initial meetings other than to discuss the long-delayed broadband infrastructure developments. Attendance was limited with many meetings cancelled due to a lack of registrants. However, ongoing discussions with stakeholders in the community on the subject and careful guidance of the conversations at the focus groups allowed partners to identify consistent themes among the concerns. A full list of meetings and outreach efforts is included in the Appendix. The following table shows the community meetings that were held throughout the region.

Meeting Date	Meeting Time	Location	Target Population	Attendance
5/16/23	10:30 AM	Samuels Public Library East Criser Road, Front Royal, VA	Stakeholders	1
5/16/23	12:00 PM	Samuels Public Library East Criser Road, Front Royal, VA	General Population	2
5/17/23	08:30 AM	Winchester Regional Airport Airport Road, Winchester, VA	Stakeholders	0
5/17/23	06:00 PM	Winchester Regional Airport Airport Road, Winchester, VA	General Population	6
5/18/23	06:00 PM	Shenandoah County Library 514 Stoney Creek Blvd, Edinburg, VA 22824	General Population	1
5/22/23	07:00 PM	Online	General Population	3

INTERVIEWS WITH KEY INFORMANTS

The information gleaned from focus groups and preliminary information from the SIR survey was used by key informants in the region during a work group session held on July 12, 2023, at People Incorporated’s office in Woodstock, Virginia. At this meeting, 17 individuals representing the entire region, met to discuss the findings and develop an implementation plan. Participants included:

- Shenandoah County Library
- Strasburg Police Department
- Shenandoah County Tourism and Economic Development
- Shenandoah Community Health Clinic
- Shenandoah County Department of Social Services
- Virginia Department of Veterans Services
- Shenandoah Alliance for Shelter
- Literacy Volunteers of the Winchester Area
- Seniors First
- Virginia Cooperative Extension
- Valley Health
- Shentel
- Shenandoah County Chamber of Commerce

Information gleaned from this meeting was used to shape the final plan.

Details on how the Region will coordinate the implementation of its plan with workforce agencies, labor organizations, and institutions of higher of learning can be found in Section 5, Implementation.

IDENTIFIED NEEDS TO CREATE DIGITAL OPPORTUNITY

The discussions illuminated various concerns within the region that are preventing digital equity. Despite the large geography and variety of attendees, there were key themes identified during the course of the meetings. These needs were considered when developing the priorities for the implementation plan.

BROADBAND ACCESS

- Families need sufficient internet access (both quality and quantity) to fulfill requirements for both school and employment.
    - Households in the region need continued expansion of broadband infrastructure in order to provide basic access to the internet.
    - Households need access to more viable options than broadband to secure internet access in a more timely and cost-efficient manner. Waiting two or more years for a company to lay fiber to a single house miles away from existing lines does not seem like a desirable solution.
- Households need high-quality internet for individuals to be able to work from home as many positions require a specific upload/download speed be available before a person can be hired.
- "Centralized locations" such as a library or other venue for computer/internet access or to take a class are insufficient to meet the needs of residents in rural areas who still need to travel 20 minutes or more to reach those areas.

DIGITAL LITERACY

- Individuals need an opportunity to learn about technology in a way that alleviates their fears and embarrassment.
- Individuals need unbiased, reliable assistance to identify the technology they need and/or the internet options available to them.
- Individuals need to how to use essential online services such as banking and health charts, which are increasingly becoming accessible online only.
- Parents need more technology skills to assist their children with school and stay current with school communications.
- Individuals need to learn more about how to use a computer and the internet to participate in telehealth appointments.
- Individuals need a trusted, reliable resource they can contact for assistance with their computer.

DEVICE ACCESS

- Individuals need access to the internet and a computer in order to apply for jobs.
- Individuals need high-quality internet and a computer at home to be able to work from home or operate a business.
- Individuals need a device other than their smartphone to access the internet.

PRIVACY AND CYBER-SECURITY

- Children need to be protected from cyber-bullies and online predators.
- Individuals need to be sure their personal information is safe when they are online.
- Older adults need to be protected from online scams.

BROADBAND AFFORDABILITY

- Families need assistance applying for the ACP internet subsidy program as it is too complicated to navigate. Many families are not even aware of the program.

- Individuals and households need an affordable internet connection option.
- Families need choices of internet providers to improve cost and quality.

ONLINE ACCESSIBILITY

- Residents need to be able to complete more forms online in order to be more efficient with their time.
- Government websites need to be monitored to ensure all links and webpages are current and active.
- Individuals with disabilities need websites to be reviewed for accessibility, specifically related to font size and readability.

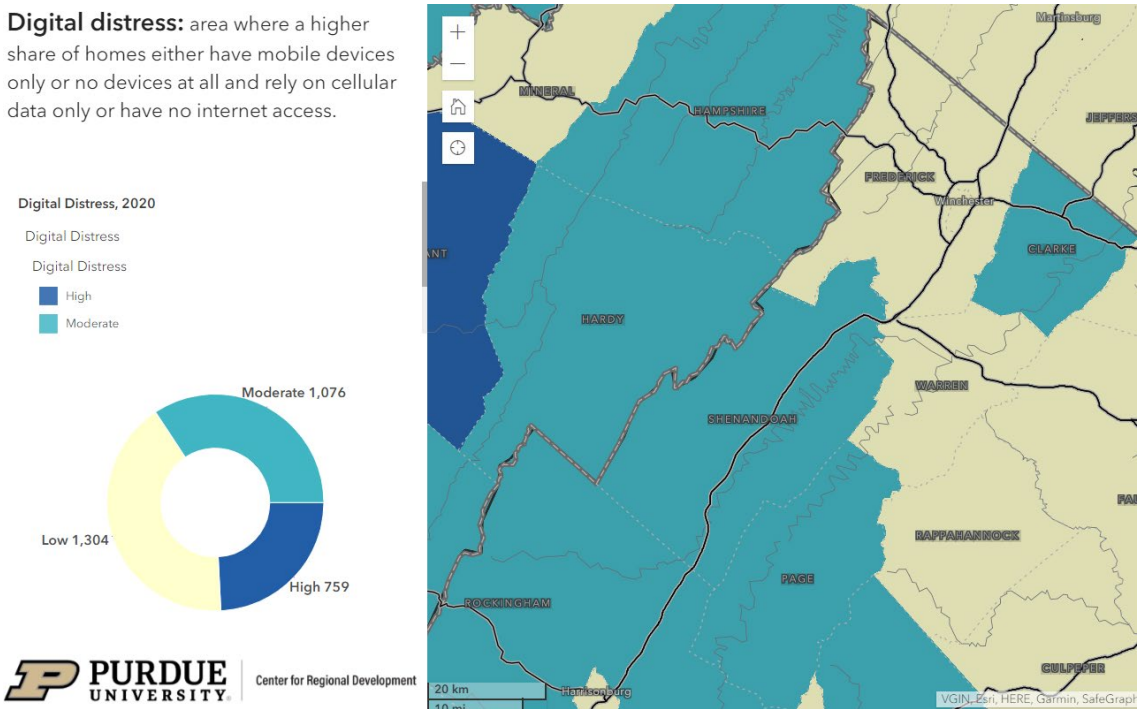
IMPLEMENTATION

BARRIERS TO DIGITAL OPPORTUNITY

Northern Shenandoah Valley is encumbered by many barriers to digital opportunities as is common in rural areas. The mountainous terrain adds to the expense of installing the broadband infrastructure. Higher than average poverty and lower levels of education lower the market for enrollment. A lack of internet access and limited disposable income leads many households to being without computers of any kind.

These barriers lead many people in the area rely on cell phones for access to the internet because they lack a more appropriate device and/or lack internet access. Some also rely on their phone because they have insufficient digital literacy skills to use a computer. Stakeholders report that this is insufficient because they cannot use a phone to complete an employment application or do their homework.

Understanding the insufficiency of a mobile phone and cellular plan for meeting needs in the digital worlds, The Center for Regional Development at Purdue University developed a Digital Distress[8] calculation based on data from the American Community Survey that considers the percent of homes with no internet access, those using cellular data only, those with mobile phones only, and those with no computing devices. They then calculate a score and identify the county as low, moderate, or high distress. Areas of digital distress (the darker areas) are those with a higher share of homes having either mobile devices only, cellular data only, or no internet access.



The Center for Regional Development also developed the Digital Divide Index to compare barriers to digital opportunities based on infrastructure and socioeconomic characteristics. This provides an unbiased view of

[8] Gallardo, Robert and Benjamin St. German. :Digital Distress: What is?" April 18, 2022 https://pcrd.purdue.edu/digital-distress-what-is-it/

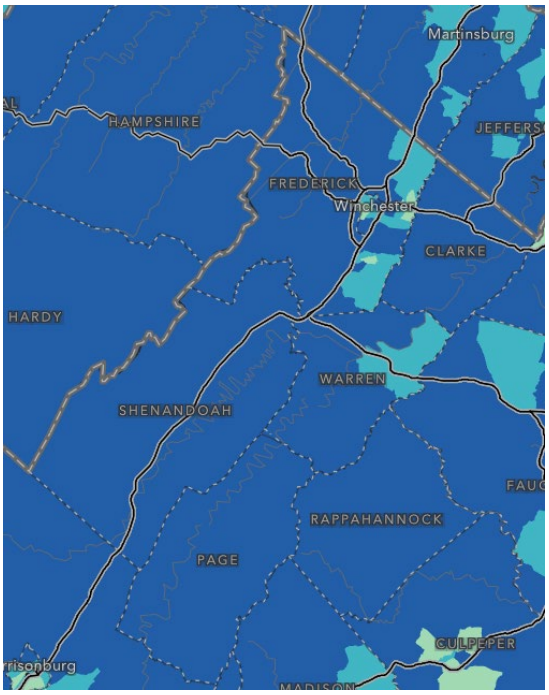
the factors influencing what they characterize as Digital Distress.[9] The Digital Divide Score is further assessed by an Infrastructure and Socioeconomic Score. This helps identify where the greatest barrier to Digital Equity lies. If the infrastructure score is higher, that would indicate a need to prioritize that area to increase access while a higher Socioeconomic Score would drive attention towards affordability, device access, and digital literacy. The table is sorted from highest to lowest Digital Divide Score.

The data presented in the table is based on a national index comparing the jurisdictions in the Northern Shenandoah Valley to every jurisdiction in the country. A statewide index is included in the Appendix. Of the 133 jurisdictions in Virginia, Page County is ranked as having the 29th highest Digital Divide Index score and Shenandoah County ranks at 53. When distributing money within the region, the Digital Equity Index should be one factor used to prioritize allocations.[10]

	Page	Shenandoah	Warren	Clarke	Frederick	Winchester
Digital Divide Score:	35.77	29.82	19.00	20.16	19.75	19.21
Average Download Speed (Mbps)	97.8	79.0	172.3	121.9	159.4	193.2
Average Upload Speed (Mbps)	10.4	10.8	38.8	20.3	32.2	51.3
Population with no access to 100/20 (Mbps)	83.90%	97.90%	54.20%	75.20%	65.50%	18.20%
No internet access	23.20%	17.10%	10.10%	12.10%	12.20%	14%
No computer device	20.30%	12.40%	7.40%	5.30%	9%	10.60%
Less than HS degree	17%	11%	11.70%	8.30%	11.60%	12.70%
Poverty Rate	12.30%	11.40%	10.90%	5.80%	6.70%	13.30%
Age 65+	20.90%	21.60%	16.10%	20.90%	17.40%	16.30%
Disability Rate	19.60%	16.80%	13.60%	13.40%	11.70%	14.70%
Internet Income Ratio	5.18	5.9	6.18	6.59	6.83	4.33
Infrastructure Score	39.43	33.15	18.57	21.99	22.50	17.14
Socioeconomic Score	24.79	20.44	15.14	14.16	13.08	16.67

9 Gallardo, R. (2023). Digital Divide Index. *Purdue Center for Regional Development*. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi
The digital divide index (DDI) consists of three scores ranging from 0 (lowest divide) to 100 (highest divide) and includes ten variables grouped in two categories: infrastructure/adoption and socioeconomic. For purposes of analysis, the overall DDI score was utilized.

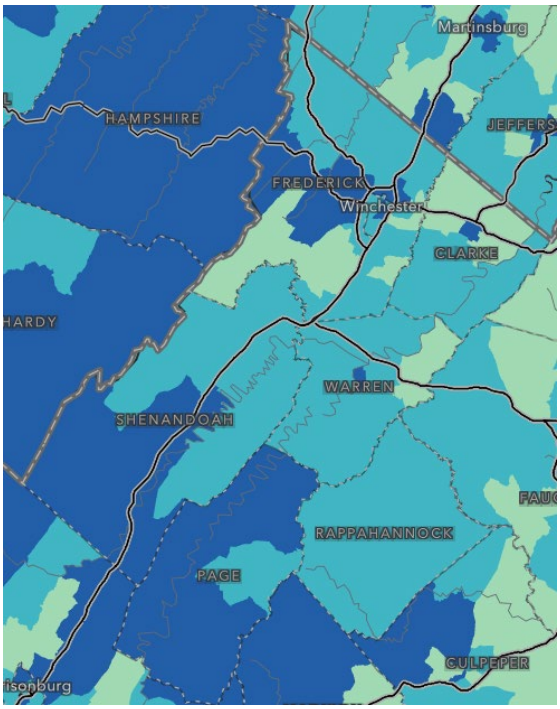
10 Counties were divided into three roughly equal groups based on the DDI score: low (1,031 counties), moderate (1,031 counties), and high (1,063 counties). The average DDI for those in the high category is 36.5. All the counties listed have a DDI score over 36.5.



INFRASTRUCTURE SCORE[11]

Digital Distress
High
Moderate
Low

The map below shows the infrastructure results for the Northern Shenandoah Valley. The colors are divided into **Low**, **Moderate**, and **High** categories based on an index that ranges from 0 to 100 where 100 indicates the highest divide. The map clearly shows that Northern Shenandoah Valley faces a high infrastructure burden comparable to the rest of the country and the Commonwealth. Only the areas near Front Royal and the City of Winchester near the interstates are in the moderate or low categories.



SOCIOECONOMIC SCORE[12]

Digital Distress
High
Moderate
Low

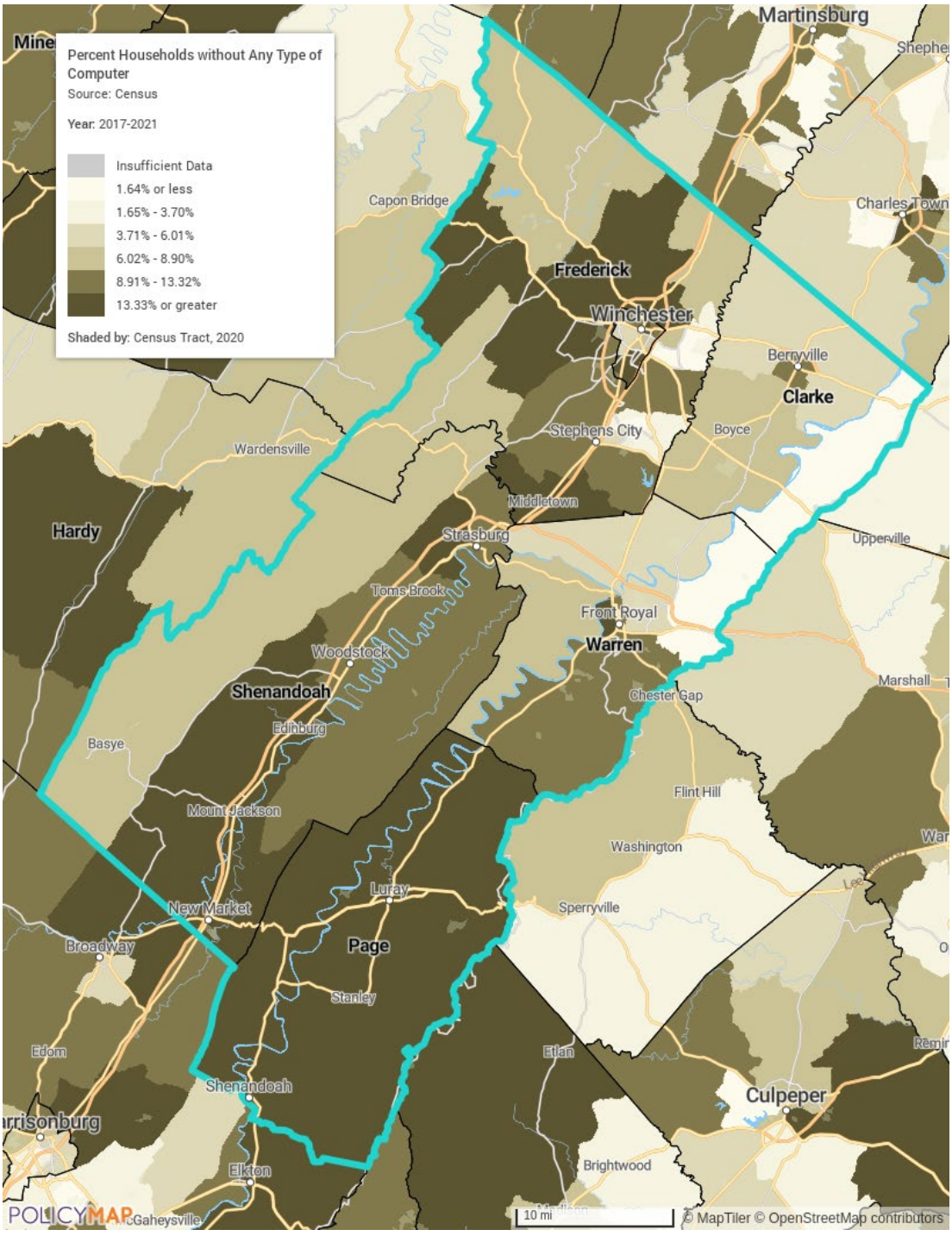
The socioeconomic scores in the region are much more diverse. Southern Shenandoah and Page counties show the highest risk factors. The statewide data in Appendix A show these two areas are in the top third of the state with regards to digital inequality as measured by the DDI. There is also a high socioeconomic score in Winchester and surrounding portions of Frederick County.

[11] The Infrastructure Score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests) (4) download and (5) upload speeds in Megabits per second (Mbps).

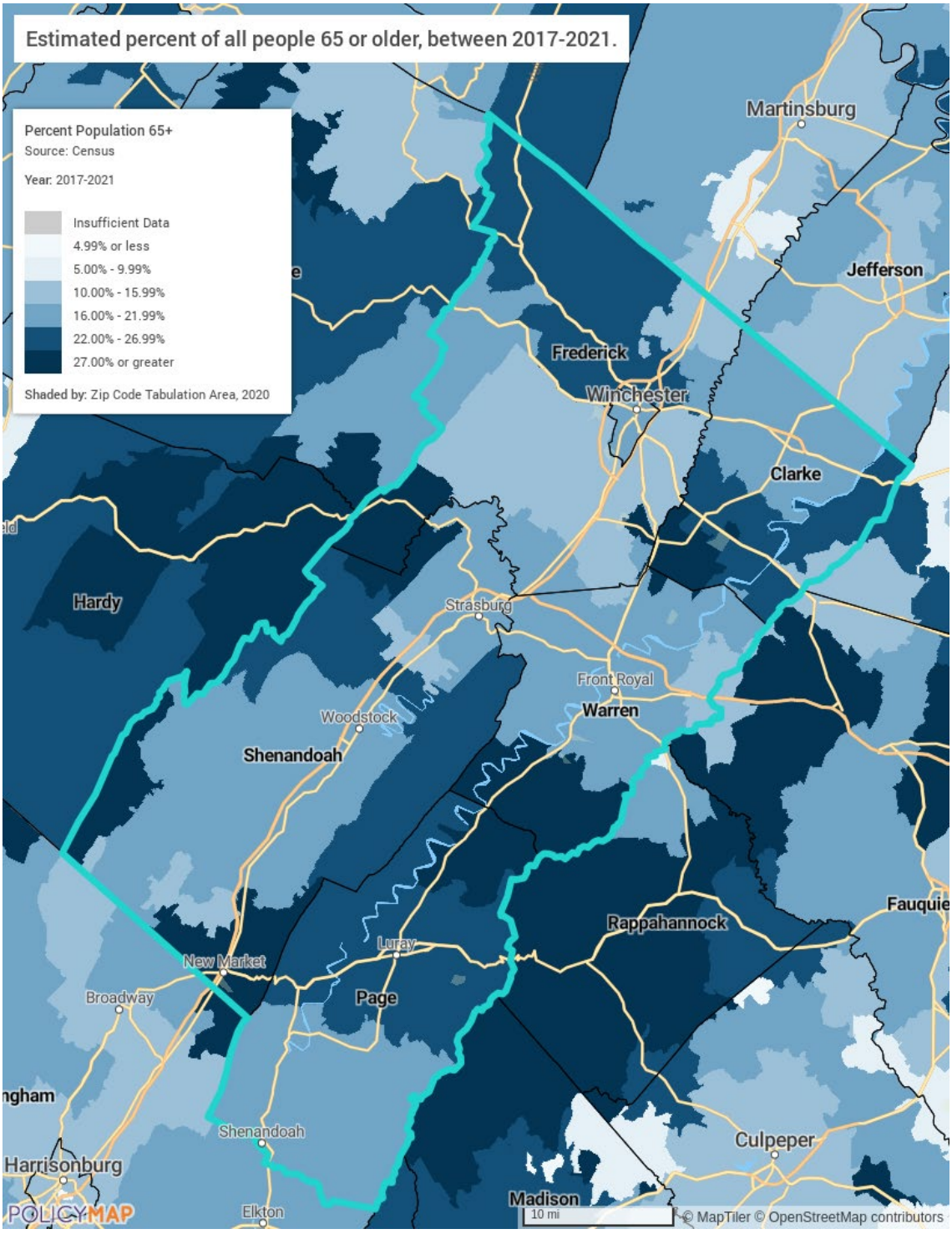
[12] The socioeconomic score indirectly measures the potential for adoption of technology or potential of reinforcing existing inequities by factoring five data variables that are known to reflect the likelihood of adoption of technology: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; (4) percent of noninstitutionalized civilian population with a disability: and (5) internet income ratio measure (IIR).

TARGET POPULATIONS

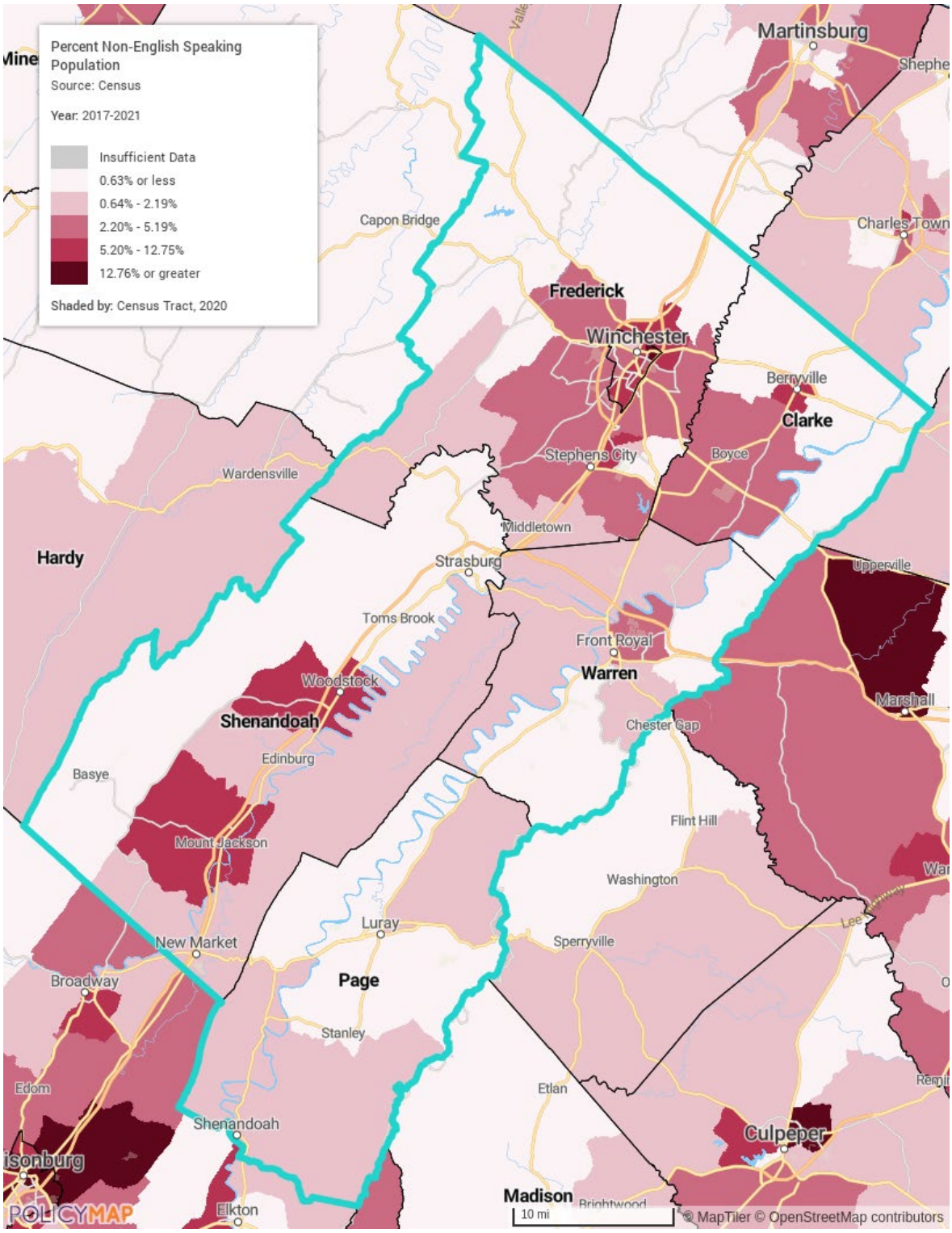
The map shows those without any type of computer. These are the population facing the highest barriers to digital opportunity. Individuals lack computers for a variety of reasons including not knowing how to use them, not being able to afford one, not needing one due to a lack of internet access (also often associated with affordability), and/or not considering them necessary. Lacking a computer is a primary indicator of digital inequity.



Among the specified target populations, the highest priority for receiving services is those in rural areas as they constitute the majority of residents in Northern Shenandoah Valley. The second priority is for those with incomes at or below 150% of poverty. The barriers and needs within the region are based on the limitations of income and geography more than any other characteristic. As with many rural areas, the region has a rapidly aging population making it a crucial target for services. While many of their needs are similar to the population at large, the approach to services for them will be unique.



Although not a large portion of the region, the only other target population requiring a specific approach is those who speak English as a Second Language. As they are often immigrants, many are hesitant to seek government services. Therefore, local nonprofits with established relationships will be required to assist with providing services to them.



IMPLEMENTATION STRATEGY

The first step in the implementation of the regional plan is to identify an organization to serve as the coordinating entity and lead agency for Digital Opportunity efforts in the Region. The Northern Shenandoah Valley Region recommends using the Continuum of Care for Homeless Services as a format. The lead agency organization will be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will receive funding for coordinating activities including, but not limited to:

- establishing the Northern Shenandoah Valley Digital Opportunity Network, a consortium of organizations that meet on a regular basis to discuss Digital Opportunity barriers and opportunities in the region and guide the implementation of the plan;
    - The agency will be responsible for recruiting members representing all areas of the region as well as the following:
        - local governments;
        - planning districts;
        - institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
        - labor organizations;
        - community-based 501c3 organizations; and
        - all organizations providing programs and resources to reduce barriers to Digital Equity.
- directing the bi-annual update of the Digital Opportunity plan; and
- serving as a resource for best practices and technical assistance to other organizations working to address Digital Opportunities in the Community.

As a matter of best practice, future Digital Equity plans will coordinate with local Consolidated Plans to occur on the same schedule and coordinate resources whenever possible. This will help meet the requirements established in 81 FR 90997 in December 2016 requiring that Consolidated Plans for jurisdictions "address the need for broadband access for low- and moderate-income residents in the communities they serve."[13]

COORDINATION WITH KEY PARTNERS AND STAKEHOLDERS

As outlined above, the key partners and stakeholders will be integrated into the Digital Opportunity Plan implementation process through the organized Network as the lead agency, members, or grantees. Through this

[13] https://www.federalregister.gov/documents/2016/12/16/2016-30421/modernizing-huds-consolidated-planning-process-to-narrow-the-digital-divide-and-increase-resilience

organization, all efforts in the region will be coordinated with constant reference made to the plan and an ongoing review of progress.

- The Consortium will be responsible for ensuring activities related to the Digital Opportunity plan are carried out among all parts of the region and reach all targeted populations;
- recommending new programs for funding and coordinating submission of applications to DHCD to ensure that services and funding are distributed throughout the region and to areas and populations of greatest need;

Details about the partners and stakeholders consulted during the planning process are included in the Collaboration and Stakeholder Engagement Section.

PRIORITIES FOR IMPLEMENTATION

ASSESSED IMPORTANCE OF BARRIERS

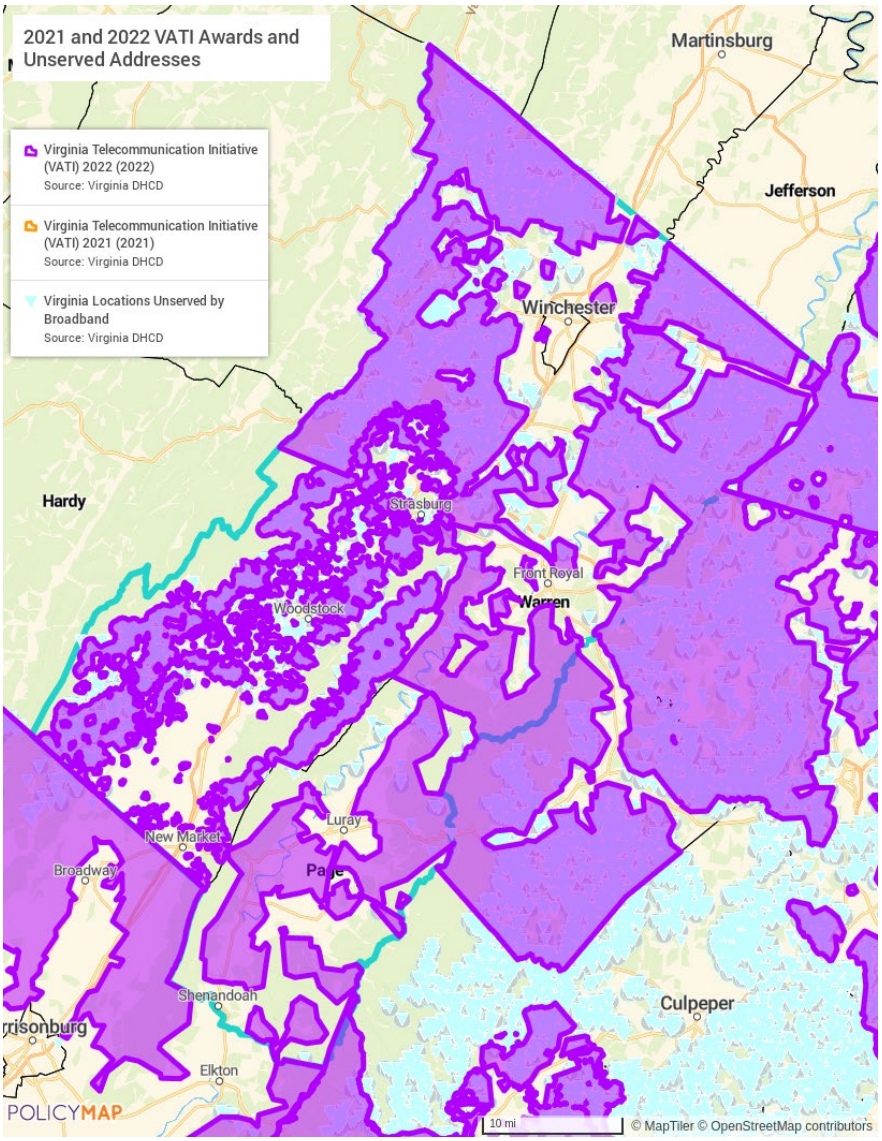
Over the next two years, priorities for the region are focused on:

1. Broadband/Internet Access
2. Digital Literacy
3. Privacy and Cybersecurity
4. Device Access and Affordability
5. Online Accessibility

While many of these issues are seen as interconnected and, as a result, difficult to prioritize, there is some consensus that there is a need to first address Digital Literacy for those who currently have, or could have, access to broadband and a device.

Privacy and Cybersecurity is tightly intertwined with Digital Literacy and is a key element of securing Device Access. However, it is also its own concern, particularly with regards to social media and its impact on children/teens.

Discussions about Digital Opportunity assume the need for expanded infrastructure to increase physical access to high-quality broadband services. This is expected to be a long-term project. Currently, the region is engaged in a VATI project that will cover a significant portion of the geography as identified on the following map.



For many focus group participants, broadband access was their singular focus although many were more immediately concerned about the quality of existing access than expanding access. The map shows the unserved addresses in the region. Given the development patterns and mountainous terrain, many homes will have difficulty gaining access to broadband fiber, which is why residents advocated for alternative forms of internet access such as satellite.

With infrastructure efforts in process that will reach fruition by the time the plan is ready for revision, there is little focus on broadband access in this plan. In two years, the planning process should reconsider the status of unserved households as well as advances in technology to create a new plan to reach 95% accessibility coverage.

The issue of affordability has been addressed separately as it applies to both current and future internet users. However, it has also been moved lower on the priority list for two reasons. The first is the existence of the

Affordable Connectivity Program. The second is the high cost of implementing a subsidy program in the region, regardless of how narrowly it is focused.

CORE ACTIVITIES

In considering the Core Activities to be undertaken to address Digital Opportunities in the region, the plan identifies a Digital Navigator as the first step to coordinating efforts. This is followed by activities in each of the four program areas identified as barriers to equity:[14]

1. Digital Literacy
2. Device Access and Affordability
3. Privacy and Cybersecurity
4. Broadband Access and Affordability

DIGITAL NAVIGATOR

The most vulnerable populations within Northern Shenandoah Valley will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new opportunities as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population within the 1,631 square miles of the region, a Network of Navigators should be established to work with local residents.

To be overseen by the lead agency or another organization selected by RFP, the Digital Navigator Network will consist of a small group of lead Navigators working directly for the county who train and coordinate efforts with a network of Navigators working throughout the county ways that bring them into direct contact with the target populations in a trusting, meaningful way. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.[15]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES

Digital Navigator
• Provide one-on-one technical assistance to clients related to:
  • Selection of technology and internet services
  • Instruction on how to use individual devices
  • Selection of necessary software
	• # of hours of services
	• # of clients served
	• # of clients connected to the internet
	• # of clients who obtain a device
		Eligible Parties include:
		• Lead Agency
		• Community Action Agencies
		• Workforce Agencies
		• Libraries
		• Other regional non-profits

[14] Online Accessibility is addressed in 5.4.1.2 and is, therefore, excluded from additional comment.
[15] This model has been implemented in Orlean County, New York, where they began training Meals on Wheels delivery volunteers. https://orleanshub.com/grant-secured-by-united-way-will-fund-computer-and-digital-literacy-mentors-for-community/
The Patterson Foundation in Southwest Florida also offers a similar program. https://www.thepattersonfoundation.org/digital-navigator-program.html

• Coordinate training programs in the community. • Provide technical assistance over the phone. • Coordinate a marketing campaign related to privacy and cyber-security issues. • Maintain a list of available resources in the community and make referrals as necessary. • Assist in enrollment for Affordable Connectivity Program or other programs available to assist with increasing affordability		

Based on community feedback related to the organizations most likely to be trusted to provide reliable information related to privacy and cyber-security, it is not recommended that government organizations or internet service providers be responsible for providing Digital Navigator services.

ADDRESSING DIGITAL LITERACY

As mentioned previously, digital literacy is closely entwined with cybersecurity and privacy concerns. Proposed activities are also linked to device accessibility.

OBJECTIVE: IMPROVE DIGITAL LITERACY FOR THE REGION'S POPULATION WITH A PRIORITY ON BASIC COMPUTER SKILLS FOLLOWED BY COMPUTER USE FOR ESSENTIAL SERVICES, WORKFORCE NEEDS, AND EDUCATION.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
One-on-one technical assistance to be provided in a variety of locations to make services most convenient for the client including, but not limited to, the client's home, homeless shelters, senior centers, and libraries.	• # of clients assisted • # of problems solved	Digital Navigator
Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs. Classes should be available in a variety of settings that would be most comfortable for the target audience. Settings may include local libraries, community centers, senior centers, public schools, churches, workforce centers, or institutions of higher learning.	• # of classes • # of participants • # of students who pass test • # who complete program	• Libraries • Workforce Agencies • Adult Education programs • Digital Navigator

Intergenerational training classes to match youth and older adults. Resources for these programs include the Cyber-Seniors Program[16] that trains teenagers to be technology mentors to older adults and GenYes[17], which trains students to be tech leaders and teachers.	• # of classes • # of participants • # of youth who complete coursework wo become a trainer	•
Computer training for parents to help them be able to use necessary software for schools and assist their children with homework.	• # of parents trained • Increased engagement of parents in school as identified through increase in emails opened and use of online learning systems	Public Schools
Online classes available for those who have basic computer skills and need additional training to make better use of the internet for workforce, health, or social engagement purposes. Ideally, these classes will build on themselves to lead clients on a path towards a pre-defined goal.	• # who participate • # of hours of classes • # who complete program • # of students who pass tests	• Workforce Agencies • Adult Education programs • Libraries

DECREASE THE NEGATIVE IMPACT OF AND THREATS FROM THE INTERNET

As mentioned previously, many of these issues can be resolved through Digital Literacy training or in the same manner used to address Digital Literacy. However, there are a number of parents in the region who expressed growing concern about the impact of social media on their children and increased access to the internet in general.

Members of focus groups frequently shared stories of older relatives who fell prey to online scams. The potential for this increasing caused concerns about expanded use of the internet, particularly by older adults.

OBJECTIVE: DECREASE THE NEGATIVE IMPACT OF THE INTERNET RESULTING FROM CYBERSECURITY ISSUES AND SOCIAL MEDIA		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Implement a marketing campaign to teach teenagers about the dangers of social media	• # of students who participate • # of resources provided	Public schools
Educate parents about the dangers of social media and how to address these issues with their children	• # of parents who participate • # of resources provided	Public schools

[16] https://cyberseniors.org/
[17] https://www.genyes.org/genyes/

Implement a marketing campaign to educate individuals about the need to protect their privacy online and how to avoid scams	• # of resources provided • # of people reached	Digital Navigator
E-mail blasts or other news distribution detailing popular scams currently occurring	• # of emails sent	• Digital Navigators • Law Enforcement • Libraries
"Open house" technical assistance days at libraries, senior centers, or other venues during which individuals can have their devices scanned for viruses and/or receive free or reduced cost antivirus software.	• # of individuals served • # of services provided	• Digital Navigators • Libraries • Senior Centers • Lead Agency • Local computer repair businesses
Provide free or low-cost antivirus software through a bulk purchase, donation, or Tech Soup	• # of computers protected • Amount of money saved	• Digital Navigator • Digital Equity Lead Agency
Expand existing education programs for students in school about all aspects of online privacy, cybersecurity, and social media protections	• # of students who participate • # of resources provided • # of hours of education • Results of tests/evaluations following completion	• Public Schools
Develop online education videos where people can learn on their own	• # of videos created • # of times watched	• Digital Navigator • Libraries • Public Schools • Law Enforcement Agencies

INCREASING ACCESS TO DEVICES SUITABLE FOR USING THE INTERNET

Focus group participants consistently reported that the lack of an actual computer or tablet was a significant barrier for individuals as it is not adequate for those needing to do tasks such as completing an employment application, participating in an online class, completing homework, filling out online forms, or engaging in many online essential services.

The general consensus among partners is that it is necessary to get devices directly into the hands of the individuals who need them. There is also a strong preference for programs that provide devices outright rather than loan them as loan programs are difficult to manage and there are some associated security issues with people sharing the use of a computer.

However, there is also understanding that providing devices to the large number of people in need is cost prohibitive so making more computers publicly accessible is a necessary step. This is especially useful for individuals who are just learning how to use a computer. Therefore, device access programs should initially be developed on a small scale and targeted to those with a specific need.

OBJECTIVE: INCREASE ACCESS TO TABLETS OR COMPUTERS FOR INDIVIDUALS WHO NEED A MORE ADEQUATE DIGITAL DEVICE TO USE THE INTERNET FOR HEALTHCARE, WORKFORCE, OR ESSENTIAL SERVICE USES.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Develop a list of available computer resource centers in the community for referral.	# of referrals made	Digital Navigator
Expand number of computers available for Workforce Agencies to loan or give to clients.	# of clients served	Workforce Agencies
Develop Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.	• # of classes • # of participants • # of students who pass test • # who complete program • # who purchase a computer	• Workforce Agencies • Adult Education programs • Digital Navigator • Libraries
Develop partnerships with national device refurbishment and distribution programs. https://planitroi.com/ https://www.techsoup.org/refurbished-computers https://www.pcsforpeople.org/ https://digitunity.org/get-involved/receive-equipment/ https://www.sagese.com/good-together	• # of computers distributed • # of households served	• Lead Agency • Digital Navigator • Community Anchor Institutions • Adult Education Programs • Workforce Agencies
Expand the VA Star program into Shenandoah and Warren counties. The program creates a partnership with the local schools to teach students to repair donated computers and redistribute them to pre-qualified clients in need.[18] The program is currently available in Clarke, Frederick, and Page counties and the City of Winchester.[19]	• # of students engaged in training classes • # of computers repaired • # of recipients	• Public Schools • Human Services providers of Digital Equity Consortium • Departments of Social Services

INCREASE INTERNET ACCESS AND AFFORDABILITY

Stakeholders, particularly in Shenandoah County, were more concerned about the quality of the existing internet infrastructure than expansion of access. Competition to drive down prices and improve quality was

[18] In the Statewide Recommendations section, the VA STAR program is recommended as a program to develop in every school district. In addition, a comparable program for community colleges is recommended. These would have a large impact in the local region, but require a significant investment of time, funds, and technical skills in developing the curriculum that make them difficult to implement at the regional level. https://vastar.org/

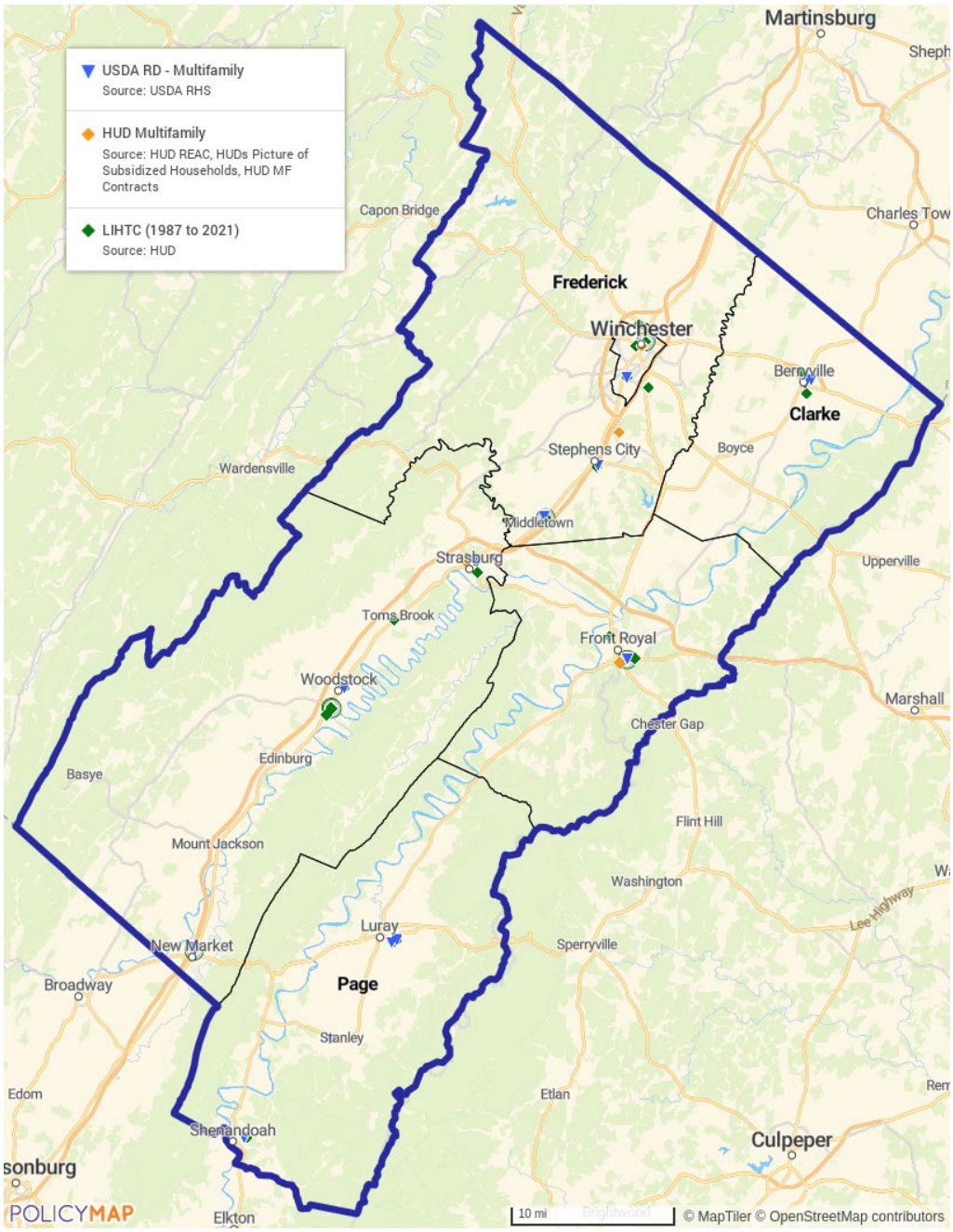
[19] https://www.vastar.org/participating-districts/

promoted as the best solution to local problems to address these needs. With no competition, existing companies have no incentive to lower prices or improve service.

With regards to access expansion, stakeholders promoted the idea of non-broadband solutions to reach those in the most difficult to reach locations. Options to expand access through increased Wi-Fi hotspots and other centralized locations were dismissed due to transportation concerns and the time it would take to travel to and from the location.

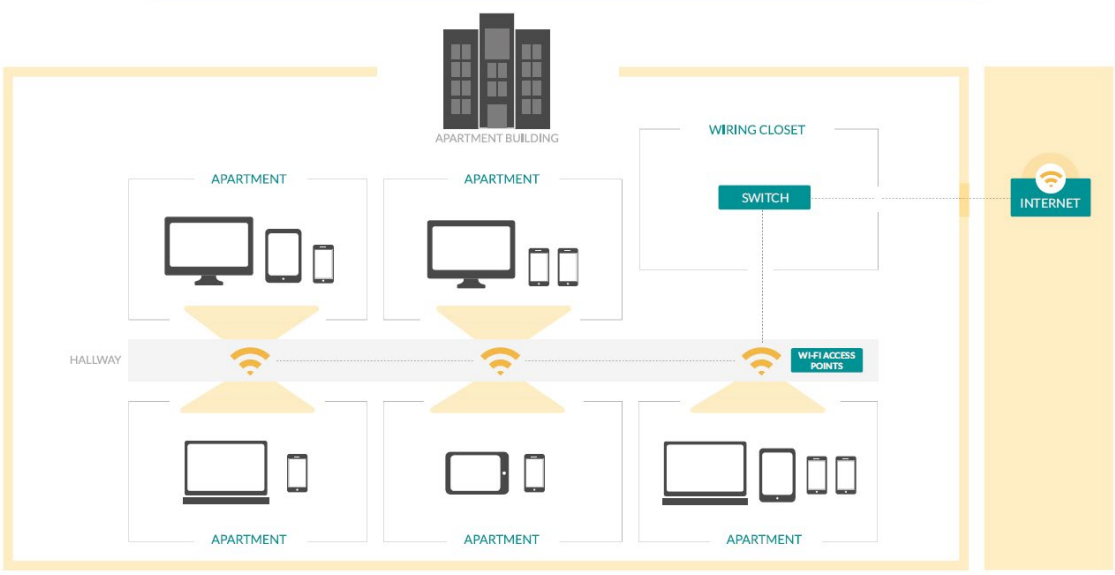
Due to the high cost of addressing these issues, access and affordability measures were identified as a lower priority for the initial phase of the plan while the existing VATI projects are completed, and impact assessed. However, there are two activities that can be undertaken in the short-term. The first is outreach and enrollment efforts for the ACP, which should be a key function of the Digital Navigator Network. The second is the installation of Wi-Fi infrastructure in affordable housing rental communities.

Installing internet services in affordable housing rental communities is the most expedient and effective means of increasing access and affordability in the short term. This method allows for expansion of service to the targeted low-income population with a sustainable method for maintaining the service after the initial investment. The map shows the locations of apartments that might be eligible for such a program.



Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as residents can then be supplied with service for free or at a reduced cost. Methodology for this is illustrated in a graphic designed by Education Superhighway for their publication, "Closing the Digital Divide with Free Apartment Wi-Fi." They propose a structure modeled after the installation of services in hotels as illustrated in the following graphic. [20]

[20] https://www.educationsuperhighway.org/free-apartment-Wi-Fi/



The guide from Education Superhighway recommends these steps:

1. Activate an Internet connection in the building. This can be purchased from a local Internet service provider, or the city can leverage the Internet access it uses to connect city facilities by extending its network to apartment buildings using a wired or wireless wide area network.
2. Install Wi-Fi infrastructure in the apartment building. This step involves simply wiring hallways and common areas for Wi-Fi access points and then configuring the network.
3. Provide residents with the SSID and password to connect to the Internet. Residents can also be given a unique username and password for enhanced security.

Depending on the availability of hardware, funding, and permits, the installation process can take as little as two months. In the end, the networks can supply symmetrical speeds far exceeding FCC guidelines making this not only an affordable option bit an expedient one as well.

Rural LISC has also developed resources to promote this path to access and affordability It includes models for financing and case studies.[21]

OBJECTIVE: INCREASE ACCESS TO AFFORDABLE, HIGH-QUALITY BROADBAND SERVICE		
SHORT-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Conduct outreach about ACP and other resources available to assist with affordability of internet access	• # of people reached • # of people enrolled in ACP	• Digital Navigator • Digital Equity Consortium
Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost.	• # of units served • Cost savings compared to individual per-unit subsidies	• Local governments • DHCD • VHDA • Apartment owners
MEDIUM-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**

[21] https://www.lisc.org/rural/our-work/broadband-infrastructure/resources/broadband-resources-affordable-housing/

Develop subsidies for individuals identified as high priority including parents with children in school, individuals engaged in workforce programs, individuals enrolled in education programs.	• # of individuals/households served • # of households able to sustain internet connection after 6 months, 1 year	• Digital Navigator • Community Action Agencies • Department of Social Services • Workforce Agencies • Institutions of higher learning
Increase competition among providers to decrease costs and increase quality.	• % decrease in price • Increase in internet speed • Decrease in wait time for installation Decrease in wait time for service calls	• Local governments • Internet Service Providers
Increase access to non-broadband internet options include low-orbit satellite and fixed satellite.	# of new households connected	• Local governments • Internet Service Providers
Expand infrastructure to fill gaps in service.	# of new households connected	• Local governments • Internet Service Providers

ONLINE ACCESSIBILITY

While partners and stakeholders agree that there are issues related to Online Accessibility, there was also consensus that little could be done to address the issue on a regional basis. It is also a low priority with regards to funding efforts. Recommendations that may be implemented by local governments, non-profits, schools, and other providers of public services include:

- Use language that is written at a lower grade level.
- Use a design that can be read on a phone or tablet.
- Provide information boxes that will pop-up to guide users through a process.
- Create a website that is in keeping with ADA requirements, particularly for standards to accommodate those who are deaf, blind, or have difficulty seeing.
- Ensure that websites can be adequately translated by Google translate if it is not available in multiple languages.
- Conduct regular website accessibility audits and make changes accordingly.
- Increase options for contacting people and completing paperwork online while still leaving the option for phone and mail service.

TIMELINE

The timeline for implementation of the plan will begin once the Lead Agency has been selected. After that, activities will occur based on the following timeline:

PLAN MONTH	ACTIVITY
1-3	Establish Digital Navigator Network
2-5	Solicit proposals for digital literacy and cyber security/privacy activities
6-8	Award funds and begin implementation of digital literacy and cyber security/privacy activities

	Begin training and funding of Digital Navigators to expand Network throughout the region.
4-8	Solicit proposals for digital access and broadband access activities
8-11	Award funds and begin implementation of digital access and broadband access activities
12-14	Begin six-month review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
16-18	Begin six-month review of digital access and broadband access activities
18-20	Begin annual review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
20-22	Conduct update to Digital Opportunity Plan
24-26	Begin annual review of digital access and broadband access activities

MECHANISMS FOR PLAN UPDATE

The designated lead agency described in the Implementation Section will have primary responsibility for updating the plan on a bi-annual basis. However, this, and all other work regarding the plan's implementation and monitoring of progress will be done with the coordination of the key partners and stakeholders in the Northern Shenandoah Valley Digital Opportunity Network.

The plan will be evaluated on at least a semi-annual basis to determine:

- if efforts are being made in all regions and for target populations;
- what changes might need to be made to improve the reach of activities,
- what programs and services need to be abandoned, expanded, or improved; and
- what new programs should be added next to address the most pressing barriers to Digital Opportunity.

STATEWIDE ACTIVITIES

Many of the barriers and solutions to digital opportunities in the region require decisions and actions to be made at the state level. To that point, the regional planning team recommends the following:

INTERNET ACCESS AND AFFORDABILITY

- Because the most rural regions of the state will be the most expensive to serve, broadband infrastructure allocations should be based on need as defined by the percentage of with access to the internet and the percentage of high-risk target populations (prioritizing areas with high poverty rates) rather than financial metrics. Understanding that rural areas have less money to invest and are a larger financial risk for Internet Service Providers, these areas should not be required to provide matching funds for VATI or BEAD allocations.
- Provide funding from state or federal resources for installation of non-broadband internet access such as satellite to provide more immediate access to internet for residents in the most remote areas of the commonwealth.
- Work with the Virginia Housing Alliance to provide funding for affordable housing developers to install mesh Wi-Fi networks to provide access to residents of existing and future properties. Prioritize funding for developments in Persistent Poverty Counties and Title I school districts.

- Work with community colleges to develop a workforce trained to install the necessary broadband infrastructure.
- Create a statewide referral system or work with Everyone On[22] to maintain accurate information related to options for low-cost internet access, devices, and digital literacy training.[23]

DEVICE ACCESS AND AFFORDABILITY

- Expand the VA STAR program to at least one school in every district across the state as interest and capacity allow.
- Work with Virginia community colleges to develop a training program for computer repair that can also be used as a redistribution source and dual enrollment program for high school students.
- Provide supplemental funding for VPI and Head Start programs to provide tablets to families to increase parent engagement.

ONLINE ACCESSIBILITY

- Update state websites for website accessibility standards. Conduct bi-annual audits.
- Provide technical assistance and resources for local government agencies to update their website to meet accessibility standards.

[22] https://www.everyoneon.org/find-offers
[23] The state of Wisconsin recently announced the creation of an online system to provide these services. (https://content.govdelivery.com/accounts/WIGOV/bulletins/36760f5). It has the added benefit of providing residents with information about other available resources in the state. It can be found online at https://apps.psc.wi.gov/InternetDiscountFinder

CONCLUSION

KEY POINTS

DIGITAL OPPORTUNITY DEFINITION AND VISION

The Northern Shenandoah Valley Region embraces the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

While recognizing that this is a suitable definition of Digital Opportunity overall, the stakeholders in Northern Shenandoah Valley understand that there are more distinct needs within the region that must be considered. Needs and desires to access the internet vary widely and Digital Opportunity efforts needs to reflect this.

The Vision for Digital Opportunity in the Northern Shenandoah Valley is:

The digital world will provide equal access for local residents to the same opportunities for employment and services, including telehealth. Residents will not be restrained by a lack of transportation, a disability, or income when engaging in the economy or society at large.

FINDINGS

Despite the large geography and variety of attendees, the barriers to digital equity are similar for all target populations in the Northern Shenandoah Valley region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Access and Affordability
2. Digital Literacy
3. Privacy and Cybersecurity
4. Device Access and Affordability
5. Online Accessibility

BROADBAND ACCESS

- Families need sufficient internet access (both quality and quantity) to fulfill requirements for both school and employment.
    - Households in the region need continued expansion of broadband infrastructure in order to provide basic access to the internet.
    - Households need access to more viable options than broadband to secure internet access in a more timely and cost-efficient manner. Waiting two or more years for a company to lay fiber to a single house miles away from existing lines does not seem like a desirable solution.
- Households need high-quality internet for individuals to be able to work from home as many positions require a specific upload/download speed be available before a person can be hired.
- "Centralized locations" such as a library or other venue for computer/internet access or to take a class are insufficient to meet the needs of residents in rural areas who still need to travel 20 minutes or more to reach those areas.

DIGITAL LITERACY

- Individuals need an opportunity to learn about technology in a way that alleviates their fears and embarrassment.
- Individuals need unbiased, reliable assistance to identify the technology they need and/or the internet options available to them.
- Individuals need to how to use essential online services such as banking and health charts, which are increasingly becoming accessible online only.
- Parents need more technology skills to assist their children with school and stay current with school communications.
- Individuals need to learn more about how to use a computer and the internet to participate in telehealth appointments.
- Individuals need a trusted, reliable resource they can contact for assistance with their computer.

DEVICE ACCESS

- Individuals need access to the internet and a computer in order to apply for jobs.
- Individuals need high-quality internet and a computer at home to be able to work from home or operate a business.
- Individuals need a device other than their smartphone to access the internet.

PRIVACY AND CYBER-SECURITY

- Children need to be protected from cyber-bullies and online predators.
- Individuals need to be sure their personal information is safe when they are online.
- Older adults need to be protected from online scams.

BROADBAND AFFORDABILITY

- Families need assistance applying for the ACP internet subsidy program as it is too complicated to navigate. Many families are not even aware of the program.
- Individuals and households need an affordable internet connection option.
- Families need choices of internet providers to improve cost and quality.

ONLINE ACCESSIBILITY

- Residents need to be able to complete more forms online in order to be more efficient with their time.
- Government websites need to be monitored to ensure all links and webpages are current and active.
- Individuals with disabilities need websites to be reviewed for accessibility, specifically related to font size and readability.

MOVING FORWARD

Implementation should occur in a multi-stage process beginning with the selection of a lead agency that will coordinate work between stakeholders, monitor progress in meeting plan goals, and assume responsibility for maintaining and updating the plan bi-annually.

The second stage should be implementation of a Digital Navigator Network within the region. It is the single solution to the most common barriers for residents. The Navigator can work one-on-one with residents to help them meet their specific needs whether that be accessing the Affordable Connectivity Plan, identifying the type of device they need, learning how to use their specific device, or referring them to resources available in the community.

Finally, resources should be directed to meet the needs of target populations as prioritized, based on the significance of the barrier, and the ability of the solution to create Digital Opportunities in the short-term.

IMPACT ON DIGITAL OPPORTUNITY IN THE REGION

GOALS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. Develop a cohesive, coordinated regional approach to promoting digital opportunities.
2. Provide comprehensive technical support and training to meet the specific individual needs of the local population.
3. Promote Digital Opportunities in a way that creates the greatest immediate impact.
4. Address the long-term needs of the community.

FUTURE IMPACT

In Northern Shenandoah Valley, Digital Opportunity is expected to allow residents to have equal access to the workforce, healthcare, and essential services unburdened by the restrictions of transportation and childcare limitations. All residents will have the access and skills to use the internet as needed and desired. This will, in turn:

- Improve employability, incomes, and employment;
- Increase the number of people receiving regular healthcare services;
- Improve educational outcomes and education levels;
- Decrease social isolation;
- Expand engagement in the community; and
- Enhance access to essential services and resources.

These results must be achieved while maintaining a safe, secure online environment for children and adults that does not open them up to the risk of identity theft, scams, or other online predators.

APPENDICES

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

B. ASSET INVENTORY

C. COMMUNITY ENGAGEMENT TRACKER

D. LIST OF ORGANIZATIONS

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

The Digital Divide Index was developed by the Center for Regional Development at Purdue University[24] to provide a quick overview of the factors impacting the Digital Divide in the U.S. The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. It is based on z-scores normalized to 0-100 for each geography. For the analysis presented here, the geography is the Commonwealth of Virginia. The numbers presented in the main body of the report were indexed nationally and, therefore, differ from these.

The data on the table is sorted by Socioeconomic Index as the Infrastructure Index will be greatly impacted by the VATI projects currently underway. This analysis is for 2021 and does not take that into account. The Socioeconomic Index Score indirectly measures the potential for technology adopting using considers the following factors, known have an impact:

1. percent population ages 65 and over;
2. percent population 25 and over with less than high school;
3. individual poverty rate;
4. percent of noninstitutionalized civilian population with a disability: and
5. digital inequality or internet income ratio measure (IIR).

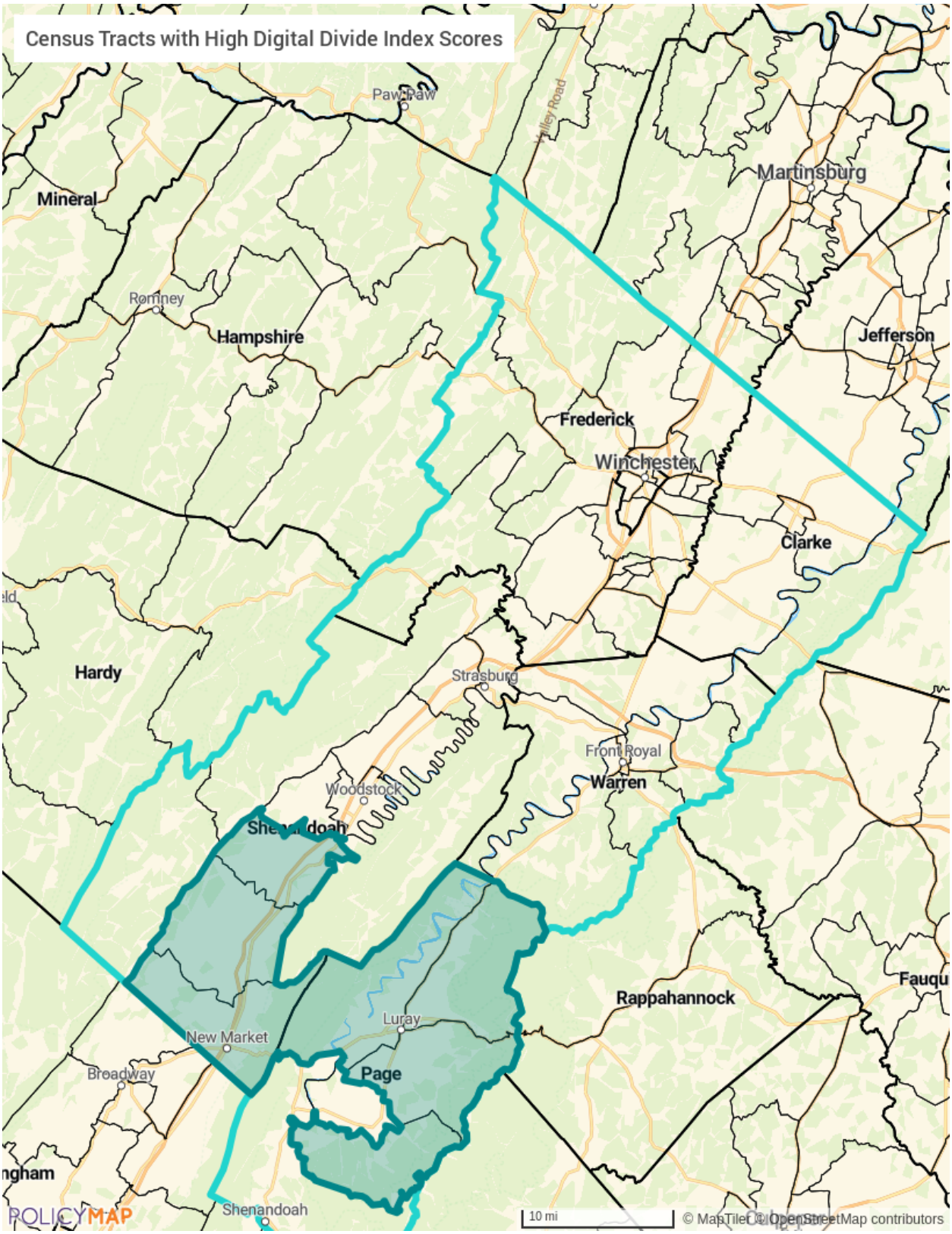
The Infrastructure Index considers the following variables related to broadband infrastructure and adoption:

1. percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset;
2. percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.);
3. percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests)
4. download and speeds in Megabits per second (Mbps)
5. (5) upload speeds in Megabits per second (Mbps)

VIRGINIA DIGITAL DIVIDE INDEX BY CENSUS TRACT

The map on the following page shows the Census Tracts in the Northern Shenandoah Valley and highlights the four in Page County and three in Shenandoah County that have a high Socioeconomic Index Score (over 50).

[24] Gallardo, R. (2023). Digital Divide Index. PURDUE CENTER FOR REGIONAL DEVELOPMENT. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi


Census Tracts with High Digital Divide Index Scores
Pawpaw
Valley Road
Martinsburg
Mineral
Romney
Hampshire
Jefferson
Frederick
Winchester
Clarke
Hardy
Strasburg
Front Royal
Warren
Woodstock
Rappahannock
Luray
New Market
Page
Broadway
Shenandoah
POLICYMAP
10 mi
© MapTiler © OpenStreetMap contributors

Census Tract	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
51043010101	Clarke	45.67	27.22	42.94
51043010200	Clarke	28.81	30.38	33.25
51043010300	Clarke	24.30	32.32	31.20
51043010102	Clarke	18.16	35.68	28.74
51069051102	Frederick	38.03	48.89	48.39
51069050402	Frederick	38.84	45.75	47.40
51069050500	Frederick	36.03	49.54	47.38
51069050700	Frederick	34.43	45.77	44.47
51069050200	Frederick	29.27	49.92	43.06
51069050900	Frederick	32.87	39.95	40.61
51069051002	Frederick	30.52	38.01	38.10
51069050300	Frederick	27.73	36.22	35.38
51069050801	Frederick	32.76	22.65	32.12
51069050600	Frederick	22.70	34.86	31.37
51069050401	Frederick	21.61	35.09	30.75
51069050807	Frederick	30.14	23.30	30.70
51069050804	Frederick	25.74	27.79	29.95
51069050100	Frederick	25.43	24.05	27.92
51069050806	Frederick	32.38	8.69	25.08
51069051103	Frederick	24.84	15.43	23.34
51069051001	Frederick	18.44	20.34	21.47
51069051104	Frederick	22.10	7.47	17.64
51069050805	Frederick	12.53	15.59	15.22
51139030401	Page	59.31	84.43	79.84
51139030300	Page	34.89	62.82	53.08
51139030200	Page	40.77	53.51	52.46
51139030100	Page	43.98	46.74	51.30
51139030500	Page	40.76	47.86	49.71
51139030402	Page	37.33	42.56	44.84
51171040700	Shenandoah	67.01	51.87	69.12
51171040800	Shenandoah	46.22	47.53	53.18
51171040600	Shenandoah	35.69	55.56	50.07
51171040501	Shenandoah	42.33	40.71	47.27
51171040502	Shenandoah	35.07	49.16	46.55
51171040300	Shenandoah	31.59	49.33	44.32
51171040101	Shenandoah	28.35	52.37	43.64
51171040400	Shenandoah	30.27	42.86	40.29
51171040201	Shenandoah	34.93	35.07	39.61
51171040102	Shenandoah	27.43	44.88	39.39
51171040202	Shenandoah	31.70	38.86	39.30
51187020700	Warren	31.57	38.69	39.13
51187020400	Warren	38.11	27.97	38.27
51187020500	Warren	36.25	24.24	35.21
51187020602	Warren	33.18	28.05	35.02
51187020300	Warren	31.17	30.20	34.73
51187020200	Warren	24.65	31.17	30.87
51187020601	Warren	29.30	19.07	28.08
51187020102	Warren	21.31	20.57	23.49
51187020101	Warren	18.25	22.48	22.38
51840000102	Winchester	37.44	42.15	44.72
51840000101	Winchester	33.90	32.92	37.87

51840000302	Winchester	31.20	36.22	37.68
51840000301	Winchester	39.26	17.34	33.86
51840000201	Winchester	28.40	23.46	29.61
51840000202	Winchester	28.45	13.47	24.79

VIRGINIA DIGITAL DIVIDE INDEX BY COUNTY

The following table ranks all jurisdictions within the Commonwealth. It is sorted by Digital Divide Index.

State Rank	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
1	Buchanan	100.00	67.27	100.00
2	Lunenburg	57.32	100.00	92.26
3	Dickenson	85.80	68.71	92.05
4	Emporia city	96.30	57.05	91.90
5	Russell	74.58	77.56	90.15
6	Scott	77.08	73.09	89.16
7	Halifax	60.66	86.10	86.42
8	Lee	79.80	63.74	85.52
9	Greensville	80.08	60.45	83.82
10	Brunswick	75.69	64.01	83.13
11	Charlotte	62.34	78.30	83.02
12	Mecklenburg	62.15	76.76	82.03
13	Nottoway	53.47	81.48	79.36
14	Lancaster	62.17	71.90	79.28
15	Floyd	76.37	51.83	76.63
16	Wise	71.22	56.81	76.28
17	Amelia	64.06	61.56	74.57
18	Henry	60.21	65.38	74.36
19	Highland	58.78	66.82	74.30
20	Bath	62.05	63.06	74.18
21	Grayson	61.55	62.72	73.67
22	Bland	39.93	85.95	73.55
23	Franklin city	67.33	56.19	73.53
24	Patrick	54.94	69.21	73.28
25	Carroll	57.84	65.52	72.98
26	Pittsylvania	57.77	64.75	72.49
27	Middlesex	55.91	66.22	72.19
28	Buckingham	51.29	71.14	72.13
29	**Page**	**54.16**	**67.81**	**72.01**
30	Northumberland	71.16	49.30	71.98
31	Charles City	59.67	60.58	71.30
32	Northampton	66.88	52.26	71.01
33	Richmond	58.98	60.84	71.01
34	Danville city	60.22	58.70	70.56
35	Prince Edward	49.87	69.91	70.56
36	Smyth	62.37	55.30	69.96
37	Accomack	56.76	58.79	68.48
38	Surry	58.73	56.40	68.34
39	Westmoreland	64.18	48.53	67.22
40	Galax city	66.18	44.73	66.30
41	Petersburg city	61.60	48.67	65.71

42	Tazewell	60.01	49.99	65.48
43	Norton city	64.92	43.32	64.72
44	Buena Vista city	57.07	51.51	64.53
45	Pulaski	50.35	56.94	63.47
46	Wythe	46.58	60.32	63.06
47	Essex	50.81	55.61	63.00
48	Sussex	46.81	59.63	62.82
49	Alleghany	58.46	45.62	62.04
50	King and Queen	39.02	66.10	61.68
51	Mathews	50.01	53.82	61.49
52	Franklin	42.95	59.27	60.23
53	**Shenandoah**	**44.38**	**56.51**	**59.54**
54	Martinsville city	54.76	44.99	59.40
55	Washington	52.58	46.59	58.96
56	Hopewell city	57.79	39.98	58.42
57	Bristol city	55.99	41.44	58.13
58	Southampton	43.82	54.27	57.92
59	Nelson	52.54	41.06	55.79
60	Rockbridge	48.26	44.50	55.11
61	Amherst	41.37	49.89	53.92
62	Radford city	45.26	45.34	53.73
63	Louisa	45.59	41.43	51.71
64	Dinwiddie	37.38	49.62	51.30
65	Campbell	32.39	54.78	51.16
66	Craig	42.96	43.11	51.04
67	Covington city	53.02	32.10	50.99
68	Madison	40.21	45.77	50.86
69	Cumberland	36.34	47.98	49.73
70	Gloucester	40.00	40.33	47.63
71	Appomattox	37.70	42.83	47.63
72	Giles	37.30	42.32	47.10
73	Isle of Wight	31.16	48.84	47.01
74	Rockingham	31.19	47.05	46.02
75	Augusta	33.51	43.16	45.24
76	Colonial Heights city	33.65	42.97	45.22
77	Bedford	31.05	45.38	44.98
78	Roanoke city	37.30	37.65	44.44
79	Rappahannock	32.02	42.51	43.95
80	Goochland	40.72	32.75	43.77
81	Waynesboro city	44.09	27.64	42.94
82	Orange	39.49	30.95	41.98
83	Norfolk city	33.35	37.54	41.94
84	Portsmouth city	40.53	28.13	41.02
85	Suffolk city	29.18	40.31	40.94
86	Caroline	31.21	37.97	40.87
87	Greene	30.35	38.41	40.59
88	**Frederick**	**30.43**	**38.28**	**40.56**
89	**Clarke**	**31.25**	**37.36**	**40.55**
90	Roanoke	28.19	40.27	40.31
91	**Winchester city**	**36.16**	**29.93**	**39.35**
92	**Warren**	**34.32**	**31.59**	**39.16**
93	Botetourt	26.84	39.13	38.83

94	Montgomery	31.60	33.77	38.72
95	New Kent	28.24	36.99	38.47
96	Staunton city	34.09	28.79	37.42
97	James City	32.89	29.68	37.18
98	Lynchburg city	32.69	28.94	36.64
99	Richmond city	36.70	23.56	36.06
100	Prince George	27.38	30.52	34.26
101	Lexington city	33.10	23.97	34.06
102	Harrisonburg city	37.53	18.21	33.53
103	Hampton city	34.81	21.03	33.45
104	King William	16.72	39.00	32.51
105	Culpeper	25.63	29.31	32.50
106	Williamsburg city	24.32	29.58	31.84
107	Hanover	19.05	33.47	30.80
108	Albemarle	20.81	30.29	30.08
109	Fauquier	17.55	32.90	29.55
110	Fluvanna	20.32	28.57	28.79
111	Powhatan	22.67	25.35	28.42
112	Newport News city	28.26	17.86	27.60
113	King George	23.05	22.89	27.25
114	Henrico	29.49	15.60	27.08
115	Salem city	22.17	22.20	26.31
116	Manassas Park city	36.65	4.79	25.35
117	Poquoson city	29.22	12.56	25.18
118	Charlottesville city	25.18	15.61	24.43
119	Fairfax city	32.84	2.89	21.92
120	Alexandria city	14.55	22.64	21.86
121	Fredericksburg city	22.11	14.30	21.78
122	York	21.07	14.28	21.13
123	Spotsylvania	23.34	11.78	21.11
124	Chesapeake city	20.67	14.48	21.00
125	Virginia Beach city	20.57	14.17	20.76
126	Chesterfield	22.01	11.38	20.06
127	Manassas city	18.16	6.35	14.82
128	Stafford	16.21	6.71	13.82
129	Arlington	13.50	7.16	12.41
130	Fairfax	16.66	3.49	12.27
131	Prince William	12.58	3.11	9.53
132	Loudoun	5.17	4.31	5.64
133	Falls Church city	0.00	0.00	0.00

B. ASSET INVENTORY

Organization Name	Contact	Type of Resource	Description	Geography Served	Targeted Populations
Frederick County Public Schools www.frederickcountyschoolsva.net		Wi-Fi hotspot	Frederick County provides students with Chromebooks, if students do not have access to internet at home, they can borrow a hotspot for the school year. The hotspot connects to the FCPS device/Chromebook	Frederick	
Handley Regional Library handleyregional.org	Kylie Olohan kolohan@handleyregional.og	computer access	In house computers with free Wi-Fi as well as 36 hotspots that can be checked out to homes.	Winchester	Residents of rural areas
Laurel Ridge Community College Adult Education laurelridge.edu/adulted	Justin Thurston jthurston@laurelridge.edu	technical support, computer access, computer loan, computer classes/workshops	Laurel Ridge Community College Adult Education programs exists to help students in our area build skills that can help them find employment or improve their daily lives. We offer classes for ESL, GED, and Civics. We also offer custom workplace classes in association with local businesses. We have a classroom set of Chromebooks (360 in total, plus 40 Windows laptops) at each of our locations. All of our classes incorporate training in digital skills. We do not currently have any classes that are specifically for computer/technology skills. We also occasionally loan computers to students who need them for classes. P.S., Please change this question type to long text.	Winchester, Warren, Shenandoah, Frederick, Clarke, Page	English language learners, Individuals with low levels of literacy, Incarcerated individuals
Laurel Ridge Community College Libraries laurelridge.libguides.com/home	David Gray dgray@laurelridge.edu	computer loan, Wi-Fi hotspot, Wi-Fi access, computer access	Our libraries at both campuses (Middletown and Warrenton) are open to residents of our service area. We have computers that may be used by the public during open library hours. However, the college will soon require student account logins for all but a handful of computers - maybe 3 or 4 at each campus library. Only those handful would be available for public use. We do loan 25 Wi-Fi hotspots and 75 laptop	Clarke, Fauquier, Frederick, Page, Shenandoah, Warren, Winchester	

			computers that students can check out for the semester, but those are only available to currently enrolled students. They are not loaned to the public.		
Literacy Volunteers Winchester Area www.lvwa.org	Amanda Brumbaugh abrumbaugh@lvwa.org	computer classes/workshops	We offer digital literacy classes throughout the year. There is a $25 application fee and students use our computer lab for classes. They include classes for Microsoft Office as well as computer basics.	Winchester, Frederick, Clarke	English language learners, Individuals living in households below 150% of the poverty level, Individuals with disabilities, Individuals with low levels of literacy, Older population, Other, Racial or ethnic minorities, Residents of rural areas, Veterans
Massanutten Regional Library - Page County mrlib.org/about-us/locations-hours.html		Wi-Fi access		Page	
Samuels Public Library www.samuelslibrary.net	Michelle Ross mross@samuelslibrary.net	computer access, technical support, Wi-Fi access, Wi-Fi hotspot, computer loan, computer classes/workshops	As a public library, Samuels Library offers free access to computers, internet, and Wi-Fi to help bridge the digital divide. Access to public computers and internet does not require a library card. Samuels Library also offers laptop and Wi-Fi hotspot lending to Warren County cardholders, this particular initiative was made possible through grants from Walmart and the Truist Foundation. Library staff offer one-on-one technology assistance. Staff also lead a monthly drop-in program called "What the Tech?!" to help the public with technology questions they may have.	Warren	
Shenandoah County www.shenandoahcountyva.us	Jenna French jfrench@shenandoahcountyva.us	broadband expansion	VATI Grant through DHCD enabling the county to work with Shentel to extend broadband service to areas not currently served.	Shenandoah	Residents of rural areas
Shenandoah County Library www.countylib.org/request-tech-help.html	David Robinson drobinson@countylib.org	technical support, computer access, Wi-Fi access	tech help at the library is free and open to all demographics by appointment	Shenandoah	

Shenandoah Valley Workforce Development Board vcwvalley.com	Sharon Johnson sjohnson@vcwvalley.com	computer access, free or reduced cost computers, computer classes/workshops	The WDB can provide laptops and peripheral accessories as necessary for clients as needed for training programs. Digital Literacy training is provided through CareerScope and Career Edge. Classes are provided at a variety of locations throughout the region at various times and on different days.	Clarke, Page, Shenandoah, Winchester, Warren	Individuals living in households below 150% of the poverty level, Residents of rural areas, Individuals with low levels of literacy, Individuals with disabilities
Skyline Literacy www.skylineliteracy.org	Nelly Moreno Shenk nshenk@skylineliteracy.org	computer classes/workshops	Provide Digital Literacy training using NorthStar and the assistance of a dedicated instructor.	Page, Shenandoah	English language learners, Individuals living in households below 150% of the poverty level, Individuals with low levels of literacy, Residents of rural areas, Racial or ethnic minorities

C. COMMUNITY ENGAGEMENT TRACKER

Regional Digital Opportunity Plan: Stakeholder Engagement Tracker

Engagment Title/Description	Engagement Date	Engagement Type	Engagement Location	Target Audience	Target Audience Location	Target Audience County	# Engaged	Covered Populations Reached								Notes
								Which covered populations did you engage?								
Include a brief title of the engagement *(Example: Community Outreach Listening Session #1)*	*Enter the date as MM/DD/YYYY*	*Include the type of stakeholder engagement that occurred, using the dropdown list*	*If applicable, please include the physical address of where the engagement took place*	*Who was the engagement for?* *(Example: Covered Populations, Regional Listening Session, etc.)*	*Is this local, regional, or statewide engagement?*	*If available, indicate which counties will be represented by this engagement*	*How many people were engaged?* *(Example: # of people who attended the event, completed the survey, etc.)*	Individuals who live in covered households	Aging Individuals	Incarcerated Individuals	Veterans	Individuals with disabilities	Individuals with a language barrier	Individuals who are members of a racial or ethnic minority group	Individuals who primarily reside in a rural area	*Add notes of what was discussed and any key themes or feedback (optional)*
Bridging the Community Divide Forum - Louisa County	5/2/2023	Listening Session (In-person)	Louisa County Library, Davis Higl	Local Community	Local	Louisa	1							X	
Bridging the Community Divide Forum - Fauquier County	5/3/2023	Listening Session (In-person)	Bealeton Library, Willow Drive, I	Local Community	Local	Fauquier	2						X	X	
Bridging the Community Divide Forum - Loudoun County	5/4/2023	Listening Session (In-person)	Middleburg Library, Reed Street	Local Community	Local	Loudoun	0							X	
Piedmont Region Work Group	5/5/2023	Other	Online	Key Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	9								This is a core group of stakeholders primarily representing community colleges, wo
Bridging the Community Divide Forum - Greene County	5/6/2023	Listening Session (In-person)	Greene County Public Library 22	Local Community	Local	Greene	1							X	
Bridging the Community Divide Forum - Culpeper County	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Local Community	Local	Culpeper	4	X						X	
Planning to Advance Digital Equity - Piedmont Region	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	3							X	
Bridging the Community Divide Forum - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Local Community	Local	Warren	2							X	
Planning to Advance Digital Equity - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Stakeholders	Regional	Warren	1	X						X	
Bridging the Community Divide Forum - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Local Community	Local	Frederick, Winchester	6						X	X	
Planning to Advance Digital Equity - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Key Stakeholders	Local	Frederick, Winchester	0								
Bridging the Community Divide Forum - Winchester	5/18/2023	Listening Session (In-person)	Shenandoah County Library, Edi	Local Community	Local	Shenandoah	1								
Bridging the Community Divide Forum - Online	5/22/2023	Listening Session (Virtual)		Local Community	Regional	Clarke, Frederick, Page, Shenando	3								
Bridging the Community Divide Forum - Woodbridge	5/23/2023	Listening Session (In-person)	Woodbridge Library	Local Community	Local	Prince William	0								
Planning to Advance Digital Equity	5/23/2023	Listening Session (In-person)	9324 West Street, Manassas, VA	Key Stakeholders	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Rappahannock	5/24/2023	Listening Session (In-person)	Rappahannock County Library, V	Local Community	Local	Rappahannock	6								
Madison County Meeting	5/25/2023	Listening Session (In-person)	American Legion Post 157, Thrift	Key Stakeholders	Local	Madison	14	X	X		X			X	X	
Regional Digital Equity Planning Coalition	5/25/2023	Listening Session (Virtual)		Key Stakeholders	Regional	Greene, Louisa, Charlottesville, Albemarle									
Bridging the Community Divide Forum - Manassas Park	6/1/2023	Listening Session (In-person)	Manassas Park Community Cent	Local Community	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Orange	6/6/2023	Listening Session (In-person)	Orange County Public Library, 14	Local Community	Local	Orange	1	X	X					X	X	
Bridging the Community Divide Forum - Leesburg	6/8/2023	Listening Session (In-person)	Rust Library, Leesburg	Local Community	Local	Loudoun	2								
Hero's Bridge Social Hour	6/12/2023	Listening Session (In-person)	98 Alexandria Pike, Warrenton, '	Covered Populations	Regional	Fauquier, Culpeper, Madison	12	X	X		X	X		X	X	Group of veterans and volunteers
Bridging the Community Divide Forum - Online	6/13/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
PATH Foundation Meeting	6/14/2023	Listening Session (In-person)	PATH Foundation, Walker Drive,	Key Stakeholders	Regional	Fauquier, Culpeper, Rappahannoc	10	X	X			X	X	X	X	
Bridging the Community Divide Forum - Online	6/15/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Life Online: Staying Safe, Creating Opportunities	6/15/2023	Listening Session (In-person)	Reynolds Memorial Baptist Chur	Local Community	Local	Rappahannock	3							X	
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Regional	Culpeper, Fauquier, Madison, Ora	0								
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Blue Ridge Networking Group	6/24/2023	Listening Session (In-person)		Local Community	Local	Greene, Madison, Albemarle	6							X	
Bridging the Community Divide Forum - Online	6/24/2023	Listening Session (Virtual)		Local Community	Local	Loudoun	0								
Piedmont Region Work Group	6/26/2023	Listening Session (In-person)	Germanna Community College, '	Key Stakeholders	Local	Culpeper, Fauquier, Madison, Ora	6	X	X			X	X	X	X	
Discussion with Prince William County Department of Inf	6/28/2023	Other		Local Community	Local	Prince William									
Discussion with Loudoun Hunger Relief	7/20/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Department of Informat	7/24/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Family Services	7/25/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Public Schools	7/28/2023	Other		Local Community	Local	Loudoun									
Discussion with ARC of Loudoun County	8/4/2023	Other		Local Community	Local	Loudoun									

D. LIST OF ORGANIZATIONS

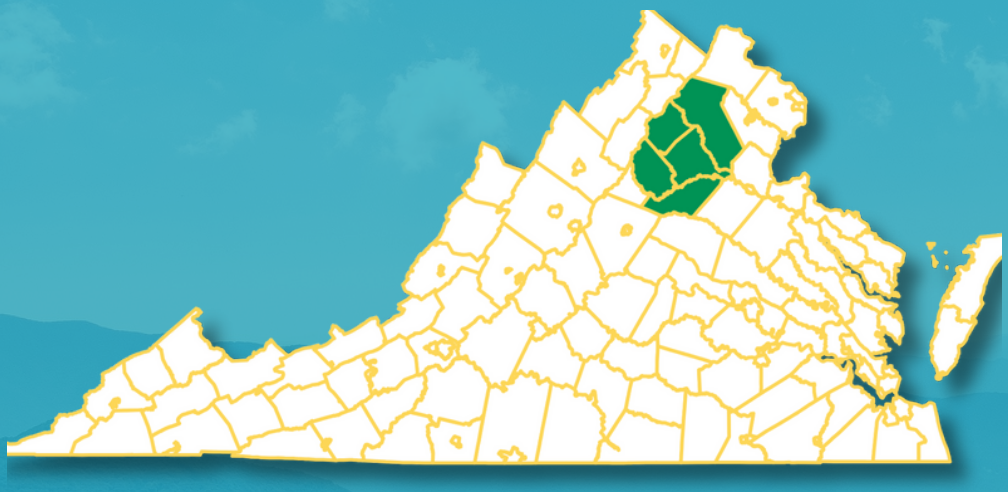
List of Organizations with which you have collaborated in developing the regional plan				
Organization Name	**Type of organization**	**Engagement Purpose (Select the purpose that best matches). If you select "Other", please**	**Notes**	**Link to the organization's website (if available)**
Include the name of the Organization, as it appears on the Organization's website and records.	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes column.*	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes*	*Include any notes or clarifications regarding your previous responses.*	*Please list the organization's website, if applicable.*
Blue Ridge Hospice, Patty Fadeley	Nonprofit Organization (501c3)	Plan Development		
Bone & Joint Specialist of Winchester, P.C.	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Orthopedic Specialist	https://boneandjointspecialists.com
Boy Scouts of America, Shenandoah Area Council	Organization that Represents Covered Populations	Community Outreach		https://www.sac-bsa.org
Brain Injury Connections of Shenandoah Valley - Cindy Noftsinger	Organization that Represents Covered Populations	Plan Development	Brain Injury Assistance	
Brain Injury Connections of Shenandoah Valley, Clinical Director	Organization that Represents Covered Populations	Plan Development	Brain Injury Assistance	
F&M Bank	Other	Community Outreach	Banking	https://www.fmbankva.com
Family Promise of Shenandoah County, Board Member - Diane Pence	Nonprofit Organization (501c3)	Plan Development	Homeless	
Family Promise of Shenandoah County, Sherry Arey	Nonprofit Organization (501c3)	Plan Development	Homeless	
Frederick Co., Economic Development Authority	Economic Development	Community Outreach	Economic Development	https://www.yesfrederickva.com
Frederick County Public Schools	Local Education Agency	Community Outreach		https://www.frederickcountyschoolsva.net/
Frederick County Public Schools Kristen Merick, Guidance Counselor	Local Education Agency	Data Collection	School/ Educational Needs	
Frederick County Public Schools Shane Goodwin, Vice Superintendent	Local Education Agency	Data Collection	School/ Educational Needs	
Frederick County Virginia	County or Municipal Government	Community Outreach	County Gov.	https://www.fcva.us
Handley Regional Library - John Huddy	Community Anchor Institution	Plan Development	Literacy	https://www.handleyregional.org/
Harrisonburg Redevelopment & Housing Authority	Other	Data Collection	Housing Assistance	https://harrisonburgrha.com
Healthy Families Northern Shenandoah Valley, Executive Director - Sara Schoonover-Martin	Organization that Represents Covered Populations	Plan Development		
Humane Society of Shenandoah County	Other	Community Outreach		
Iheart Media, chuckpeterson@iheartmedia.com	Other	Other	Audio Company	https://www.iheartmedia.com
J2W Foundation - Matt Patterson	Foundation	Community Outreach		https://j2wfoundation.org/
J2W Foundation, Executive Director - Matt Peterson	Organization that Represents Covered Populations	Plan Development	Literacy	
James Madison University	Institutions of Higher Education (if not listed above)	Data Collection	Education	https://www.jmu.edu/index.shtml
Laurel Ridge Community College	Institutions of Higher Education (if not listed above)	Plan Development		https://laurelridge.edu/
Laurel Ridge Community College, Corporate Training Sales Manager - Larry Baker	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Laurel Ridge Community College, Jeanie Ann Clark	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Laurel Ridge Community College, kblosser@lfcc.edu	Local Education Agency	Community Outreach	Community College	https://laurelridge.edu
Laurel Ridge Community College, shetland@lfcc.edu	Local Education Agency	Community Outreach	Community College	https://laurelridge.edu
Laurel Ridge Community College, Tonya Thornhill	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Literacy Volunteers of Winchester, Executive Director - Andy Gail & Jenna DeHaven	Organization that Represents Covered Populations	Data Collection	Literacy	https://lvwa.org
Literacy Volunteers, Shenandoah County - Cathy Gilbert	Organization that Represents Covered Populations	Data Collection	Individuals with low language skills	
Luray/Page County Chamber of Commerce Non Profit Council	Industry Representative or Association (501c6)	Community Outreach		
Luray-Page County Chamber of Commerce & Visitor Center	Industry Representative or Association (501c6)	Community Outreach		https://www.visitluraypage.com/chamber/
Mt. Jackson Community Library	Community Anchor Institution	Plan Development	Literacy	
NAACP Winchester - Mr. Faison	Civil Rights Organization	Community Outreach		https://www.naacpwinchesterarea.org/
New Market Area Library	Community Anchor Institution	Plan Development	Literacy	
News Talk 1400 First in the Valley, WINC-FM 105.0	Other	Community Outreach	Radio/ Communication	https://talkwinchester.com/winc-fm/
North Western Community Services Board, Prevention Specialist - Shannon Urum	Organization that Represents Covered Populations	Plan Development	Behavioral Health	
North Western Community Services Board, Rebeka Schennum	Organization that Represents Covered Populations	Plan Development	Behavioral Health	
Northern Shenandoah Valley Community Veterans Engagement Board (CVEB)	Organization that Represents Covered Populations	Community Outreach	Veterans Help	https://www.nsvcveb.org
Page County GIS Dept. , GIS Coordinator, Josh Hahn				
Page One -Kim Harper/ Luray, Page County	Nonprofit Organization (501c3)	Community Outreach	Community Needs/ Low Income	
Partners 1st Federal Credit Union	Other	Community Outreach	Banking	https://partners1stcu.org
Samuels Public Library	Community Anchor Institution	Community Outreach		https://www.samuelslibrary.net/
Shenandoah Adult Teen Challenge, Pastor John Franich	Organization that Represents Covered Populations	Plan Development	Addiction	
Shenandoah Alliance for Shelter - Katie Fruneisen	Organization that Represents Covered Populations	Plan Development		http://www.allianceforshelter.com/
Shenandoah Alliance for Shelter - Katie Fruneisen & Megan Bly	Nonprofit Organization (501c3)	Data Collection	Housing Assistance	http://shenandoahallianceforshelter.org
Shenandoah Alliance for Shelter, Megan Bly	Nonprofit Organization (501c3)	Plan Development	Housing/ Community Needs	
Shenandoah Alliance for Shelter, Previous Executive Director - Sheila Orndorff	Nonprofit Organization (501c3)	Plan Development	Housing/ Community Needs	
Shenandoah Building an Online Community workshop	Community Anchor Institution	Plan Development	Literacy	
Shenandoah Chamber of Commerce- Sharon Baroncelli	Economic Development	Plan Development		https://www.shenandoahcountychamber.com/
Shenandoah Chamber of Commerce- Sharon Baroncelli				
Shenandoah County Board of Supervisors, Chair - Karl Roulston	County or Municipal Government	Plan Development	Community Needs	
Shenandoah County Board of Supervisors, Vice-Chair - Dennis Morris	County or Municipal Government	Plan Development	Community Needs	
Shenandoah County Library, Zoe Delinger	Community Anchor Institution	Data Collection	Literacy	https://countylib.org
Shenandoah County Pregnancy Center, Current Executive Director - Lisa Schroeder	Nonprofit Organization (501c3)	Plan Development	Pregnancy help & education, meeting needs	
Shenandoah County Pregnancy Center, Previous Executive Director - Jean Martin	Nonprofit Organization (501c3)	Plan Development	Pregnancy help & education, meeting needs	
Shenandoah Community Capital Fund - Ryan Hall	Economic Development	Community Outreach		https://www.sccfva.org/
Shenandoah Community Capital Fund, Community Outreach - Nick Koger	Organization that Represents Covered Populations	Plan Development	Financial Aid	
Shenandoah Community Capital Fund, Director of Growth & Revenue - Ryan Hall	Organization that Represents Covered Populations	Plan Development	Financial Aid	
Shenandoah Community Capital Fund, Maria Boulter	Organization that Represents Covered Populations	Plan Development	Financial Aid	
Shenandoah Community Capital Fund, Michael Funk	Organization that Represents Covered Populations	Plan Development	Financial Aid	
Shenandoah Community Health Clinic	Organization that Represents Covered Populations	Plan Development	Low-Income	https://www.shenclinic.org
Shenandoah Community Health Clinic, Acting Executive Director - Amanda Palmer	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development	Healthy Clinic	
Shenandoah Community Health Clinic, Rebecca Shafey	Health or Telehealth Organization (Direct Service and Policy foc	Data Collection	Healthcare	shenclinic.org
Shenandoah Community Health, llewis@svms.net	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Walk in Clinic	https://www.shencommhealth.com
Shenandoah County & Shenandoah County Public Schools, Doug Culler	Local Education Agency	Data Collection	Education	https://www.shenandoah.k12.va.us/en-US
Shenandoah County , County Administrator - Evan Vass	County or Municipal Government	Plan Development	Community Needs	
Shenandoah County , Director of Economic Development & Tourism - Jenna French	County or Municipal Government	Plan Development	Community Needs	

Shenandoah County Chamber of Commerce Not for Profit Council	Industry Representative or Association (501c6)	Community Outreach		
Shenandoah County Dept. of Social Services	County or Municipal Government	Plan Development	Low-Income	
Shenandoah County Dept. of Social Services, Erin Franklin & James Fitzsimmons	Organization that Represents Covered Populations	Data Collection	Community Needs/ Low Income	https://shenandoahcountysocialservices.org
Shenandoah County Library	Community Anchor Institution	Plan Development	Literacy	
Shenandoah County Public Library	Community Anchor Institution	Plan Development		https://Countylib.org
Shenandoah County Public Schools	Local Education Agency	Plan Development		myyux?44|||3xmjsfsitfm3p673{f3zx4js2ZX
Shenandoah County Public Schools, Superintendent - Melody Sheppard	Local Education Agency	Plan Development	Public School	
Shenandoah County Tourism & Economic Development	Economic Development	Plan Development		https://www.shenandoahcountyva.us/
Shenandoah County Tourism & Economic Development, Jenna French	Economic Development	Data Collection	Economic Development	https://shenandoahcountyva.us
Shenandoah Couth Sheriff's Office, Tim Carter	Other	Plan Development	Community Needs	
Shenandoah Independent Practice Association, INC., cheard@shenandoahipa.com	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Primary Care	http://www.shenandoahipa.com
Shenandoah University - Rebecca Gibson	Institutions of Higher Education (if not listed above)	Community Outreach		https://www.su.edu/
Shenandoah University, mmoore7@su.edu	Local Education Agency	Community Outreach	University/ Higher Education	https://www.su.edu
Shentel	Other	Plan Development	Local Broadband Provider	https://www.Shentel.com
Shentel, Stuart Freakley	Community Anchor Institution	Plan Development	Communication	
Shentel, Tiffany Newland	Community Anchor Institution	Plan Development	Communication	
Shentel, wmceach@shentel.net	Community Anchor Institution	Community Outreach	Communication	https://www.shentel.com/en/homepage
Strasburg Community Library	Community Anchor Institution	Plan Development	Literacy	
Strasburg Police Department	Community Anchor Institution	Plan Development		myyux?44|||3xywfxgzwl{f3htr4
Strasburg Police Department/ Town of Strasburg, Wayne Sager	Community Anchor Institution	Data Collection	Law Enforcement	https://www.strasburgva.com/police
The Willows at Meadow Branch, Winchester, VA	Organization that Represents Covered Populations	Community Outreach	Senior Population	https://thewillows-mb.com
Top Of Virginia Chamber of Commerce - Cynthia Schneider & Danita Roble	Industry Representative or Association (501c6)	Community Outreach		https://www.regionalchamber.biz/
Top Of Virginia Realtors, info@homes4humanityllc.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, info@thelandlawyers.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, jimbarbrealty@gmail.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, jmcilvaine@aol.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, les@veachinsurance.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Lori.bales@thecazagroup.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, woodhengecompaniesllc@gmail.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, admin@realtyonegroupoldtowne.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Curtis@nexthomerealtyselect.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, dawn.billow@gmail.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top of Virginia Realtors, erika.deazagra@gmail.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top of Virginia Realtors, gail@colonysells.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, info@premiermove.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, jim.guisewhite@svn.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, karen@brarva.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Karin.mercendetti@vaalliancegroup.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Katie@dreamweaverteam.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, katrina@justcallkatrina.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, langfordhomesales@gmail.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, margie@turningleafrealtygroup.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Markshull1@comcast.net	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, rblessing@weichertcre.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, rex.petrey@pearsonsmithrealty.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, richardbell@adamscompanies.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, rwilkins@wilkinsco.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, sharon.farinholt@oakcrestrealty.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, shpconrad@aol.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, shpconrad@aol.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, stephanie@feltnergroup.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, tess@visuallink.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, tiffany@westofnova.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, timshamblin@premiermove.com	Other	Community Outreach	Housing/ Community Needs	Top Of Virginia Realtors
Top Of Virginia Realtors, Tom Smith <tsmithm@comcast.net	Other	Community Outreach	PWC CoC	
United Way of Northern Shenandoah Valley - Kaycee Childress	Organization that Represents Covered Populations	Community Outreach	Community Needs	
Valley Health - Jason Craig	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development		https://www.valleyhealthlink.com/
Valley Health, akayashi@valleyhealthlink.com	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Healthcare	http://www.shenandoahipa.com
Valley Health, April McClain- Clower	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development	Healthcare	https://www.valleyhealthlink.com
Valley Health, Mary Zufall	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development		
Valley Health, President, Page & Shenandoah Memorial Hospitals - Travis Clark	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development		
Virginia Cooperative Extension, Agent - Karen Poff	County or Municipal Government	Plan Development		
Virginia Cooperative Extension, Warren County	Other	Community Outreach		http://warren.ext.vt.edu/programs/nsvfep.html
Virginia Department of Veterans Services	Organization that Represents Covered Populations	Plan Development	Veterans	
Virginia Department of Veterans Services, Christie Monahan	Organization that Represents Covered Populations	Plan Development		
Virginia Department of Veterans Services, Danielle Cullers	Organization that Represents Covered Populations	Plan Development		
Virginia Department of Veterans Services, Joni Ennis	Organization that Represents Covered Populations	Plan Development		
Virginia Dept of Social Services, e.franklin@dss.virginia.gov	Community Anchor Institution	Data Collection	Community Needs/ Low Income	https://www.dss.virginia.gov
Virginia Employment Commission, winchester@vec.virginia.gov	Workforce Development Organization	Community Outreach	Workforce/ Employment	https://www.vec.virginia.gov
Warren County Chamber of Commerce	Industry Representative or Association (501c6)	Community Outreach		https://www.frontroyalchamber.com/
Warren County DSS, Michelle Smeltzer Director	County or Municipal Government	Data Collection	Low Income	
Warren County Public Schools	Local Education Agency	Community Outreach		https://www.wcpsva.org/
Warren County/ Front Royal Chamber of Commerce, Niki Foster	Community Anchor Institution			https://www.frontroyalchamber.com
Warren/ Frederick County Report, Northwest Virginia's Free Newspaper	Other	Community Outreach	Newspaper/ Communication	https://wfcreport.com
Westminster Canterbury Shenandoah Valley	Organization that Represents Covered Populations	Community Outreach	Senior Living	https://www.svwc.org
Winchester Church of Latter Day Saints, Carter Knapp	Other	Plan Development	Church/ Non profit/ community needs	

Winchester Host Lions Club	Organization that Represents Covered Populations	Community Outreach		https://e-clubhouse.org/sites/winchostva/
Winchester Metals Inc.	Other	Community Outreach	Industry	https://winchestermetals.com
Winchester Orthopedic Associates, Ltd.	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Orthopedic Specialist	https://www.woaltd.com
Winchester Public Schools	Local Education Agency	Community Outreach	Students/ parents/ Teachers/ Administrators	https://www.wps.k12.va.us
Winchester Public Schools	Local Education Agency	Community Outreach		https://www.wps.k12.va.us/
Winchester Rescue Mission	Other	Data Collection	Homelessness	https://winrescue.org
Winchester Rescue Mission - Brandan Thomas	Organization that Represents Covered Populations	Plan Development	Homeless	https://winrescue.org/
Winchester Virginia	Economic Development	Community Outreach	Economic Development/ Gov.	https://www.winchesterva.gov
Woodstock Public Library	Community Anchor Institution	Plan Development	Literacy	

Regional Digital Opportunity Plan

Piedmont Region



Culpeper · Fauquier · Madison · Orange · Rappahannock

Prepared By:

People Incorporated of Virginia
Skyline Community Action Partnership, Inc.

August 2023

TABLE OF CONTENTS

Executive Summary 5
Introduction and Vision for Digital Opportunity 10
Current State of Digital Opportunity: Barriers and Assets 11
- Existing Resources, Programs and Strategies Working to Address Digital Equity 11
- Regional Demographics 12
- Barriers to Digital Equity 12
  1. Individuals who Primarily Reside in a Rural Area 13
  2. Aging Individuals (60+) 13
  3. Covered Households (150% of Poverty or less) 14
  4. Population with Language Barriers 14
  5. Individuals with Disabilities 15
  - Other Primary Target Populations 16
  - Additional Target Populations for Piedmont Region 17

Collaboration and Stakeholder Engagement 22
- Survey Distribution Efforts 22
- Focus Group Outcomes 23
- Interviews with Key Informants 25
- Identified Needs to Create Digital Opportunity 25

Implementation 27
- Barriers to Digital Opportunity 27
- Target Populations 30
- Implementation Strategy 32
  - Coordination with Key Partners and Stakeholders 32
- Priorities for Implementation 33
- Timeline 46
- Mechanisms for Plan Update 47
- Statewide Activities 47

Conclusion 49

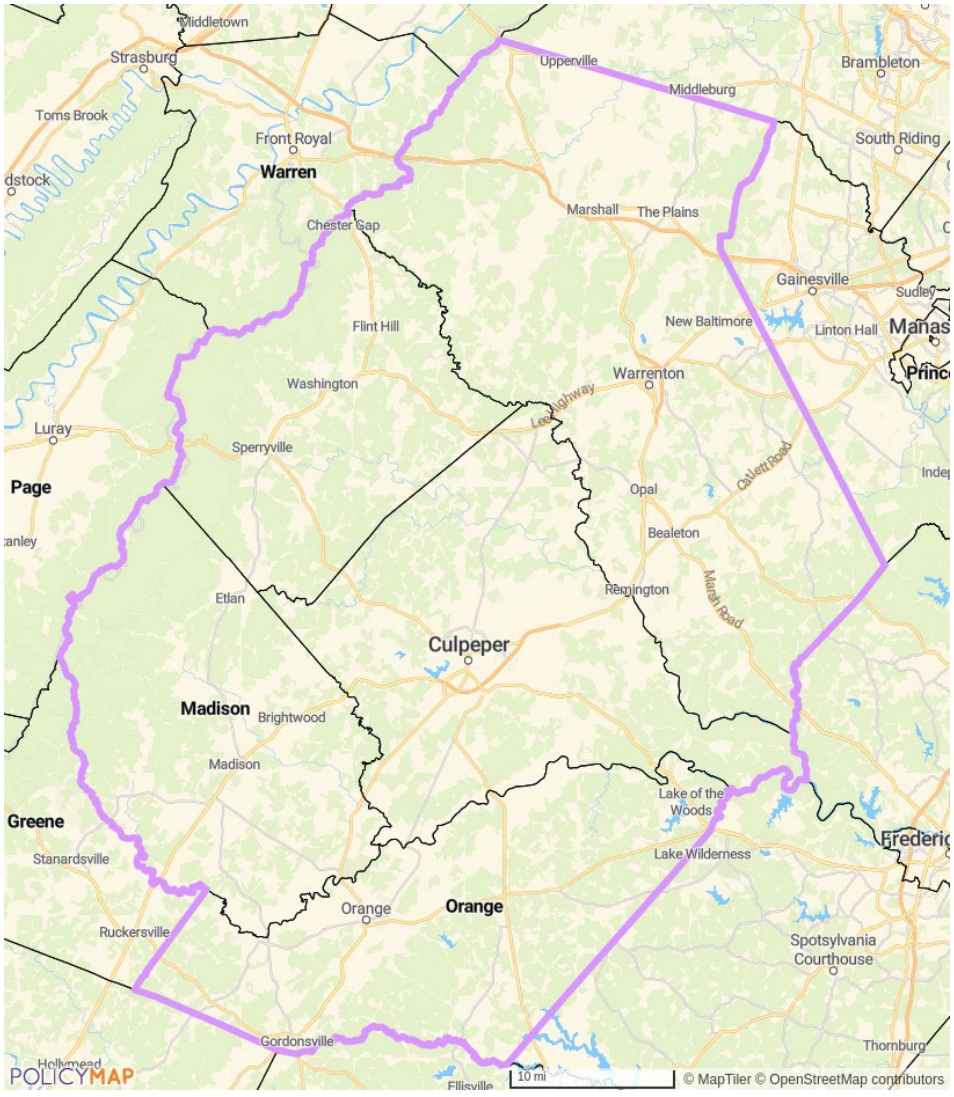
Appendices
- A. Virginia Digital Divide Index Scores
- B. Asset Inventory
- C. Community Engagement Tracker
- D. List of Organizations

EXECUTIVE SUMMARY

ORIGIN OF PROJECT

In 2023, People Incorporated of Virginia began an extensive community input and data collection effort in order to create a Regional Digital Opportunity Plan as part of a statewide effort overseen by the Virginia Department of Housing and Community Development (DHCD). This goal of the project was to identify the barriers to effective and meaningful use of broadband for selected populations, identify key factors in the service area that define unique service challenges, and develop a preliminary plan to address them for implementation by both public and private sectors.

The region includes five counties spanning nearly 1,966 square miles and home to over 181,000 Virginians. The region includes Culpeper, Fauquier, Madison, Orange, and Rappahannock. The map below shows the region.



FRAMEWORK OF ASSESSMENT

The National Digital Equity Alliance states the "Digital Divide is the issue, Digital Equity is the goal, and Digital Inclusion is the work." The framework for this report supports this belief by first defining the specific obstacles creating the digital divide, developing a plan to achieve digital equity, and recommending implementation methods with inclusivity as a guiding principle.

A comprehensive assessment process, including evaluation of existing data, facilitation of focus groups and community listening sessions, coordination of key informant interviews, cataloguing existing resources, and distribution of a statewide digital survey provided a broad data set from which to draw conclusions and recommendations. Participants in this process included schools and educational services, municipal representatives from departments such as management, library services, social services, corrections, and economic development, employment services, Community Action Agency program participants, non-profit staff, government programs, community members, internet service providers, regional thought leaders and subject matter experts. The resulting plan identifies both the barriers to digital equity and an implementation plan to eliminate them. These efforts focused on the region at large and the Target Populations identified by the Digital Equity Act of 2021, including:

- Individuals living in households below 150% of the federal poverty level;
- Aging individuals;
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility;
- Veterans;
- Individuals with disabilities;
- Individuals with a language barrier, including individuals who—
    - Are English learners; and
    - Have low levels of literacy
- Individuals who are members of a racial or ethnic minority group; and
- Individuals who primarily reside in a rural area

Barriers exist throughout the region, along with inequities mirroring those found in society at large. Those digital-equity-barriers magnify social inequalities which further highlight the disproportionate impact on those with low incomes, persons with disabilities, the incarcerated, aging individuals, veterans, those with language barriers, members of racial or ethnic minority groups, and those who live in rural locations. Many of the recommendations included can be implemented across the entire region with modifications reflecting local conditions. Population-specific challenges faced by across the region are also included.

DIGITAL DIVIDE IS THE ISSUE, DIGITAL EQUITY IS THE GOAL, AND DIGITAL INCLUSION IS THE WORK.

Despite the large and diverse area included in this assessment there are overarching commonalities in the obstacles faced. Proposed solutions provide realistic goals that address the needs of communities within the coalition service area, and for those subsets that have distinctly unique concerns. Consequently, funding to implement regional Digital Opportunity Plan activities will have the highest impact where it is attuned to the shifting dynamics within the region. Funding will need to be extremely flexible and responsive to the particular

obstacles of numerous target populations across the region to best overcome the barriers to digital equity faced by those living and working there.

The planning team assessed our region on the activities needed to ensure digital inclusion as identified by the Digital Equity Act of 2021 which include:

- **Broadband Availability & Affordability:** Is high-quality broadband available at a price residents are willing to pay?
- **Online Accessibility & Inclusivity:** Are websites accessible, readable, and functional for the general public, those with disabilities, and those with language barriers?
- **Digital Literacy:** Do individuals know enough about using a computer and the internet to take full advantage of it?
- **Online Privacy & Cybersecurity:** Are individuals able to protect themselves on the internet from identity theft, online predators, and other threats?
- **Device Availability & Affordability:** Can individuals get access to a computer or afford to buy one?

ACTION STEPS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. DEVELOP A COHESIVE, COORDINATED REGIONAL APPROACH TO PROMOTING DIGITAL OPPORTUNITIES.

The first step in coordinating a regional approach to addressing the digital inequities in the region is to identify an organization to serve as the coordinating entity and lead agency for Digital Opportunity effort. The Piedmont Region recommends using the Continuum of Care for Homeless Services as a format. The lead agency should be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development that consider capacity, experience, and ability to serve the entire region. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will oversee the Foothills Digital Opportunity Network and be responsible for coordinating participation in plan implementation and renewal efforts among stakeholders.

2. ESTABLISH A DIGITAL NAVIGATOR PROGRAM TO PROVIDE COMPREHENSIVE TECHNICAL SUPPORT AND TRAINING TO MEET THE SPECIFIC INDIVIDUAL NEEDS OF THE LOCAL POPULATION.

The most vulnerable populations within the Piedmont region will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new opportunities

as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population within the 1,955 square miles of the region, a Network of Navigators should be established to work with local residents.

Either the lead agency or another organization selected by RFP will be responsible for operating the Digital Navigator Network consisting of a small group of lead Navigators who train and coordinate efforts with a network of subcontracted Navigators working throughout the region. These subcontractors will work for trusted partner organizations that have strong ties to the target populations and are able to engage with them on multiple levels in a to address needs beyond digital opportunities. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

3. PROMOTE DIGITAL OPPORTUNITIES FOR THOSE WHO ALREADY HAVE ADEQUATE INTERNET ACCESS.

There are several VATI projects underway in Piedmont region that will bring broadband service to residents over the next two years. In the meantime, many residents already have physical access to a broadband connection and have other barriers to equity that must be overcome such as digital literacy, device access, cybersecurity/privacy, and affordability. The plan outlines a path to addressing these issues over the short and long-term. Priorities include:

- Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs.
    - One popular format is a multi-generational approach in which youth are trained to be mentors and teachers to older adults.
- Develop a list of available computer resource centers in the community for referral.
- Expand number of computers available for Workforce Agencies to loan or give to clients.
- Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.
    - Such a program may offer new computers or refurbished computers purchased in partnership with a national organization that provides such services to nonprofits.
- Implement a regional marketing campaign to teach teenagers about the dangers of social media.
- Educate parents about the dangers of social media and how to address these issues with their children.
- 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.

4. EXPAND INTERNET ACCESS THROUGH AFFORDABILITY AND INFRASTRUCTURE INITIATIVES.

Multiple VATI projects are currently underway that will address access issues for a large portion of the unserved population. Further efforts to address access and affordability will, for the most part, require significant financial investments in order to make a large impact. As a result, these issues are lower on the regional priority list despite the urgency of obtaining internet access.

Short-term solutions to the problems of access and affordability include:

- Conduct outreach about ACP and other resources available to assist with affordability of internet access.
- Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost.

Medium and long-term solutions to the problems of access and affordability include:

- Use satellite and fixed wireless solutions to provide internet to the most remote households in an expedient and cost-effective manner.
- 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.
- Continue expansion of infrastructure as necessary based on further evaluation after fulfillment of existing VATI contracts.

INTRODUCTION AND VISION FOR DIGITAL OPPORTUNITY

DEFINING DIGITAL EQUITY

The Piedmont Region embraces the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

While recognizing that this is a suitable definition of Digital Opportunity overall, stakeholders also seek to maintain flexibility in pursuit of these efforts with the understanding that each jurisdiction within the region, each target population, and each individual, has its own needs that will impact how to best create an equitable digital environment.

VISION FOR DIGITAL EQUITY IN PIEDMONT

Digital equity will be achieved when everyone has a sufficient level of knowledge, appropriate devices, and adequate internet access to meet their needs without baring an undo financial burden regardless of their age, income, education level, or other demographic characteristics.

The stakeholders involved in crafting this plan envision digital opportunities as the means of providing opportunities to:

- Work – through access to remote employment
- Learn – via online education programs
- Stay healthy – with online apps, telehealth appointments, and research
- Be engaged – with volunteer opportunities, access to news, and various means of communication
- Take care of day-to-day life – through online financial services, government benefits, and other resources

The digital world will provide access to these without the burden of transportation or childcare, two of the biggest obstacles local residents face when pursuing these opportunities.

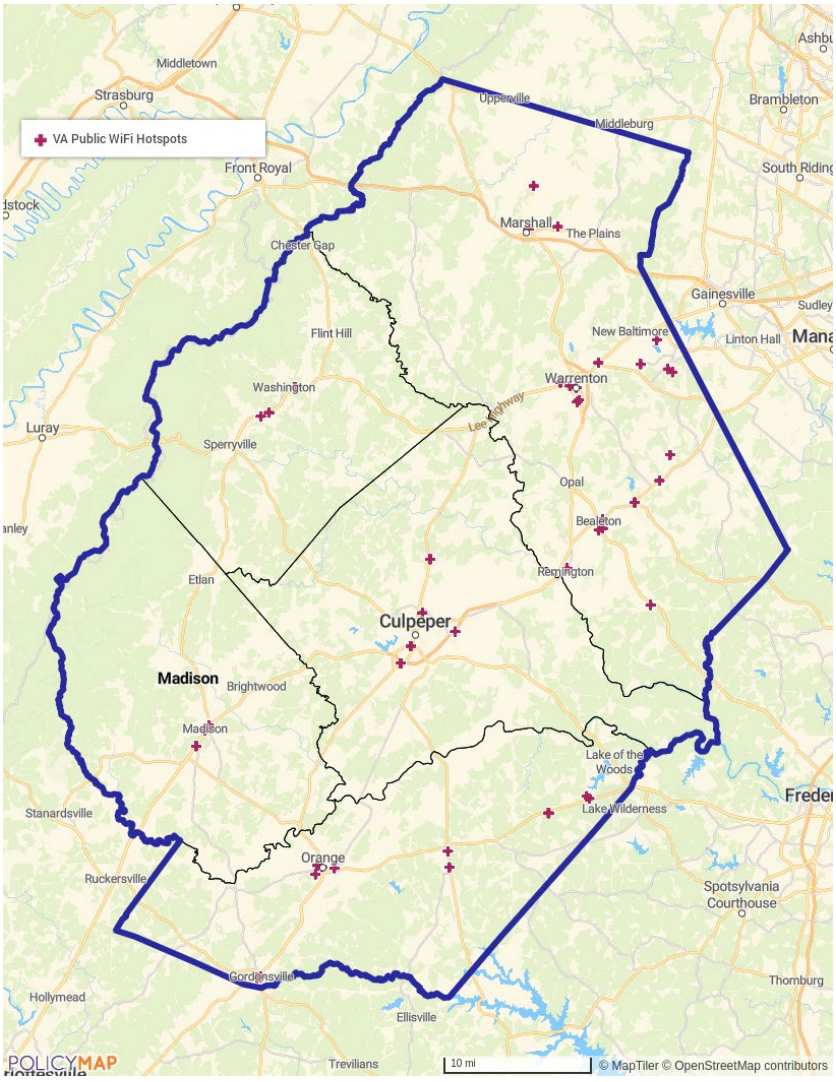
CURRENT STATE OF DIGITAL OPPORTUNITY: BARRIERS AND ASSETS

EXISTING RESOURCES, PROGRAMS AND STRATEGIES WORKING TO ADDRESS DIGITAL EQUITY

The attached Asset Inventory provides a more detailed assessment of the resources already in place to address barriers to Digital Equity. Highlights include:

- Every school district provides a device loan program for students.
- The Workforce Development Board, through one or more agencies, provides a variety of digital literacy classes ranging from basic computer skills to more advanced courses tailored to specific workplace needs.
- The local libraries have taken on a lead role in the community to provide digital literacy programs. Although not specifically targeted, these classes generally serve seniors. Many of the libraries also offer opportunities to address maintenance and technical concerns and device-specific issues. Libraries are also key Wi-Fi access locations and important device access centers.

The map below shows the public Wi-Fi hotspots available in Piedmont region. The data is provided by Commonwealth Connect.



In addition to the locally provided assets, the Affordable Connectivity Program has been instrumental in providing affordable access to many households in the Piedmont region. However, there is still much that needs to be done for local residents to fully benefit from it. Data from Education Superhighway shows a 23.6% adoption rate in the Piedmont Region.[1]

REGIONAL DEMOGRAPHICS

The data on the table below is from the U.S. Census Bureau's Digital Equity Act Population Viewer.[2] The Census Bureau partnered with National Telecommunications and Information Administration to calculate the population qualified for Digital Equity Act services based on the targeted populations identified in the legislation. Because the majority of the region is rural, the covered population in each county is 100% except for Fauquier County, which is 65.2% rural and 84.3% covered. Overall, the population is 93.8% covered.

County	Culpeper	Fauquier	Madison	Orange	Rappahannock	Total
Rural/Urban	Rural	Not-Rural	Rural	Rural	Rural	
Total Population (2019)	52,605	71,222	13,261	37,051	7,370	181,509
Covered Population	52,605	60,025	13,261	37,051	7,370	170,312
Population that is Covered	100%	84.3%	100%	100%	100%	93.8%
Population w/ income <150% of Poverty	16.0%	9.4%	19.9%	16.2%	12.2%	13.6%
Population 60+	21.8%	22.9%	29.5%	26.3%	35.0%	24.2%
Incarcerated Population	2.3%	0.1%	0%	1.0%	0.1%	0.9%
Veterans	7.4%	8.8%	6.2%	8.8%	8.5%	8.2%
Population w/ Disabilities	12.8%	10.4%	14.1%	17.0%	16.0%	12.9%
Population w/ Language Barriers	19.1%	12.4%	13.5%	17.3%	14.1%	15.5%
ESL speakers	5.2%	3.3%	1.5%	3.2%	2.0%	3.6%
Population w/ Low Literacy Skills	22.1%	14.4%	18.1%	18.2%	15.4%	17.7%
Identifying as Minority	29.7%	20.0%	15.4%	21.9%	11.6%	22.5%
Living in Rural Area	100%	65.2%	100%	100%	100%	86.3%
HHs with No Fixed Broadband	0.1%	9.7%	0.0%	0.2%	8.2%	4.2%
Households w/ no Broadband/Computer	11.8%	8.7%	25.7%	18.7%	15.3%	13.1%

BARRIERS TO DIGITAL EQUITY

The barriers to digital equity are similar for all target populations in the Piedmont region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Access
2. Device Access and Affordability
3. Digital Literacy
4. Privacy and Cybersecurity
5. Online Accessibility

[1] This calculation is based on data provided in the ACP Enrollment Dashboard for locations in Piedmont region. Adoption rates in the region vary widely from 7% to 30%. https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard
[2] https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html

1. INDIVIDUALS WHO PRIMARILY RESIDE IN A RURAL AREA

Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 86.3% of the population in the Piedmont Region resides in a rural area. This is, unquestionably, the most significant target population when considering barriers to digital equity and it is the cohesive element driving the barriers.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
86.3%	1. Access: The mountainous terrain and low-density development have made infrastructure deployment in the area slow and difficult. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Use of non-broadband options such as low-orbit satellite and fixed wireless to provide connections to remote locations quickly. 2. Ongoing infrastructure development. 3. Digital Navigator who can provide one-on-one technical assistance over the phone or in-person to directly reach individuals in remote areas.

2. AGING INDIVIDUALS (60+)

Aging Individuals comprise the second largest group among the target populations in the Piedmont region according to the U.S. Census accounting for 24.2% of the population. For the most part, their barriers are the same as the population at large. The biggest difference is in how they would need to be approached.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
24.2%	1. Digital Literacy: For many older adults in the Piedmont region, 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. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge to help individuals grow their skills in order to engage in the online world. Ideal settings include libraries, senior centers, and churches as well as one-on-one in the person's home. 3. Intergenerational education programs in which youth mentors receive training to teach digital skills to older adults.

	4. Library of videos about how to identify scams, protect your information online, and other cybersecurity/privacy issues that can be viewed as needed. 5. E-mail alerts about active scams sent from trusted sources such as the library, law enforcement agencies, or a Digital Navigator.

3. COVERED HOUSEHOLDS (150% OF POVERTY OR LESS)

As is common in rural areas, poverty is a significant concern in the region. Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 14.3% of the households in the Piedmont Region have incomes within the targeted range of 150% of poverty or less. The impact is greatest in Madison County where they account for 19.9% of households, twice that of Fauquier County which is 9.4%.

Percent of Households: 14.3%	**BARRIERS TO DIGITAL EQUITY:** 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. It was cited by stakeholders as the second biggest reason why people in the region do not have internet access following the cost of service. 3. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Expansion of outreach efforts and assistance in enrolling households in the Affordable Connectivity Program and/or other subsidy programs as they become available. 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. This will be most impactful in Culpeper, Fauquier, and Orange counties. 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. 4. Digital Navigator services to help clients identify the resources available to them and "navigate" through the enrollment process. 5. Digital Literacy courses available in a variety of settings and for all levels of knowledge, including online, to help individuals grow their skills in order to engage in the online world.

4. POPULATION WITH LANGUAGE BARRIERS

In identifying the percentage of the population with language barriers, the U.S. Census Bureau's Digital Equity Act Population Viewer considers both those who speak English less than "very well" and those who have

low levels of literacy.[3] There is some overlap in these two populations. In the Piedmont region, only 3.0% of the population is identified as speaking English less than "very well." The primary concern is low levels of literacy, which accounts for 18.6% of the population. Culpeper County has the highest percentage of both populations, 22.1% with low literacy levels and 5.2% with English as a Second Language.

Percent of Population: 15.4% *English as a Second Language:* 3.0% *Low Levels of Literacy:* 18.6%	**BARRIERS TO DIGITAL EQUITY:** 1. Digital Literacy: For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. 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. There is a secondary problem for those speaking English as a Second Language in that this population often has immigration concerns as well that makes them reticent to accept assistance. 2. Online Accessibility: Language options are an important part of the accessibility of websites. Spanish is the second most prevalent language in the region. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable.

5. INDIVIDUALS WITH DISABILITIES

There was not a significant discussion among stakeholders about this population group, but it does represent a large portion of the region and they do have specific barriers and needs that should be considered when creating digital opportunities. The table below shows the percent of the local population with these types of disabilities. While the other data has been based on the U.S. Census' Digital Equity Population Viewer, which used data from 2019, the data below is from the U.S. Census Bureau's 2021 American Community Survey Five-Year Estimates.

	Culpeper	Fauquier	Madison	Orange	Rappahannock
Total civilian noninstitutionalized population	50,653	72,088	13,612	35,404	7,398
Total population with a disability	**6,380**	**7,196**	**1,896**	**5,781**	**1,001**
Percent with a Disability	**12.6%**	**10.0%**	**13.9%**	**16.3%**	**13.5%**
hearing difficulty	4.0%	3.0%	4.1%	4.9%	6.8%
vision difficulty	2.6%	1.3%	1.7%	2.8%	1.1%
cognitive difficulty	4.5%	4.2%	5.7%	5.6%	3.5%
ambulatory difficulty	5.8%	5.1%	8.2%	8.2%	5.1%
self-care difficulty	2.4%	2.0%	2.2%	2.5%	2.8%
independent living difficulty	6.0%	3.7%	5.5%	6.7%	5.2%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021					

[3] The estimate of those with Language Barriers is derived from 2015-2019 ACS 5-Year file (for speaks English less than "very well") and 2017 Program for the International Assessment of Adult Competencies (PIAAC) Household file and 2012/2014/2017 PIAAC State and County Small Area Estimates of Adult Skills on Literacy and Numeracy (for low literacy) from the National Center for Education Statistics.

Percent of Population: 13.5%[4]	**BARRIERS TO DIGITAL EQUITY:** 1. Online Accessibility: The only barrier augmented for those with disabilities is online accessibility, primarily related to those with vision and hearing difficulties. 2. Digital Literacy: Digital literacy has two areas of concern. One is teaching individuals with disabilities, many of whom have cognitive difficulties, how to use basic digital devices. The second is providing access and training to assistive digital devices for those with disabilities designed to improve their quality of life. 3. Cybersecurity and Privacy: More intimately tied with digital literacy, privacy standards and cyber-etiquette is a significant concern for those with certain cognitive disabilities who need to be protected from the dangers and inappropriate content to be found online while learning what is and is not appropriate online behavior. **SOLUTIONS TO DIGITAL EQUITY:** 1. Education about and improvements to local websites with regards to online accessibility in keeping with ADA standards and the Web Accessibility Initiative. This can be facilitated through the county government, which already audits its own websites for accessibility. 2. Digital literacy classes hosted in conjunction with The ARC or other organizations specifically serving individuals with disabilities so that they are in a safe, comfortable atmosphere as they learn to navigate life online and address the issues that are specific to their needs. 3. Training on how to use assistive digital devices to improve their quality of life.

ADDITIONAL PRIMARY TARGET POPULATIONS

POPULATION IDENTIFYING AS MINORITY

The minority population accounts for nearly a quarter of the region, 22.5% in total. However, there was indication from stakeholders that this population requires a specific approach to services nor was there any interest from civil rights or advocacy groups in commenting on the issue despite multiple attempts to reach out to them. Data from the U.S. Census Bureau does show a disparity in internet and computer adoption, but these differences can also be attributed to income and education levels as well.

Computer and Internet Access by Race and Ethnicity									
		White alone	Black or African American	American Indian and Alaska Native	Asian	Some other race	Two or more races	Hispanic or Latino origin (any race)	White alone, not Hispanic or Latino
Piedmont Region	Computer, No Internet	4.9%	7.8%	11.8%	0.1%	9.1%	7.7%	7.1%	4.8%
	No computer or Internet	3.4%	9.8%	0.5%	1.2%	0.0%	1.8%	2.3%	3.4%

[4] This number from the 2021 ACS Five-Year Estimates of the U.S. Census is a slight variation from the U.S. Census Bureau's Digital Equity Act Population Viewer, which shows 24.4% of the population with a disability based on 2019 data.

Culpeper	Computer, No Internet	3.6%	6.8%	34.9%	0.0%	5.8%	17.5%	4.3%	3.7%
	No computer or Internet	3.8%	6.6%	0.0%	3.9%	0.0%	0.0%	1.2%	3.9%
Fauquier	Computer, No Internet	3.7%	3.7%	0.0%	0.3%	2.8%	5.0%	8.3%	3.3%
	No computer or Internet	2.7%	4.2%	0.8%	0.9%	0.0%	4.3%	4.2%	2.4%
Madison	Computer, No Internet	11.1%	17.4%	0.0%	0.0%	0.0%	0.0%	0.0%	11.3%
	No computer or Internet	6.8%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%
Orange	Computer, No Internet	6.6%	10.4%	0.0%	0.0%	11.2%	0.6%	4.9%	6.5%
	No computer or Internet	3.6%	22.1%	0.0%	0.0%	0.0%	0.1%	0.0%	3.7%
Rappahannock	Computer, No Internet	6.1%	23.9%	0.0%	0.0%	73.6%	0.0%	60.5%	6.2%
	No computer or Internet	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%

* NOTE: There are no households of Native Hawaiian/Pacific Islander decent in the region within the margin of error.
Source: U.S. Census Bureau ACS 5-Year Detailed Tables, 2021

OTHER TARGET POPULATIONS

The other target populations in the region represent a minimal portion of the whole and do not have barriers different than those already discussed. Therefore, there is no need to create any specific programs or services targeted to them. There is one prison in the Piedmont region, in Culpeper County.

Other Target Populations	
% of Population who are Incarcerated	0.9%
% of Population who are Veterans	8.2%

ADDITIONAL TARGET POPULATIONS FOR PIEDMONT REGION

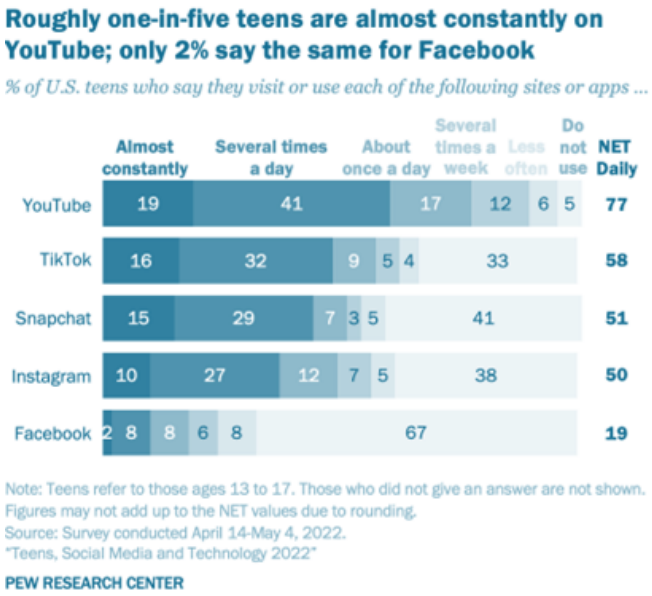
In addition to the target populations identified in the Digital Equity Act of 2021, the Piedmont Region has two other specific target populations that need to be prioritized. Although they also fall within the other categories, primarily individuals in rural areas and, often, households at or below 150% of poverty, students and parents have specific, high-priority needs.

STUDENTS

The following table shows internet and computer access data for students three and over enrolled in school within Piedmont region according to the U.S. Census Bureau's ACS Five-Year Estimates for 2021. Because these are five-year estimates spanning a period that pre-dates the Covid-19 pandemic when most students were provided with computers or other digital devices and more households registered for internet service, these percentages might be slightly understated.

Student Population without a Computer and/or Internet Subscription					
	Culpeper	**Fauquier**	**Madison**	**Orange**	**Rappahannock**
Population 3 and older enrolled in school					
Pre-K to 4th Grade					
No subscription or no computer	5.6%	4.3%	0.0%	2.3%	4.2%
5th to 8th Grade					
No subscription or no computer	5.7%	2.4%	13.5%	10.4%	7.7%
9th to 12th Grade					
No subscription or no computer	5.7%	2.4%	13.5%	10.4%	7.7%
Undergraduate or Higher					
No subscription or no computer	9.7%	2.7%	3.9%	7.4%	0.0%

With school work increasingly being done online, students who are victims of the digital divide are falling further behind. They have difficulty completing school assignments without regular access to email and online tools. Students need convenient access to the internet and a reliable device.



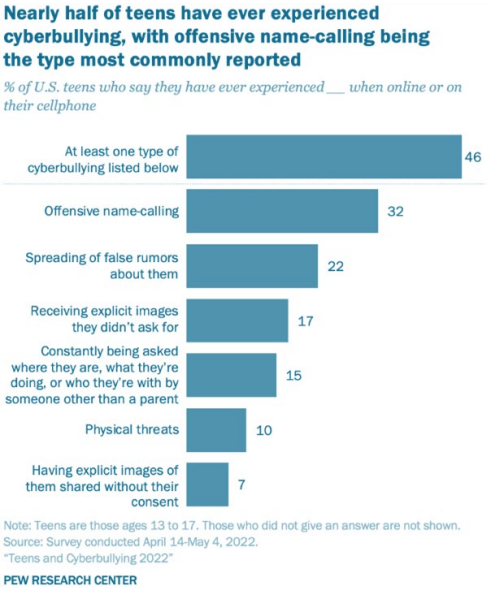
There is growing concern about the dangers of children and teens being online, which creates another barrier to digital equity. A 2022 survey from Pew Research Center found that teens are almost always online using a variety of platforms.[5]

While the impact of this is still being studied, there is mounting evidence that both digital devices and social media negatively impact students. For instance, one recent study correlated eight hours or more of screen time per day with increased risk of depression in teens. "Excessive time on social media has been linked to "fear of missing out," cyberbullying, emotional insecurity, and body-image problems. The time devoted to social media also inhibits in-person socializing, exercise and sleep, all of which are crucial for adolescents' emotional well-being."[6] Students will need resources to help navigate this barrier if internet expansion is to have more of a positive impact than negative.

Even teenagers admit the negative impact of social media with the Pew survey finding that nearly half of teens have been bullied or harassed online.

[5] Gelles-Wetnick, Risa. "Teens and social media: Key findings from Pew Research Center surveys," Pew Research Center, April 24, 2023. https://www.pewresearch.org/short-reads/2023/04/24/teens-and-social-media-key-findings-from-pew-research-center-surveys/
[6] Wilcox, W. Bradford, and Riley Peterson. "It's Time to Treat Big Tech Like Big Tobacco," American Enterprise Institute, January 20, 2023. https://www.aei.org/op-eds/its-time-to-treat-big-tech-like-big-tobacco/

With this in mind, all attempts to increase internet and device access for students must also be concerned with protecting students from the dangers that lurk on the internet. Although Virginia Standards of Learning require digital literacy training for students, the extent and quality of that training varies. More standardization and resources would help improve outcomes.



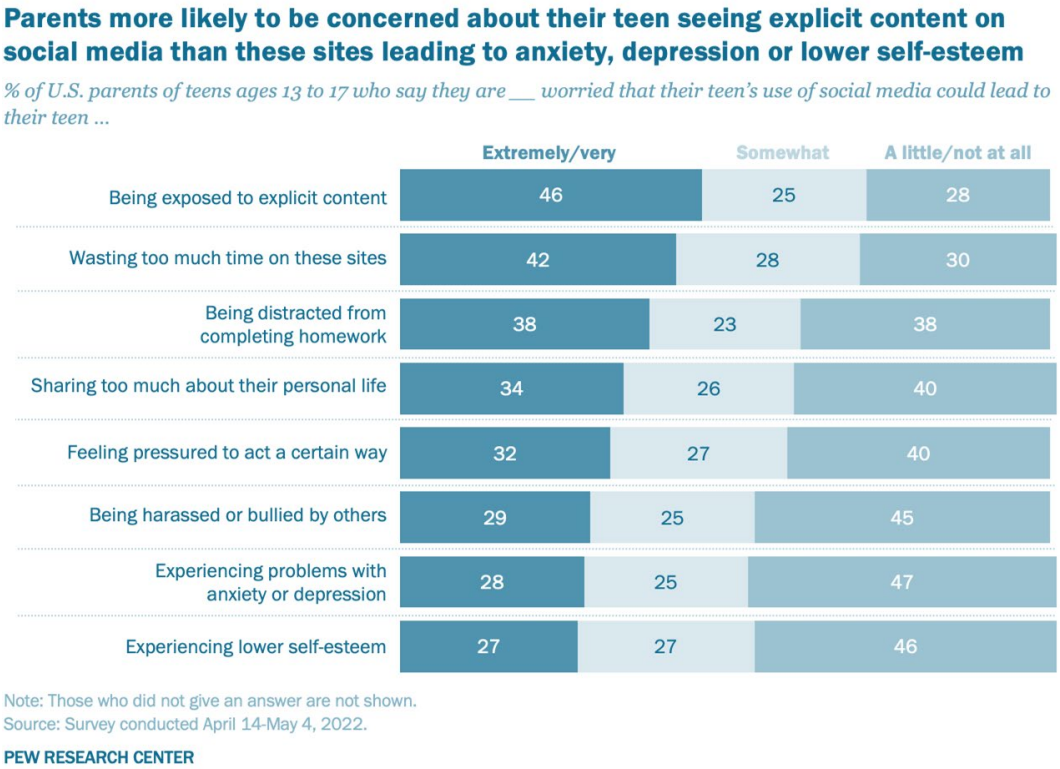
Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
23.8%	1. Broadband Access: As is the case with the rest of the region, broadband access for students is limited due to availability and/or affordability. 2. Digital Literacy: It is assumed that students are tech-savvy and, for the most part, they are. However, their skills are often limited to their phones and the apps and websites they use frequently. Knowledge of more advanced skills, those that will be required for higher education or the workforce, is limited. Likewise, their use of the internet is primarily for social and entertainment purposes leaving them with a gap in research skills and the ability to analyze news sources. 3. Cybersecurity and Privacy: While privacy is a growing concern for students who need to learn basic information about protecting their identity online, this wide-ranging topic encompasses the much larger concern of social media use and its impact on teens. This was one of the most-mentioned topics in focus groups. **SOLUTIONS TO DIGITAL EQUITY:** 1. While infrastructure expansion continues, the best option for addressing access options for students is to create more public Wi-Fi centers with longer hours at libraries and other community centers. 2. Providing assistance to families with school-aged children in accessing non-broadband resources such as Starlink while broadband infrastructure continues to be put in place will also increase access in a targeted manner to this high-priority population. This assistance can be in the form of a subsidy for installation or a Digital Navigator to help select the right option and assist with the enrollment process. 3. Homework hours before and after school where students can remain and complete their homework with assistance while using school-based internet is also an option for those who have transportation available.

	4. Prioritizing subsidies for internet service to families receiving Free and/or Reduced Lunch will assist with those who face affordability barriers. Creating an automatic approval for these families for programs such as the ACP will also increase the likelihood that they will be used. 5. Digital Literacy Prep Course for high school students outside the bounds of the SOL requirements that focuses on the software and research skills they need to thrive in college or the workplace. The course, to be offered as a club, camp, or after school activity, can also provide education about privacy and online predators. 6. Regional marketing campaigns targeting teens about online safety and cyber-bullying that will reach children and youth outside the public schools. Efforts can/should also be made by local organizations that serve teens such as 4-H, the Boys & Girls Club, churches, and libraries.

PARENTS

Like children, parents have most of the same barriers as the rest of the population in the region, but they need to be addressed as a high priority concern and in a slightly different way. Their needs are interwoven with those of the students but should be considered in addition to those of students.

A report by Pew Research Center identified the following as concerns parents have about their children being online.



Parents are going to need resources to address these barriers as internet and computer access expands.[7]

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
37.5%	1. Device Access: While students are typically provided with access to devices, the same is not true for parents. For those with young children who are not provided with devices, it is difficult to keep up with communications from the school. 2. Digital Literacy: Many parents do not have the digital skills they need to manage the online systems the schools use to communicate with them and/or to help their children with their homework. 3. Cybersecurity and Privacy: Parents are concerned about the cybersecurity and privacy implications of students gaining increased access to the internet as well as the impact of social media. **SOLUTIONS TO DIGITAL EQUITY:** 1. Provide devices for even younger students enrolled in schools so that parents can use them to access online student management systems. 2. Provide opportunities for parents to learn how to use the school student management system through Parent Teacher Organization programs or in other casual environments. 3. Offer digital literacy classes for parents that are specifically tailored to the information they will need to assist their students such as browsing the internet and using Google products. 4. Provide education and resources to parents to help them understand the online dangers their children face and learn how to monitor their child's activities.

[7] Gelles-Wetnick, Risa. "Explicit content, time-wasting are key social media worries for parents of U.S. teens," Pew Research Center, December 15, 2022. https://www.pewresearch.org/short-reads/2022/12/15/explicit-content-time-wasting-are-key-social-media-worries-for-parents-of-u-s-teens/

COLLABORATION AND STAKEHOLDER ENGAGEMENT

SURVEY DISTRIBUTION EFFORTS

People Incorporated distributed the Digital Equity survey to clients (via e-mail, postcard, and in person), stakeholders, and members of the community in each of the counties within the region placing specific emphasis on the targeted populations. The survey was distributed electronically through the Healthy Culpeper and Fauquier County Partnership for Community Resources nonprofit consortiums. All the regional libraries as well as the Fauquier Free Clinic collected paper copies as well.

Although there were paper copies of the survey available, the majority of responses came from those who could complete it online as that was the population easiest to reach with messaging and the population who had easiest access to the survey. People Incorporated made extensive efforts to market the survey via social media, which had a marked increase in the responses.

Social Media

- Paid ads:
  - June 21 – July 19: Facebook/Instagram ad for survey – ad run in Clarke County, City of Bristol Virginia, Manassas, Manassas Park, Russell County, Shenandoah County, Rappahannock County, Frederick County, Washington County, Warren County, Dickenson County, Fauquier County, Page County, Culpeper County, Prince William County, and Buchanan County
    - Reach: 133,400
    - Link Clicks: 2,403
- All posts
  - Twitter
    - June 12: Survey – 76 impressions
    - June 15: Survey – 100 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: Survey – 73 impressions
    - July 14: Survey – 28 impressions
  - Facebook
    - June 13: Survey
  - Instagram
    - June 29: Survey reel – 48 accounts reached
  - LinkedIn
    - June 12: Survey – 191 impressions

People Inc. Digital Newsletter

- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)
- July 3 - “Have you taken the digital equity survey?” (3 link clicks)

Postcard Mailing

- Mailing to People Inc. clients without e-mail addresses
- Mailing to purchased list in high-priority areas

FOCUS GROUP OUTCOMES

People Incorporated hosted a series of focus groups from May through early July 2023 to seek feedback from individuals in the region. These meetings were advertised via e-mail, social media, flyers, and direct invitation over the phone and in person. In addition to clients and general members of the public, which were targeted through general marketing and outreach efforts, we also directly contacted strategic partners including the local school systems, community colleges, county administrators and members of the boards of supervisors, adult education providers, public libraries, and workforce development offices.

Outreach efforts included:

Social Media

- **Paid ads:**
  - May 1 – May 8: Boosted Facebook post advertising community forums- ad run in Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
    - Reach: 6,484
    - Link Clicks: 64
  - May 2 – May 22: Boosted Facebook posts advertising community forums- ad run in Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
    - Reach: 1,684
    - Link Clicks: 6
  - May 18 – June 1: Boosted Facebook post advertising community forums- ad run in Manassas Park Community Center (+1 mi), Potomac Community Library (+1 mi), Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, Prince William County, and Madison County
    - Reach: 15,032
    - Link Clicks: 175
  - June 6 – June 20: Boosted Facebook post advertising Sperryville community forum – ad run in Culpeper and Sperryville
    - Reach: 10,994
    - Link Clicks: 258
- **All posts**
  - Twitter
    - April 29: community forums – 78 impressions
    - May 7: community forums – 97 impressions
    - May 11: Page County, Shenandoah County, Warren County and Winchester forums – 70 impressions
    - May 16: Community forums – 83 impressions
    - May 17: Northern Shenandoah Valley forums – 34 impressions
    - May 18: Shenandoah forum – 32 impressions
    - May 21: Community forums – 54 impressions
    - June 12: Survey – 76 impressions
    - June 15: Survey – 100 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: Survey – 73 impressions
    - July 14: Survey – 28 impressions
  - Facebook

        - April 30: Community forums – 10,159 impressions
        - May 2: Culpeper, Fauquier, Greene, Louisa, Madison, Orange, and Rappahannock county forums – 3,430 impressions
        - June 14: Sperryville forum – 54,262 impressions
    - Instagram
        - June 29: Survey reel – 48 accounts reached
    - LinkedIn
        - June 14: Sperryville forum – 135 impressions

Web Stories

- Register for upcoming community forums – www.peopleinc.net (Web Story)
- People Inc. to host community forums on bridging the digital divide - www.peopleinc.net (Press Release)
- Help Create Digital Opportunity For All - www.peopleinc.net (Web Story)
- **Northern Piedmont** – 1 unique press release out week of June 2, featured in the Fauquier Chamber events calendar. Press Release template provided to partners April 26; pitched story to local reporter
    - Community forum focuses on rural broadband plans Culpeper Star-Exponent, May 14.

Online Advertisements

- Evvnt.com calendar listing reaching 35 publishers for community forum in Washington on May 24th. (0 link clicks)
- Evvnt.com calendar listing reaching 37 publishers for community forum in Sperryville on June 24th. (30 link clicks)
- Email campaign to 4,000 Evvnt.com subscribers for community forum in Sperryville on June 24th. (433 opens, 39 link clicks)

People Inc. Digital Newsletter

- May 1 - "Help us bridge the digital divide" (1 link click)
- June 1 - "People Inc. hosts forums on bridging the digital divide across Virginia" (10 link clicks)
- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)
- July 3 - "Have you taken the digital equity survey?" (3 link clicks)

The following table shows the community meetings that were held throughout the region. A full list of meetings and outreach efforts is included in the Appendix.

Date	Confirmed Location	Target Population	Attendance
5/3/23	Bealeton Library, Willow Drive, Bealeton, VA	General Population	2
5/5/23	Online	Stakeholders	9
5/9/23	Culpeper County Library Southgate Shopping Center, Culpeper, VA	General Population	2
5/9/23	Culpeper County Library Southgate Shopping Center, Culpeper, VA	Stakeholders	9
5/24/23	Rappahannock County Library Library Road, Washington, VA	General Population	6
5/25/23	American Legion Post 157 Thrift Road, Madison, VA	General Population	14

6/6/23	Orange County Public Library 146 N Madison Rd # A, Orange, VA 22960	General Population	1
6/12/23	Hero's Bridge 98 Alexandria Pike Warrenton, VA	Veterans	12
6/14/23	PATH Foundation Walker Drive Warrenton, VA	Stakeholders	10
6/20/23	Online	General Population	0
6/24/23	Reynolds Memorial Baptist Church Sperryville Pike Sperryville, VA	General Population	3
6/26/23	Germanna Community College Technology Drive Culpeper, VA	Stakeholders	6

INTERVIEWS WITH KEY INFORMANTS

The information gleaned from focus groups was used by key informants in the region during a work group session held on June 26, 2023, at Germanna Community College in Culpeper, Virginia. At this meeting, six individuals representing the entire region, met to discuss the findings and develop an implementation plan. Participants included:

- Rappahannock County Library
- PATH Foundation
- Rappahannock Goodwill Industries
- Rappahannock Rapidan Community Services Board
- Germanna Community College
- Skyline Community Action Partnership

Details on how the Region will coordinate the implementation of its plan with workforce agencies, labor organizations, and institutions of higher of learning can be found in the Implementation section.

IDENTIFIED NEEDS TO CREATE DIGITAL OPPORTUNITY

The discussions illuminated various concerns within the region that are preventing digital equity. Despite the large geography and variety of attendees, there were key themes identified during the course of the meetings. These needs were considered when developing the priorities for the implementation plan.

BROADBAND ACCESS

- Families need sufficient internet access (both quality and quantity) to fulfill requirements for both school and employment.
    - Households in the region need continued expansion of broadband infrastructure in order to provide basic access to the internet.
    - Households need access to more viable options than broadband to secure internet access in a more timely and cost-efficient manner. Waiting two or more years for a company to lay fiber to a single house miles away from existing lines does not seem like a desirable solution.
- Households need high-quality internet for individuals to be able to work from home.
- Residents need more publicly available computers and Wi-Fi locations from which to access the internet. This means more locations, extended times, and more computers at existing locations.

DIGITAL LITERACY

- Individuals need an opportunity to learn about technology in a way that alleviates their fears and embarrassment.
- Individuals need unbiased, reliable assistance to identify the technology they need and/or the internet options available to them.
- Individuals need to how to use essential online services such as banking and health charts, which are increasingly becoming accessible online only.
- Parents need more technology skills to assist their children with school and stay current with school communications.
- Individuals need to learn more about how to use a computer and the internet to participate in telehealth appointments.
- Individuals need a trusted, reliable resource they can contact for assistance with their computer.

DEVICE ACCESS

- Individuals need access to the internet and a computer in order to apply for jobs.
- Individuals need high-quality internet and a computer at home to be able to work from home or operate a business.
- Individuals need a device other than their smartphone to access the internet.

PRIVACY AND CYBER-SECURITY

- Children need to be protected from cyber-bullies and online predators.
- Individuals need to be sure their personal information is safe when they are online.
- Older adults need to be protected from online scams.

BROADBAND AFFORDABILITY

- Families need assistance applying for the ACP internet subsidy program as it is too complicated to navigate. Many families are not even aware of the program.
- Individuals and households need an affordable internet connection option.
- Families need choices of internet providers to improve cost and quality.

ONLINE ACCESSIBILITY

- Residents need to be able to complete more forms online in order to be more efficient with their time.
- Government websites need to be monitored to ensure all links and webpages are current and active.
- Individuals with disabilities need websites to be reviewed for accessibility, specifically related to font size and readability.
- Individuals need to be able to understand the language and navigation of websites.

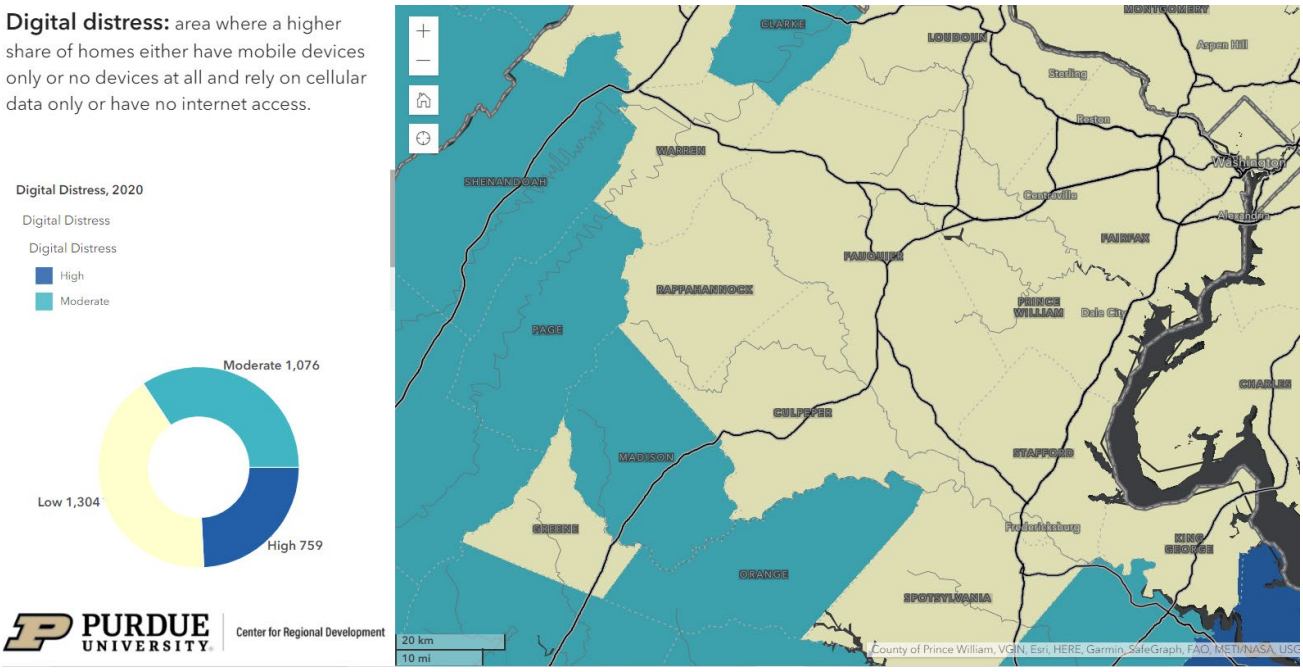
IMPLEMENTATION

BARRIERS TO DIGITAL OPPORTUNITY

The Piedmont region is encumbered by many barriers to digital opportunities as is common in rural areas. The mountainous terrain in much of the region adds to the expense of installing the broadband infrastructure. The large territory makes it difficult for people to access services, including digital literacy classes, particularly those with lower incomes and/or limited transportation options. Lower income individuals also have difficulty affording what internet plans are available and lack computer access.

These barriers lead many people in the area to rely on cell phones for access to the internet because they lack a more appropriate device and/or lack internet access. Some also rely on their phone because they have insufficient digital literacy skills to use a computer. Stakeholders report that this is insufficient because they cannot use a phone to complete an employment application or do their homework.

Understanding the insufficiency of a mobile phone and cellular plan for meeting needs in the digital worlds, The Center for Regional Development at Purdue University developed a Digital Distress[8] calculation based on data from the American Community Survey that considers the percent of homes with no internet access, those using cellular data only, those with mobile phones only, and those with no computing devices. They then calculate a score and identify the county as low, moderate, or high distress. Areas of digital distress (the darker areas) are those with a higher share of homes having either mobile devices only, cellular data only, or no internet access.



The Center for Regional Development also developed the Digital Divide Index to compare barriers to digital opportunities based on infrastructure and socioeconomic characteristics. This provides an unbiased view of

[8] Gallardo, Robert, and Benjamin St. German. "Digital Distress: What is?" April 18, 2022, https://pcrd.purdue.edu/digital-distress-what-is-it/

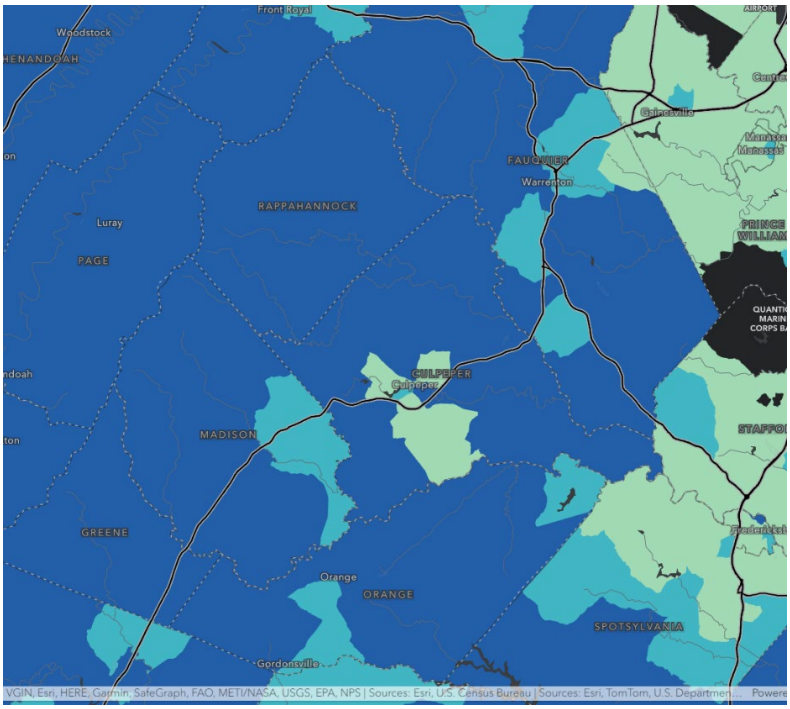
the factors influencing what they characterize as Digital Distress.[9] The Digital Divide Score is further assessed by an Infrastructure and Socioeconomic Score. This helps identify where the greatest barrier to Digital Equity lies. If the infrastructure score is higher, that would indicate a need to prioritize that area to increase access while a higher Socioeconomic Score would drive attention towards affordability, device access, and digital literacy. The table is sorted from highest to lowest Digital Divide Score.

The data presented in the table is based on a national index comparing the jurisdictions in the Piedmont to every jurisdiction in the country. A statewide index is included in the Appendix. Of the 133 jurisdictions in Virginia, Madison County is ranked as having the 68th highest Digital Divide Index score. When distributing money within the region, the Digital Equity Index should be one factor used to prioritize allocations.[10]

	Culpeper	Fauquier	Madison	Orange	Rappahannock
Digital Divide Score:	16.06	15.08	25.35	20.78	22.82
Average Download Speed (Mbps)	172.4	133.1	109.1	164.6	57.9
Average Upload Speed (Mbps)	50.7	23.5	15.2	85.8	9.1
Population with no access to 100/20 (Mbps)	53.9%	78.6%	83.2%	50.7%	100%
No internet access	9.5%	7.1%	15.1%	10.5%	11.7%
No computer device	6.4%	5.0%	8.3%	8.3%	3.8%
Less than HS degree	11.1%	7.2%	12.4%	10.4%	8.3%
Poverty Rate	7.2%	5.9%	8.7%	11.3%	6.1%
Age 65+	15.4%	16.4%	22.8%	19.8%	25.4%
Disability Rate	12.6%	10.0%	13.9%	16.3%	13.5%
Internet Income Ratio	5.18	5.37	5.49	5.29	3.91
Infrastructure Score	17.27	19.60	26.86	18.16	25.13
Socioeconomic Score	11.49	7.98	18.48	18.35	15.83

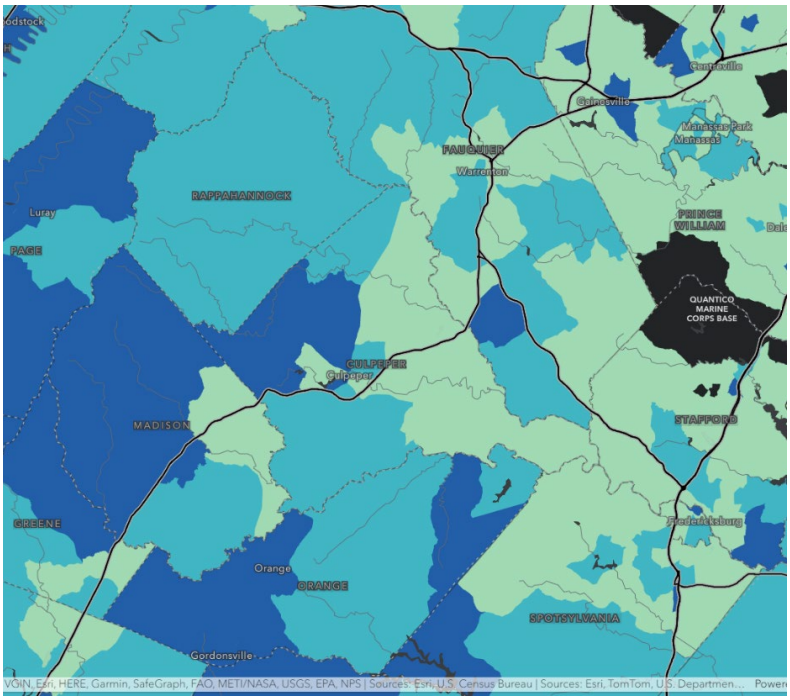
9 Gallardo, R. (2023). Digital Divide Index. *Purdue Center for Regional Development*. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi
The digital divide index (DDI) consists of three scores ranging from 0 (lowest divide) to 100 (highest divide) and includes ten variables grouped in two categories: infrastructure/adoption and socioeconomic. For purposes of analysis, the overall DDI score was utilized.

10 Counties were divided into three roughly equal groups based on the DDI score: low (1,031 counties), moderate (1,031 counties), and high (1,063 counties). The average DDI for those in the high category is 36.5. All the counties listed have a DDI score over 36.5.

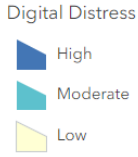


INFRASTRUCTURE SCORE[11]

The map shows the infrastructure results for the Piedmont region. The colors are divided into Low, Moderate, and High categories based on an index that ranges from 0 to 100 where 100 indicates the highest divide. The map clearly shows that the Piedmont area faces a high infrastructure burden comparable to the rest of the country and the Commonwealth. Only the areas near the towns of Warrenton, Culpeper, and Madison along Highway 29 re in the moderate or low categories.



SOCIOECONOMIC SCORE[12]



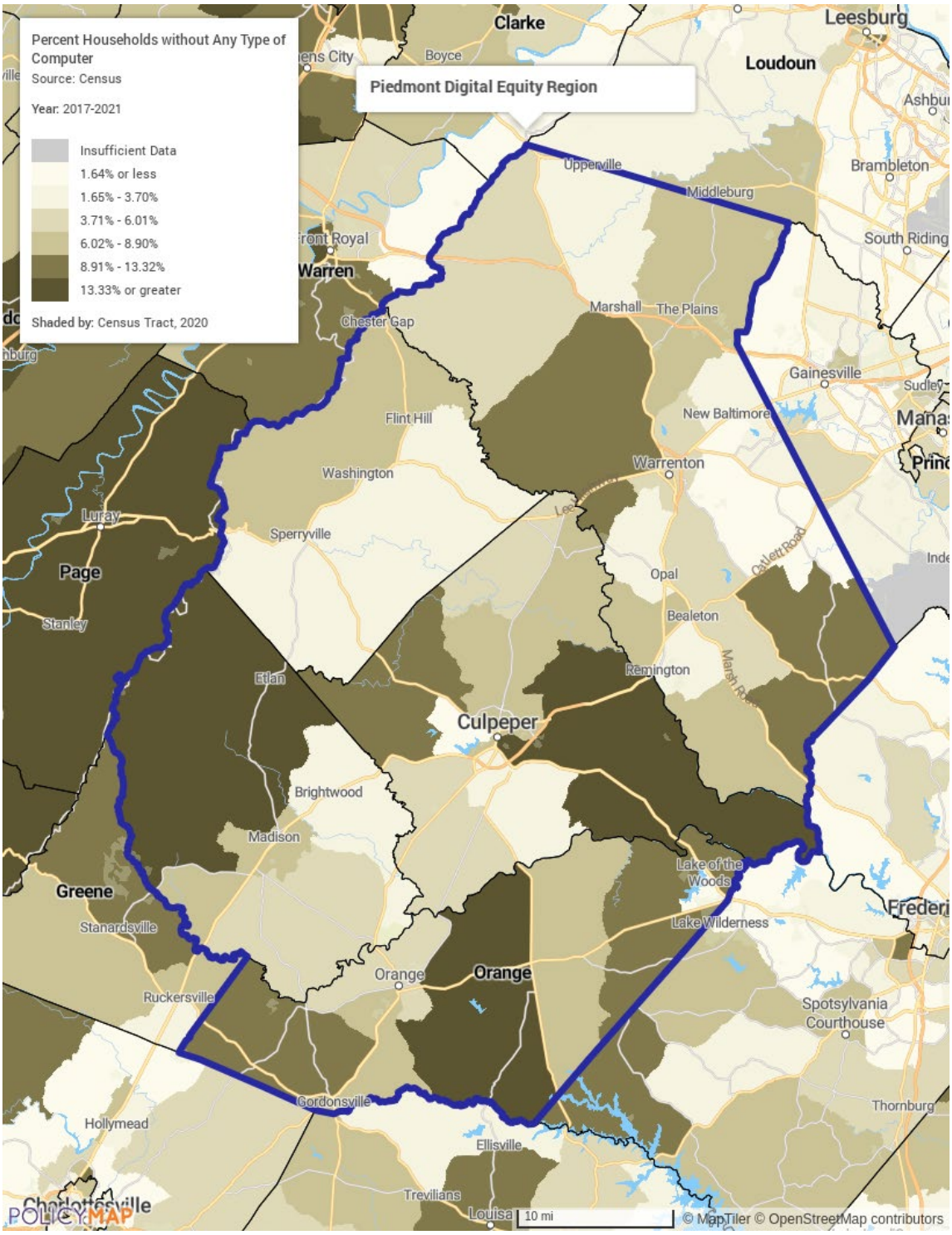
Socioeconomic scores in the region are much more diverse., but still far higher than those in the majority of the Northern Virginia region to the east. Portions of Fauquier, Culpeper, Madison, and Orange show the highest risk factors. The statewide data in Appendix A provide more details about these areas by Census Tract.

[11] The Infrastructure Score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests) (4) download and (5) upload speeds in Megabits per second (Mbps).

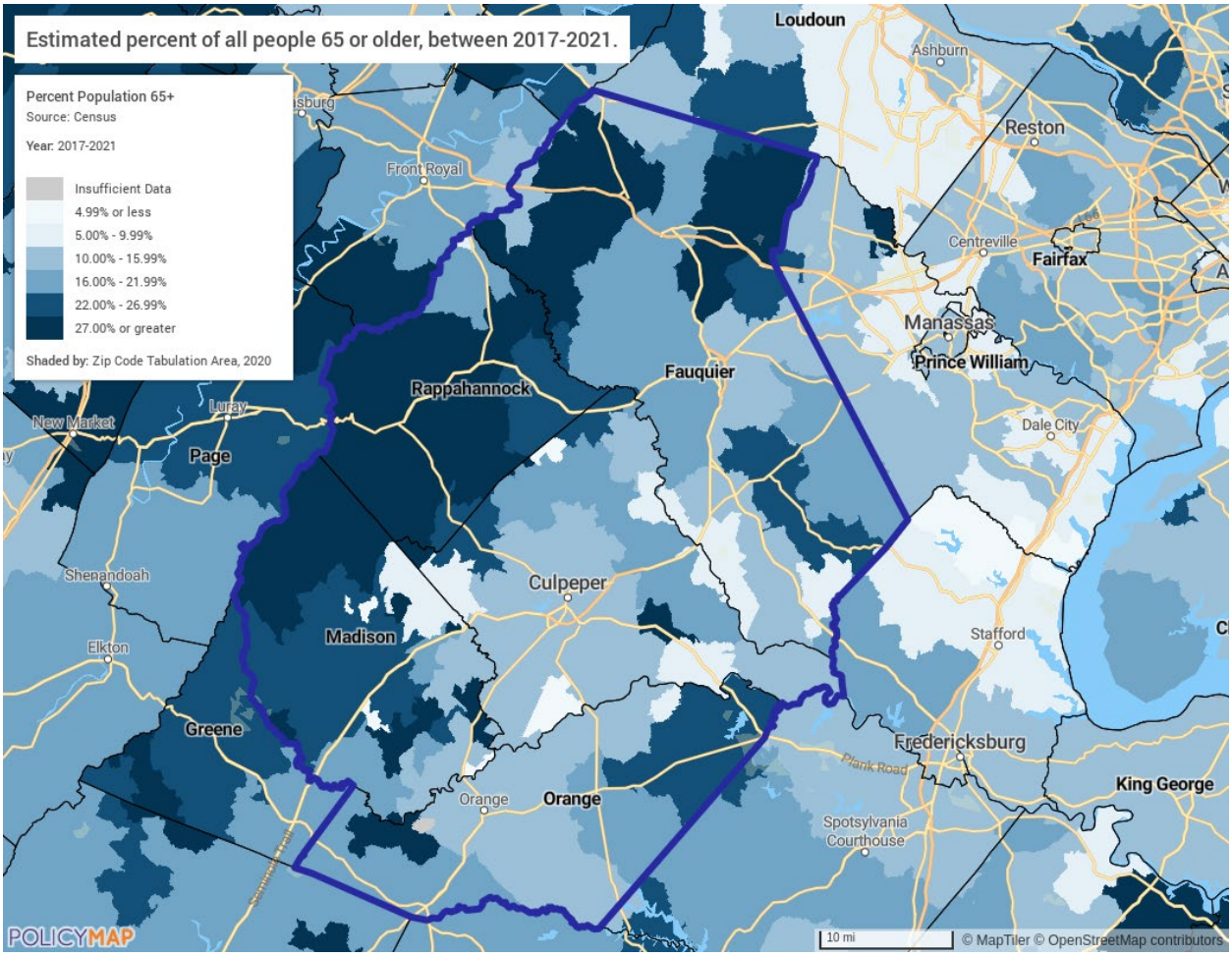
[12] The socioeconomic score indirectly measures the potential for adoption of technology or potential of reinforcing existing inequities by factoring five data variables that are known to reflect the likelihood of adoption of technology: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; (4) percent of noninstitutionalized civilian population with a disability: and (5) internet income ratio measure (IIR).

TARGET POPULATIONS

The map shows those without any type of computer. These are the population facing the highest barriers to digital opportunity. Individuals lack computers for a variety of reasons including not knowing how to use them, not being able to afford one, not needing one due to a lack of internet access (also often associated with affordability), and/or not considering them necessary. Lacking a computer is a primary indicator of digital inequity.



Among the specified target populations, the highest priority for receiving services is those in rural areas as they constitute the majority of residents in Piedmont region. The second priority is for those with incomes at or below 150% of poverty. The barriers and needs within the region are based on the limitations of income and geography more than any other characteristic. As with many rural areas, the region has a rapidly aging population making it a crucial target for services. While many of their needs are similar to the population at large, the approach to services for them will be unique.



IMPLEMENTATION STRATEGY

The first step in the implementation of the regional plan is to identify an organization to serve as the coordinating entity and lead agency for Digital Opportunity efforts in the Region. The stakeholders in the Piedmont Region recommend using the Continuum of Care for Homeless Services as a format. The lead agency organization, Foothills Digital Opportunity Network, will be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will receive funding for coordinating activities including, but not limited to:

- establishing the Piedmont Digital Opportunity Network, a consortium of organizations that meet on a regular basis to discuss Digital Opportunity barriers and opportunities in the region and guide the implementation of the plan;
    - The agency will be responsible for recruiting members representing all areas of the region as well as the following:
        - local governments;
        - planning districts;
        - institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
        - labor organizations;
        - community-based 501c3 organizations; and
        - all organizations providing programs and resources to reduce barriers to Digital Equity.
- directing the bi-annual update of the Digital Opportunity plan; and
- serving as a resource for best practices and technical assistance to other organizations working to address Digital Opportunities in the Community.

As a matter of best practice, future Digital Equity plans will coordinate with local Consolidated Plans to occur on the same schedule and coordinate resources whenever possible. This will help meet the requirements established in 81 FR 90997 in December 2016 requiring that Consolidated Plans for jurisdictions "address the need for broadband access for low- and moderate-income residents in the communities they serve."[13]

COORDINATION WITH KEY PARTNERS AND STAKEHOLDERS

As outlined above, the key partners and stakeholders will be integrated into the Digital Opportunity Plan implementation process through the organized Network as the lead agency, members, or grantees. Through this

[13] https://www.federalregister.gov/documents/2016/12/16/2016-30421/modernizing-huds-consolidated-planning-process-to-narrow-the-digital-divide-and-increase-resilience

organization, all efforts in the region will be coordinated with constant reference made to the plan and an ongoing review of progress.

- The Consortium will be responsible for ensuring activities related to the Digital Opportunity plan are carried out among all parts of the region and reach all targeted populations;
- recommending new programs for funding and coordinating submission of applications to DHCD to ensure that services and funding are distributed throughout the region and to areas and populations of greatest need;

Details about the partners and stakeholders consulted during the planning process are included in the Collaboration and Stakeholder Engagement Section.

PRIORITIES FOR IMPLEMENTATION

ASSESSED IMPORTANCE OF BARRIERS

Over the next two years, priorities for the region are focused on:

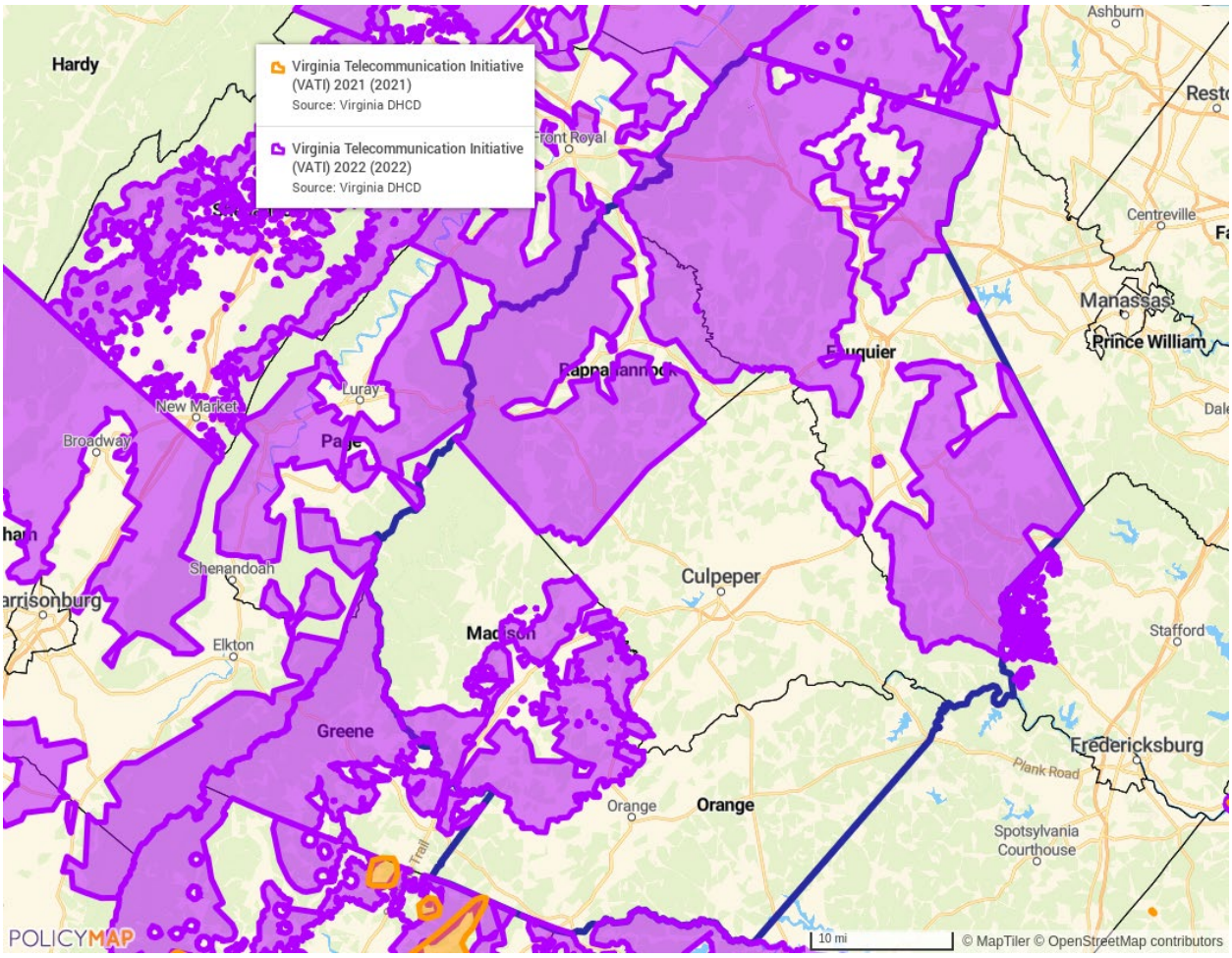
1. Broadband/Internet Access
2. Digital Literacy
3. Privacy and Cybersecurity
4. Device Access and Affordability
5. Online Accessibility

While many of these issues are seen as interconnected and, as a result, difficult to prioritize, there is some consensus that there is a need to first address Digital Literacy for those who currently have, or could have, access to broadband and a device.

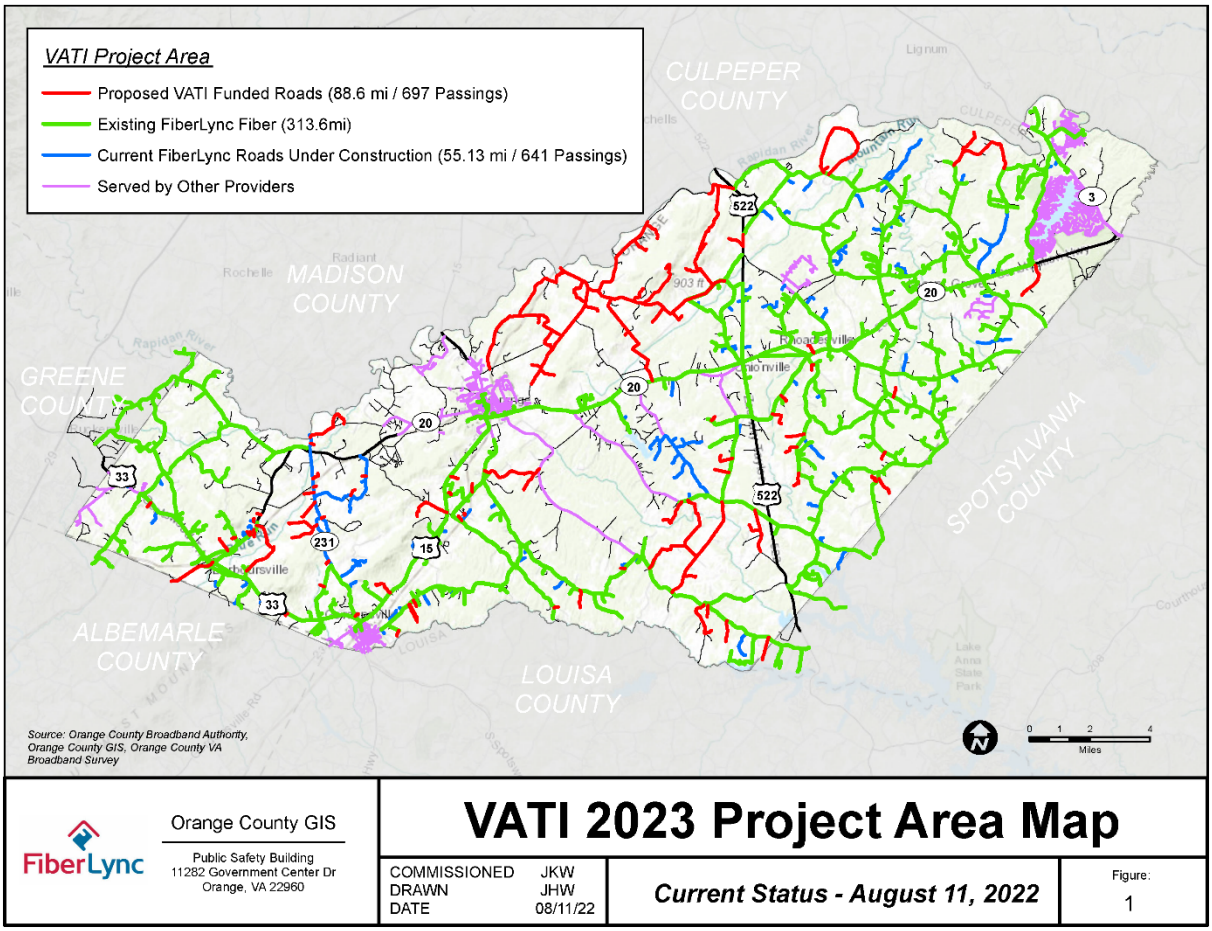
Privacy and Cybersecurity is tightly intertwined with Digital Literacy and is a key element of securing Device Access. However, it is also its own concern, particularly with regards to social media and its impact on children/teens.

Discussions about Digital Opportunity assume the need for expanded infrastructure to increase physical access to high-quality broadband services. This is expected to be a long-term project. Currently, the region is engaged in a VATI project that will cover a significant portion of the geography as identified on the following map.

The Thomas Jefferson Planning District Commission won a VATI award in 2022, which was to include portions of Madison County. However, the provider for that effort defaulted on their RDOF commitment leaving the area unserved. The PDC's application for 2023 was not awarded. Therefore, Madison County currently has no infrastructure projects underway at this time.



Orange County also received a VATI award in 2023. The map submitted with the application is included below to show how services will expand.



For many focus group participants, broadband access was their singular focus although many were more immediately concerned about the quality of existing access than expanding access. Given the development patterns and mountainous terrain, many homes will have difficulty gaining access to broadband fiber, which is why residents advocated for alternative forms of internet access such as satellite. Alternative methods will also be less costly and can be installed more quickly.

With infrastructure efforts in process that will reach fruition by the time the plan is ready for revision, there is little focus on broadband access in this plan. In two years, the planning process should reconsider the status of unserved households as well as advances in technology to create a new plan to reach 95% accessibility coverage.

The issue of affordability has been addressed separately as it applies to both current and future internet users. However, it has also been moved lower on the priority list for two reasons. The first is the existence of the Affordable Connectivity Program. The second is the high cost of implementing a subsidy program in the region, regardless of how narrowly it is focused.

CORE ACTIVITIES

In considering the Core Activities to be undertaken to address Digital Opportunities in the region, the plan identifies a Digital Navigator as the first step to coordinating efforts. This is followed by activities in each of the four program areas identified as barriers to equity:[14]

1. Broadband/Internet Access
2. Device Access and Affordability
3. Digital Literacy
4. Privacy and Cybersecurity
5. Online Accessibility

DIGITAL NAVIGATOR

The most vulnerable populations within the Piedmont region will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new opportunities as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population within the 1,955 square miles of the region, a Network of Navigators should be established to work with local residents.

Either the lead agency or another organization selected by RFP will be responsible for operating the Digital Navigator Network consisting of a small group of lead Navigators who train and coordinate efforts with a network of subcontracted Navigators working throughout the region. These subcontractors will work for trusted partner organizations that have strong ties to the target populations and are able to engage with them on multiple levels in a to address needs beyond digital opportunities. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.[15]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES

Digital Navigator
• Provide one-on-one technical assistance to clients related to:
  • Selection of technology and internet services
  • Instruction on how to use individual devices
  • Selection of necessary software
• Coordinate training programs in the community.
	• # of hours of services
	• # of clients served
	• # of clients connected to the internet
	• # of clients who obtain a device
		Eligible Parties include:
		• Lead Agency
		• Community Action Agencies
		• Workforce Agencies
		• Libraries
		• Other regional non-profits

[14] Online Accessibility is addressed in 5.4.1.2 and is, therefore, excluded from additional comment.
[15] This model has been implemented in Orlean County, New York, where they began training Meals on Wheels delivery volunteers. https://orleanshub.com/grant-secured-by-united-way-will-fund-computer-and-digital-literacy-mentors-for-community/
The Patterson Foundation in Southwest Florida also offers a similar program. https://www.thepattersonfoundation.org/digital-navigator-program.html

• Provide technical assistance over the phone. • Coordinate a marketing campaign related to privacy and cyber-security issues. • Maintain a list of available resources in the community and make referrals, as necessary. • Assist in enrollment for Affordable Connectivity Program or other programs available to assist with increasing affordability		

Based on community feedback related to the organizations most likely to be trusted to provide reliable information related to privacy and cyber-security, it is not recommended that government organizations or internet service providers be responsible for providing Digital Navigator services.

ADDRESSING DIGITAL LITERACY

As mentioned previously, digital literacy is closely entwined with cybersecurity and privacy concerns. Proposed activities are also linked to device accessibility.

OBJECTIVE: IMPROVE DIGITAL LITERACY FOR THE REGION'S POPULATION WITH A PRIORITY ON BASIC COMPUTER SKILLS FOLLOWED BY COMPUTER USE FOR ESSENTIAL SERVICES, WORKFORCE NEEDS, AND EDUCATION.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
One-on-one technical assistance to be provided in a variety of locations to make services most convenient for the client including, but not limited to, the client's home, homeless shelters, senior centers, and libraries.	• # of clients assisted • # of problems solved	Digital Navigator
Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs. Classes should be available in a variety of settings that would be most comfortable for the target audience. Settings may include local libraries, community centers, senior centers, public schools, churches, workforce centers, or institutions of higher learning.	• # of classes • # of participants • # of students who pass test • # who complete program	• Libraries • Workforce Agencies • Adult Education programs • Digital Navigator • RappCE

Intergenerational training classes to match youth and older adults. Resources for these programs include the Cyber-Seniors Program[16] that trains teenagers to be technology mentors to older adults and GenYes[17], which trains students to be tech leaders and teachers.	• # of classes • # of participants • # of youth who complete coursework wo become a trainer	• Schools • Libraries • Senior Centers • RappCE • Digital Navigator Network
Computer training for parents to help them be able to use necessary software for schools and assist their children with homework.	• # of parents trained • Increased engagement of parents in school as identified through increase in emails opened and use of online learning systems	Public Schools
Online classes available for those who have basic computer skills and need additional training to make better use of the internet for workforce, health, or social engagement purposes. Ideally, these classes will build on themselves to lead clients on a path towards a pre-defined goal.	• # who participate • # of hours of classes • # who complete program • # of students who pass tests	• Workforce Agencies • Adult Education programs • Libraries

DECREASE THE NEGATIVE IMPACT OF AND THREATS FROM THE INTERNET

As mentioned previously, many of these issues can be resolved through Digital Literacy training or in the same manner used to address Digital Literacy. However, there are a number of parents in the region who expressed growing concern about the impact of social media on their children and increased access to the internet in general.

Members of focus groups frequently shared stories of older relatives who fell prey to online scams. The potential for this increasing caused concerns about expanded use of the internet, particularly by older adults.

OBJECTIVE: DECREASE THE NEGATIVE IMPACT OF THE INTERNET RESULTING FROM CYBERSECURITY ISSUES AND SOCIAL MEDIA		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Regional marketing campaigns targeting teens about online safety and cyber-bullying that will reach children and youth outside the public schools. Efforts can/should also be made by local organizations that serve teens such as 4-H, the	• # of students who participate • # of resources provided	Public schools

[16] https://cyberseniors.org/
[17] https://www.genyes.org/genyes/

Boys & Girls Club, churches, and libraries.		
Educate parents about the dangers of social media and how to address these issues with their children	• # of parents who participate • # of resources provided	Public schools
Implement a marketing campaign to educate individuals about the need to protect their privacy online and how to avoid scams	• # of resources provided • # of people reached	Digital Navigator
Digital Literacy Prep Course for high school students outside the bounds of the SOL requirements that focuses on the software and research skills they need to thrive in college or the workplace. The course, to be offered as a club, camp, or after school activity, can also provide education about privacy and online predators.	• # of students who participate • # of hours of learning • Results from testing at end	• Schools • Youth organizations
Partner with Laurel Ridge Community College to host free Cybersecurity fairs during which IT students provide advice and hands-on assistance to attendees.	• # of students who participate • # of volunteer student hours • # of attendees • # of issues resolved	• Laurel Ridge Community College • Lead Agency • Libraries and other community partners that might host the events
E-mail blasts or other news distribution detailing popular scams currently occurring	• # of emails sent	• Digital Navigators • Law Enforcement • Libraries
"Open house" technical assistance days at libraries, senior centers, or other venues during which individuals can have their devices scanned for viruses and/or receive free or reduced cost antivirus software. These services are already provided in Culpeper, Fauquier, and Rappahannock counties, but increased funding and support could help reach more people and provide more services.	• # of individuals served • # of services provided	• Digital Navigators • Libraries • Senior Centers • Lead Agency • Local computer repair businesses
Provide free or low-cost antivirus software through a bulk purchase, donation, or Tech Soup	• # of computers protected • Amount of money saved	• Digital Navigator • Digital Opportunity Lead Agency
Expand existing education programs for students in school about all aspects of online privacy, cybersecurity, and social media protections	• # of students who participate • # of resources provided • # of hours of education • Results of tests/evaluations following completion	• Public Schools

Develop online education videos where people can learn on their own	• # of videos created • # of times watched	• Digital Navigator • Libraries • Public Schools • Law Enforcement Agencies

INCREASING ACCESS TO DEVICES SUITABLE FOR USING THE INTERNET

Focus group participants consistently reported that the lack of an actual computer or tablet was a significant barrier for individuals as it is not adequate for those needing to do tasks such as completing an employment application, participating in an online class, completing homework, filling out online forms, or engaging in many online essential services.

The general consensus among partners is that it is necessary to get devices directly into the hands of the individuals who need them. There is also a strong preference for programs that provide devices outright rather than loan them as loan programs are difficult to manage and there are some associated security issues with people sharing the use of a computer.

However, there is also understanding that providing devices to the large number of people in need is cost prohibitive so making more computers publicly accessible is a necessary step. This is especially useful for individuals who are just learning how to use a computer. Therefore, device access programs should initially be developed on a small scale and targeted to those with a specific need.

OBJECTIVE: INCREASE ACCESS TO TABLETS OR COMPUTERS FOR INDIVIDUALS WHO NEED A MORE ADEQUATE DIGITAL DEVICE TO USE THE INTERNET FOR HEALTHCARE, WORKFORCE, OR ESSENTIAL SERVICE USES.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Develop a list of available computer resource centers in the community for referral.	# of referrals made	Digital Navigator
Develop more publicly available computer and Wi-Fi location from which residents can access the internet. This means more locations, extended times, and more computers at existing locations.	• # of clients served • # of locations • Hours resources are accessed	• Digital Opportunity Network • Libraries • Workforce Agencies • Social Service Agencies • Small businesses
Expand number of computers available for Workforce Agencies to loan or give to clients.	# of clients served	Workforce Agencies
Develop Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.	• # of classes • # of participants • # of students who pass test • # who complete program • # who purchase a computer	• Workforce Agencies • Adult Education programs • Digital Navigator • Libraries

Develop partnerships with national device refurbishment and distribution programs. https://planitroi.com/ https://www.techsoup.org/refurbished-computers https://www.pcsforpeople.org/ https://digitunity.org/get-involved/receive-equipment/ https://www.sagese.com/good-together	• # of computers distributed • # of households served	• Lead Agency • Digital Navigator • Community Anchor Institutions • Adult Education Programs • Workforce Agencies
Expand the VA Star program to create a partnership with the local schools to teach students to repair donated computers and redistribute them to pre-qualified clients in need.[18] The program is currently available in Fauquier County.[19]	• # of students engaged in training classes • # of computers repaired • # of recipients	• Public Schools • Human Services providers of Digital Opportunity Network • Departments of Social Services

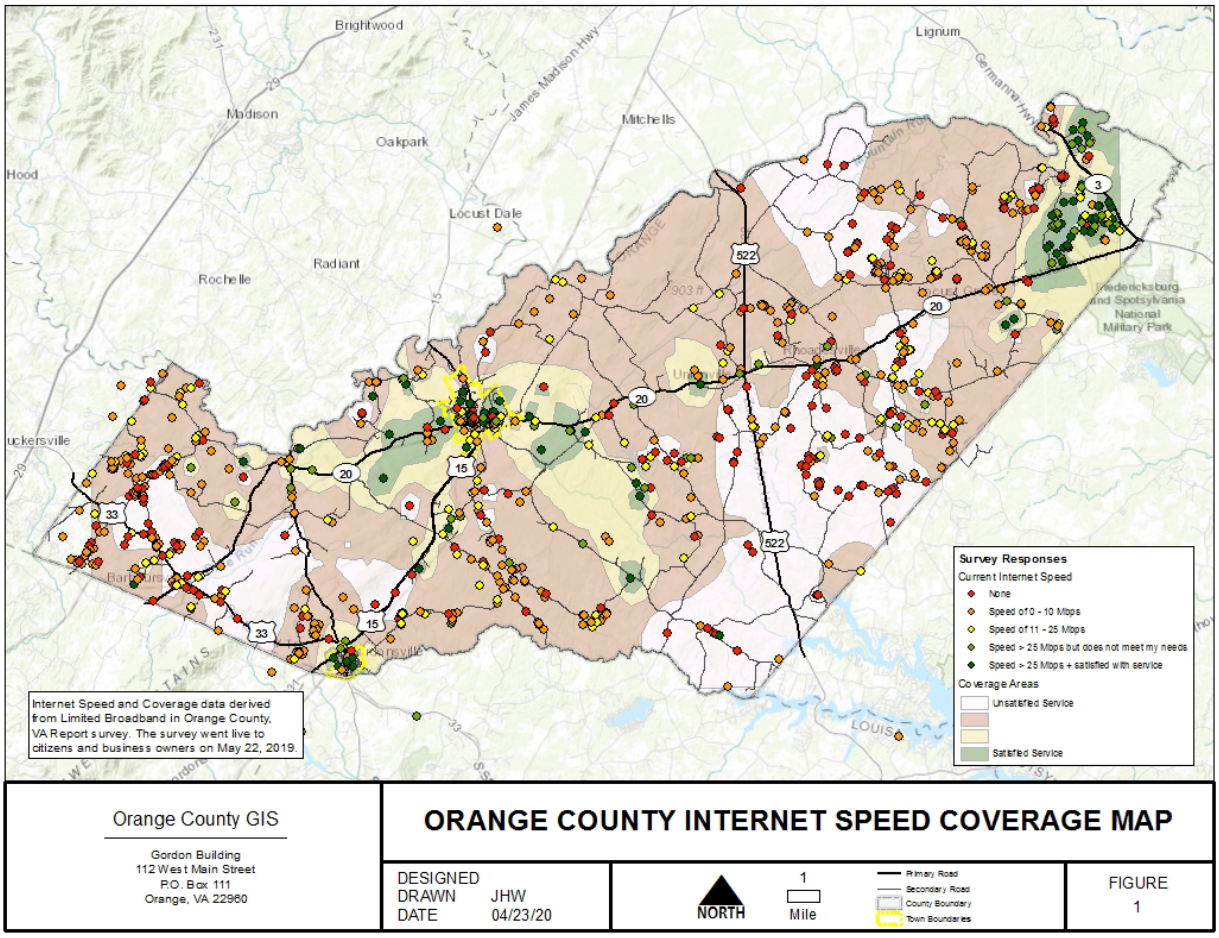
INCREASE INTERNET ACCESS AND AFFORDABILITY

Focus group participants, particularly those in Madison County, consistently identified internet access as the overarching need without which other aspects of digital equity could not be addressed. Despite the urgency, access and affordability measures were identified as a lower priority for the initial phase of the plan due to the high cost of addressing these issues. There are multiple VATI projects underway in the region that will, hopefully, address many of the problems.

The following series of maps show unserved areas that remain in Piedmont counties. This map is from the 2023 VATI application for Orange County. The application received an allocation of funding, which should bring the county near complete coverage.

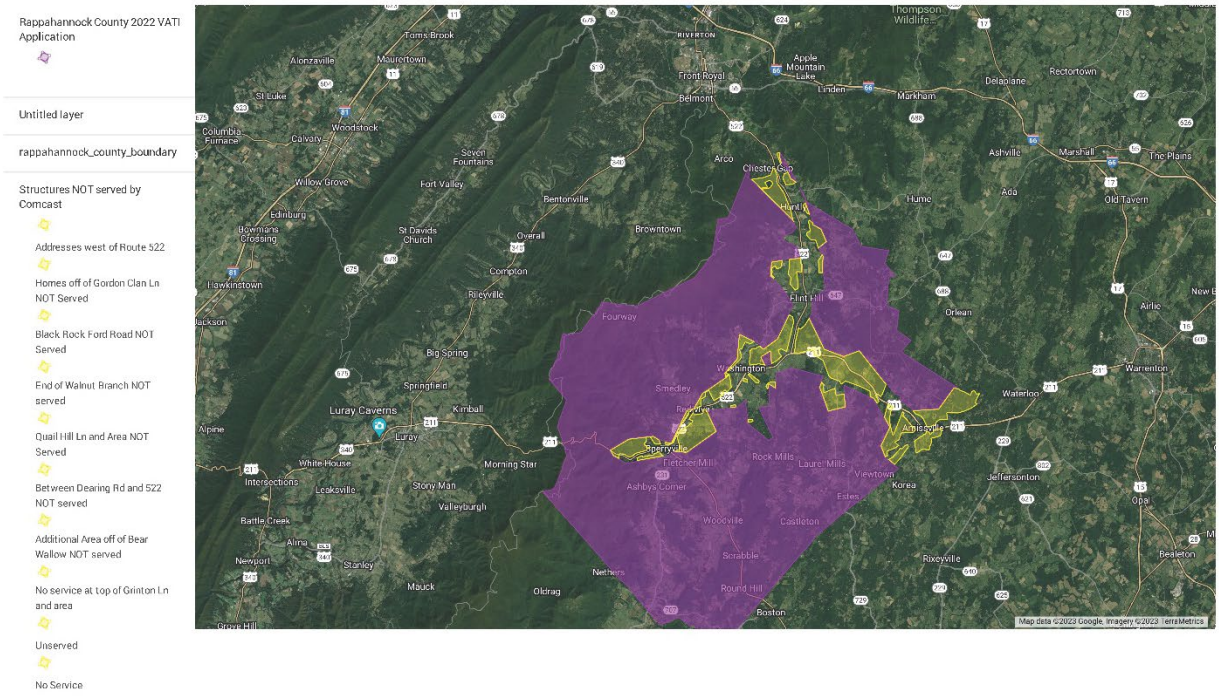
[18] In the Statewide Recommendations section, the VA STAR program is recommended as a program to develop in every school district. In addition, a comparable program for community colleges is recommended. These would have a large impact in the local region, but require a significant investment of time, funds, and technical skills in developing the curriculum that make them difficult to implement at the regional level. https://vastar.org/

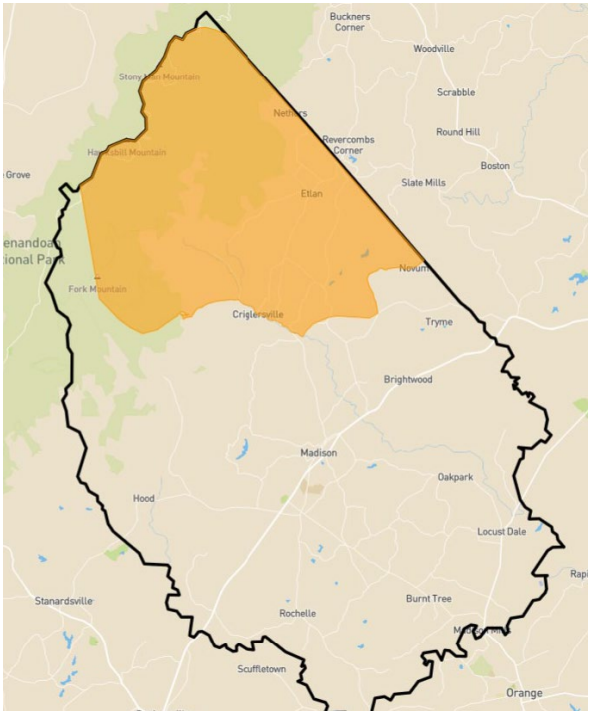
[19] https://www.vastar.org/participating-districts/



In Rappahannock County, All Points Broadband, the company contracted for the existing VATI project, has promised to apply for addition VATI funding for the 2024 allocation round to complete service to the areas. These are regions where service is often available via Xfinity or some other non-broadband provider.

Rappahannock County 2023 Map



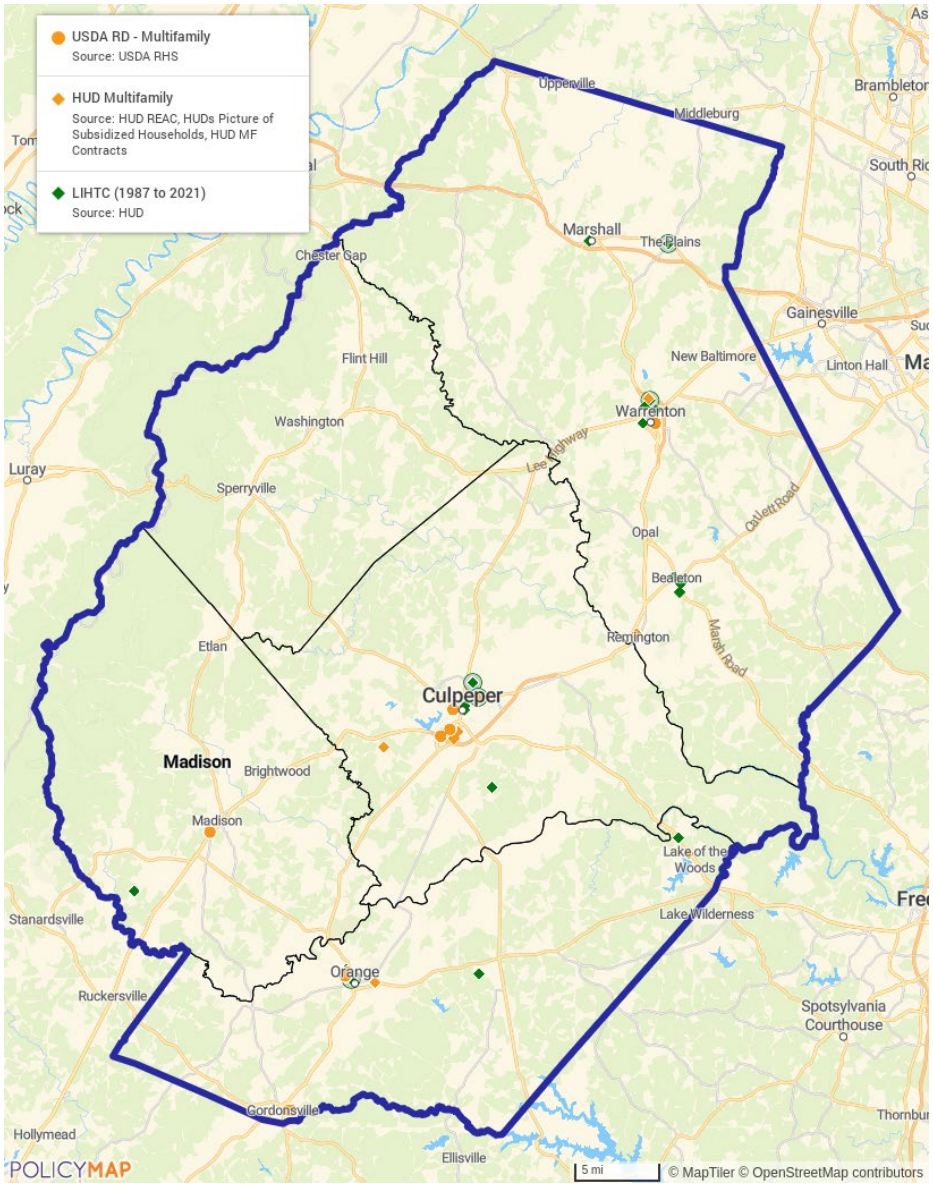


This map of Madison County was submitted by the Thomas Jefferson Planning District Commission with their 2023 VATI application. It reflects the territory that was supposed to be served by the 2021 application but is not since the provider defaulted on their RDOF commitment. Madison County is the region most concerned about internet access. This region is home to 946 homes, including six with home-based businesses, three community anchors, and 23 businesses.[20]

With some of these service gaps still years away from being closed, stakeholders in the community advocated for of non-broadband solutions such as low-orbit satellite and fixed wireless to reach those in the most difficult to reach location as well as those who are most in immediate need for services. The one-time upfront invest is ideal for a public-private partnership. Ongoing costs are consistent with local prices for existing high-speed internet and could likely be supported by many households once the equipment

[20] Thomas Jefferson Planning District Commission, Virginia Telecommunication Initiative 2023 - Application

was in place. For this reason, the element is included in the initial Digital Opportunity plan for the region. Options to expand access through increased Wi-Fi hotspots were dismissed because these areas also generally lack cellphone service as well.

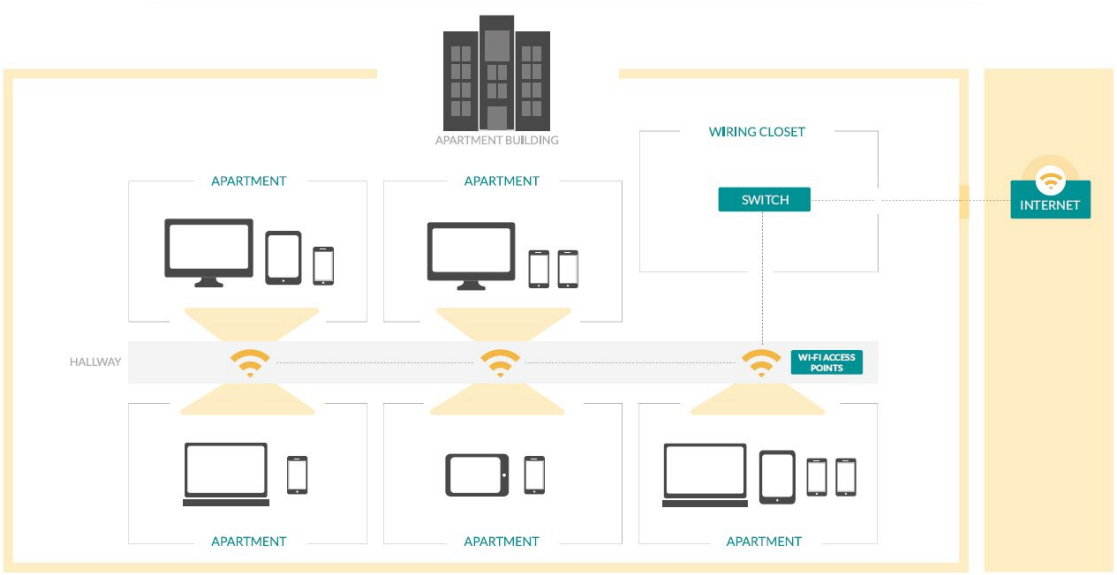


While the infrastructure issues are resolved, there are efforts that can be made to increase access through affordability. The first is outreach and enrollment efforts for the ACP, which should be a key function of the Digital Navigator Network. The second is the installation of Wi-Fi infrastructure in affordable housing rental communities.

Installing internet services in affordable housing rental communities is one of the most expedient and effective means of increasing access and affordability in the short term. This method allows for expansion of service to the targeted low-income population with a sustainable method for maintaining the service after the initial investment. The map shows the locations of apartments that might be eligible for such a program. Fauquier, Culpeper, and Orange are the best targets for such an activity as Madison County only has one affordable housing development and Rappahannock has none.

Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as residents can then be supplied with service for free or at a reduced cost. Methodology for this is illustrated in a graphic designed by Education Superhighway for their publication, “Closing the Digital Divide with Free Apartment

Wi-Fi." They propose a structure modeled after the installation of services in hotels as illustrated in the following graphic. [21]



The guide from Education Superhighway recommends these steps:

1. Activate an Internet connection in the building. This can be purchased from a local Internet service provider, or the city can leverage the Internet access it uses to connect city facilities by extending its network to apartment buildings using a wired or wireless wide area network.
2. Install Wi-Fi infrastructure in the apartment building. This step involves simply wiring hallways and common areas for Wi-Fi access points and then configuring the network.
3. Provide residents with the SSID and password to connect to the Internet. Residents can also be given a unique username and password for enhanced security.

Depending on the availability of hardware, funding, and permits, the installation process can take as little as two months. In the end, the networks can supply symmetrical speeds far exceeding FCC guidelines making this not only an affordable option bit an expedient one as well.

Rural LISC has also developed resources to promote this path to access and affordability It includes models for financing and case studies.[22]

Support for internet subscription subsidies was mixed. Those that did support it generally favored an approach narrowly targeted to those most in need of access to support workforce, education, or healthcare goals. The high cost of implementation and ongoing sustainability make it a lower priority.

OBJECTIVE: INCREASE ACCESS TO AFFORDABLE, HIGH-QUALITY BROADBAND SERVICE		
SHORT-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Conduct outreach about ACP and other resources available to assist with affordability of internet access	• # of people reached • # of people enrolled in ACP	• Digital Navigator • Digital Equity Consortium
Install mesh wireless internet systems in apartment buildings to	• # of units served	• Local governments • DHCD • VHDA

[21] https://www.educationsuperhighway.org/free-apartment-Wi-Fi/
[22] https://www.lisc.org/rural/our-work/broadband-infrastructure/resources/broadband-resources-affordable-housing/

provide internet access to residents free of charge or at a low cost.	• Cost savings compared to individual per-unit subsidies	• Apartment owners
MEDIUM-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Develop subsidies for individuals identified as high priority including parents with children in school, individuals engaged in workforce programs, individuals enrolled in education programs.	• # of individuals/households served • # of households able to sustain internet connection after 6 months, 1 year	• Digital Navigator • Community Action Agencies • Department of Social Services • Workforce Agencies • Institutions of higher learning
Increase competition among providers to decrease costs and increase quality.	• % decrease in price • Increase in internet speed • Decrease in wait time for installation Decrease in wait time for service calls	• Local governments • Internet Service Providers
Increase access to non-broadband internet options include low-orbit satellite and fixed satellite.	# of new households connected	• Local governments • Internet Service Providers
Expand infrastructure to fill gaps in service.	# of new households connected	• Local governments • Internet Service Providers

ONLINE ACCESSIBILITY

While partners and stakeholders agree that there are issues related to Online Accessibility, there was also consensus that little could be done to address the issue on a regional basis. It is also a low priority with regards to funding efforts. Recommendations that may be implemented by local governments, non-profits, schools, and other providers of public services include:

- Use language that is written at a lower grade level.
- Use a design that can be read on a phone or tablet.
- Provide information boxes that will pop-up to guide users through a process.
- Create a website that is in keeping with ADA requirements, particularly for standards to accommodate those who are deaf, blind, or have difficulty seeing.
- Ensure that websites can be adequately translated by Google translate if it is not available in multiple languages.
- Conduct regular website accessibility audits and make changes accordingly.
- Increase options for contacting people and completing paperwork online while still leaving the option for phone and mail service.

TIMELINE

The timeline for implementation of the plan will begin once the Lead Agency has been selected. After that, activities will occur based on the following timeline:

PLAN MONTH	ACTIVITY
1-3	Establish Digital Navigator Network

2-5	Solicit proposals for digital literacy and cyber security/privacy activities
6-8	Award funds and begin implementation of digital literacy and cyber security/privacy activities Begin training and funding of Digital Navigators to expand Network throughout the region.
4-8	Solicit proposals for digital access and broadband access activities
8-11	Award funds and begin implementation of digital access and broadband access activities
12-14	Begin six-month review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
16-18	Begin six-month review of digital access and broadband access activities
18-20	Begin annual review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
20-22	Conduct update to Digital Opportunity Plan
24-26	Begin annual review of digital access and broadband access activities

MECHANISMS FOR PLAN UPDATE

The designated lead agency described in the Implementation Section will have primary responsibility for updating the plan on a bi-annual basis. However, this, and all other work regarding the plan's implementation and monitoring of progress will be done with the coordination of the key partners and stakeholders in the Piedmont Digital Opportunity Network.

The plan will be evaluated on at least a semi-annual basis to determine:

- if efforts are being made in all regions and for target populations;
- what changes might need to be made to improve the reach of activities,
- what programs and services need to be abandoned, expanded, or improved; and
- what new programs should be added next to address the most pressing barriers to Digital Opportunity.

STATEWIDE ACTIVITIES

Many of the barriers and solutions to digital opportunities in the region require decisions and actions to be made at the state level. To that point, the regional planning team recommends the following:

IMPLEMENTATION

- Identify a lead agency for each regency and then allocate funding per region based on the Digital Divide Index and Covered Population with a premium allocated to rural region where implementation costs per person are higher. The regions can then allocate resources to specific programs based on funding availability and priorities at the direction of an established consortium of stakeholders.
- Establish a statewide Digital Navigator Network with locally controlled programs so that resources can be shared across the state and information is presented consistently without duplicating efforts.

INTERNET ACCESS AND AFFORDABILITY

- Because the most rural regions of the state will be the most expensive to serve, broadband infrastructure allocations should be based on need as defined by the percentage of with access to the internet and the

percentage of high-risk target populations (prioritizing areas with high poverty rates) rather than financial metrics. Understanding that rural areas have less money to invest and are a larger financial risk for Internet Service Providers, these areas should not be required to provide matching funds for VATI or BEAD allocations.

- Provide funding from state or federal resources for installation of non-broadband internet access such as satellite to provide more immediate access to internet for residents in the most remote areas of the commonwealth.
- Work with the Virginia Housing Alliance to provide funding for affordable housing developers to install mesh Wi-Fi networks to provide access to residents of existing and future properties. Prioritize funding for developments in Persistent Poverty Counties and Title I school districts.
- Work with community colleges to develop a workforce trained to install the necessary broadband infrastructure.
- Create a statewide referral system or work with Everyone On[23] to maintain accurate information related to options for low-cost internet access, devices, and digital literacy training.[24]

DEVICE ACCESS AND AFFORDABILITY

- Expand the VA STAR program to at least one school in every district across the state as interest and capacity allow.
- Work with Virginia community colleges to develop a training program for computer repair that can also be used as a redistribution source and dual enrollment program for high school students.
- Provide supplemental funding for VPI and Head Start programs to provide tablets to families to increase parent engagement.

ONLINE ACCESSIBILITY

- Update state websites for website accessibility standards. Conduct bi-annual audits.
- Provide technical assistance and resources for local government agencies to update their website to meet accessibility standards.

[23] https://www.everyoneon.org/find-offers

[24] The state of Wisconsin recently announced the creation of an online system to provide these services. (https://content.govdelivery.com/accounts/WIGOV/bulletins/36760f5). It has the added benefit of providing residents with information about other available resources in the state. It can be found online at https://apps.psc.wi.gov/InternetDiscountFinder

CONCLUSION

KEY POINTS

DIGITAL OPPORTUNITY DEFINITION AND VISION

The Piedmont Region embraces the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

While recognizing that this is a suitable definition of Digital Opportunity overall, stakeholders also seek to maintain flexibility in pursuit of these efforts with the understanding that each jurisdiction within the region, each target population, and each individual, has its own needs that will impact how to best create an equitable digital environment. They put forth the following vision:

Digital equity will be achieved when everyone has a sufficient level of knowledge, appropriate devices, and adequate internet access to meet their needs without baring an undo financial burden regardless of their age, income, education level, or other demographic characteristics.

The stakeholders involved in crafting this plan envision digital opportunities as the means of providing opportunities to:

- Work – through access to remote employment
- Learn – via online education programs
- Stay healthy – with online apps, telehealth appointments, and research
- Be engaged – with volunteer opportunities, access to news, and various means of communication
- Take care of day-to-day life – through online financial services, government benefits, and other resources

The digital world will provide access to these without the burden of transportation or childcare, two of the biggest obstacles local residents face when pursuing these opportunities.

FINDINGS

Despite the large geography and variety of attendees, the barriers to digital equity are similar for all target populations in the Piedmont region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Access and Affordability
2. Digital Literacy
3. Privacy and Cybersecurity
4. Device Access and Affordability
5. Online Accessibility

BROADBAND ACCESS

- Families need sufficient internet access (both quality and quantity) to fulfill requirements for both school and employment.

    - Households in the region need continued expansion of broadband infrastructure in order to provide basic access to the internet.
    - Households need access to more viable options than broadband to secure internet access in a more timely and cost-efficient manner. Waiting two or more years for a company to lay fiber to a single house miles away from existing lines does not seem like a desirable solution.
- Households need high-quality internet for individuals to be able to work from home as many positions require a specific upload/download speed be available before a person can be hired.
- "Centralized locations" such as a library or other venue for computer/internet access or to take a class are insufficient to meet the needs of residents in rural areas who still need to travel 20 minutes or more to reach those areas.

DIGITAL LITERACY

- Individuals need an opportunity to learn about technology in a way that alleviates their fears and embarrassment.
- Individuals need unbiased, reliable assistance to identify the technology they need and/or the internet options available to them.
- Individuals need to how to use essential online services such as banking and health charts, which are increasingly becoming accessible online only.
- Parents need more technology skills to assist their children with school and stay current with school communications.
- Individuals need to learn more about how to use a computer and the internet to participate in telehealth appointments.
- Individuals need a trusted, reliable resource they can contact for assistance with their computer.

DEVICE ACCESS

- Individuals need access to the internet and a computer in order to apply for jobs.
- Individuals need high-quality internet and a computer at home to be able to work from home or operate a business.
- Individuals need a device other than their smartphone to access the internet.

PRIVACY AND CYBER-SECURITY

- Children need to be protected from cyber-bullies and online predators.
- Individuals need to be sure their personal information is safe when they are online.
- Older adults need to be protected from online scams.

BROADBAND AFFORDABILITY

- Families need assistance applying for the ACP internet subsidy program as it is too complicated to navigate. Many families are not even aware of the program.
- Individuals and households need an affordable internet connection option.
- Families need choices of internet providers to improve cost and quality.

ONLINE ACCESSIBILITY

- Residents need to be able to complete more forms online in order to be more efficient with their time.
- Government websites need to be monitored to ensure all links and webpages are current and active.
- Individuals with disabilities need websites to be reviewed for accessibility, specifically related to font size and readability.

MOVING FORWARD

Implementation should occur in a multi-stage process beginning with the selection of a lead agency that will coordinate work between stakeholders, monitor progress in meeting plan goals, and assume responsibility for maintaining and updating the plan bi-annually.

The second stage should be implementation of a Digital Navigator Network within the region. It is the single solution to the most common barriers for residents. The Navigator can work one-on-one with residents to help them meet their specific needs whether that be accessing the Affordable Connectivity Plan, identifying the type of device they need, learning how to use their specific device, or referring them to resources available in the community.

Finally, resources should be directed to meet the needs of target populations as prioritized, based on the significance of the barrier, and the ability of the solution to create Digital Opportunities in the short-term.

IMPACT ON DIGITAL OPPORTUNITY IN THE REGION

GOALS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. Develop a cohesive, coordinated regional approach to promoting digital opportunities.
2. Provide comprehensive technical support and training to meet the specific individual needs of the local population.
3. Promote Digital Opportunities in a way that creates the greatest immediate impact.
4. Address the long-term needs of the community.

FUTURE IMPACT

In the Piedmont region, Digital Opportunity is expected to allow residents to have equal access to the workforce, healthcare, and essential services unburdened by the restrictions of transportation and childcare limitations. All residents will have the access and skills to use the internet as needed and desired. This will, in turn:

- Improve employability, incomes, and employment;
- Increase the number of people receiving regular healthcare services;
- Improve educational outcomes and education levels;
- Decrease social isolation;
- Expand engagement in the community; and
- Enhance access to essential services and resources.

These results must be achieved while maintaining a safe, secure online environment for children and adults that does not open them up to the risk of identity theft, scams, or other online predators.

APPENDICES

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

B. ASSET INVENTORY

C. COMMUNITY ENGAGEMENT TRACKER

D. LIST OF ORGANIZATIONS

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

The Digital Divide Index was developed by the Center for Regional Development at Purdue University[25] to provide a quick overview of the factors impacting the Digital Divide in the U.S. The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. It is based on z-scores normalized to 0-100 for each geography. For the analysis presented here, the geography is the Commonwealth of Virginia. The numbers presented in the main body of the report were indexed nationally and, therefore, differ from these.

The data on the table is sorted by Socioeconomic Index as the Infrastructure Index will be greatly impacted by the VATI projects currently underway. This analysis is for 2021 and does not take that into account. The Socioeconomic Index Score indirectly measures the potential for technology adopting using considers the following factors, known have an impact:

1. percent population ages 65 and over;
2. percent population 25 and over with less than high school;
3. individual poverty rate;
4. percent of noninstitutionalized civilian population with a disability: and
5. digital inequality or internet income ratio measure (IIR).

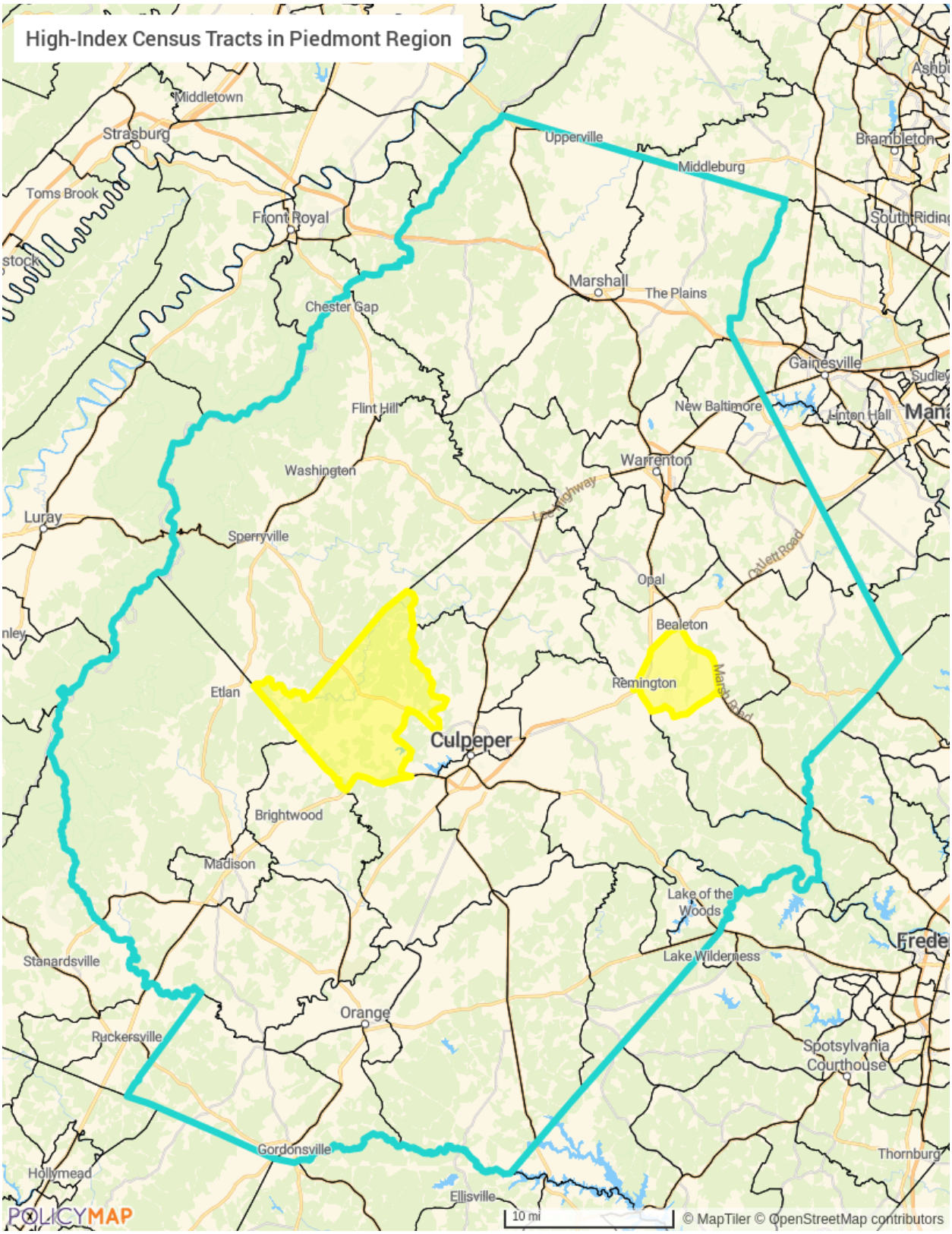
The Infrastructure Index considers the following variables related to broadband infrastructure and adoption:

1. percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset;
2. percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.);
3. percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests)
4. download and speeds in Megabits per second (Mbps)
5. (5) upload speeds in Megabits per second (Mbps)

VIRGINIA DIGITAL DIVIDE INDEX BY CENSUS TRACT

The map on the following page shows the Census Tracts in the Piedmont region and highlights the one in Madison and on in Fauquier that have a high Socioeconomic Index Score (over 50).

[25] Gallardo, R. (2023). Digital Divide Index. PURDUE CENTER FOR REGIONAL DEVELOPMENT. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi


High-Index Census Tracts in Piedmont Region
Middletown
Strasburg
Toms Brook
Front Royal
Upperville
Middleburg
Brambleton
Marshall
The Plains
Chester Gap
Gainesville
Flint Hill
New Baltimore
Linton Hall
Warrenton
Washington
Luray
Sperryville
Opal
Bealeton
Remington
Etlan
Culpeper
Brightwood
Madison
Lake of the Woods
Lake Wilderness
Stanardsville
Orange
Ruckersville
Spotsylvania Courthouse
Gordonsville
Thornburg
Hollymead
Ellisville
POLICYMAP
10 mi
© MapTiler © OpenStreetMap contributors

Census Tract	County	Socioeconomic Index	Infrastructure Index	Digital Divide Index
51047930101	Culpeper	49.80	26.37	45.27
51047930202	Culpeper	34.40	41.02	42.15
51047930400	Culpeper	24.34	46.37	38.06
51047930204	Culpeper	39.85	18.34	34.74
51047930103	Culpeper	25.51	31.28	31.49
51047930501	Culpeper	26.15	30.07	31.33
51047930104	Culpeper	18.32	31.56	26.85
51047930300	Culpeper	26.33	14.27	23.77
51047930502	Culpeper	28.83	10.37	23.53
51047930203	Culpeper	16.20	5.51	12.76
51061930706	Fauquier	**58.65**	22.11	49.09
51061930204	Fauquier	31.38	43.88	41.53
51061930703	Fauquier	27.34	38.32	36.13
51061930306	Fauquier	22.45	44.97	36.11
51061930203	Fauquier	28.49	32.68	34.15
51061930704	Fauquier	22.56	40.56	34.04
51061930705	Fauquier	29.35	30.25	33.55
51061930205	Fauquier	20.87	41.65	33.45
51061930404	Fauquier	29.13	28.96	32.77
51061930102	Fauquier	27.59	29.96	32.24
51061930304	Fauquier	30.26	22.63	30.45
51061930707	Fauquier	22.41	33.37	30.45
51061930207	Fauquier	24.45	28.33	29.35
51061930305	Fauquier	24.62	25.97	28.32
51061930206	Fauquier	29.10	19.01	27.91
51061930303	Fauquier	23.55	24.30	26.80
51061930101	Fauquier	22.49	24.94	26.40
51061930405	Fauquier	22.96	21.51	25.05
51061930402	Fauquier	13.67	20.78	18.51
51061930401	Fauquier	11.05	13.40	13.17
51113930202	Madison	41.36	64.26	58.08
51113930201	Madison	41.80	34.27	43.79
51113930102	Madison	28.83	33.80	34.93
51113930101	Madison	24.24	22.79	26.52
51137110104	Orange	37.89	29.97	39.09
51137110302	Orange	37.34	30.67	39.07
51137110200	Orange	35.76	26.84	36.16
51137110105	Orange	27.79	37.61	36.09
51137110106	Orange	34.20	27.80	35.58
51137110301	Orange	36.26	24.08	35.15
51137110108	Orange	31.45	23.72	31.77
51137110107	Orange	33.34	19.07	30.76
51157950100	Rappahannock	32.63	39.48	40.22
51157950200	Rappahannock	27.28	32.84	33.43

VIRGINIA DIGITAL DIVIDE INDEX BY COUNTY

The following table ranks all jurisdictions within the Commonwealth. It is sorted by Digital Divide Index.

State Rank	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
1	Buchanan	100.00	67.27	100.00
2	Lunenburg	57.32	100.00	92.26
3	Dickenson	85.80	68.71	92.05
4	Emporia city	96.30	57.05	91.90
5	Russell	74.58	77.56	90.15
6	Scott	77.08	73.09	89.16
7	Halifax	60.66	86.10	86.42
8	Lee	79.80	63.74	85.52
9	Greensville	80.08	60.45	83.82
10	Brunswick	75.69	64.01	83.13
11	Charlotte	62.34	78.30	83.02
12	Mecklenburg	62.15	76.76	82.03
13	Nottoway	53.47	81.48	79.36
14	Lancaster	62.17	71.90	79.28
15	Floyd	76.37	51.83	76.63
16	Wise	71.22	56.81	76.28
17	Amelia	64.06	61.56	74.57
18	Henry	60.21	65.38	74.36
19	Highland	58.78	66.82	74.30
20	Bath	62.05	63.06	74.18
21	Grayson	61.55	62.72	73.67
22	Bland	39.93	85.95	73.55
23	Franklin city	67.33	56.19	73.53
24	Patrick	54.94	69.21	73.28
25	Carroll	57.84	65.52	72.98
26	Pittsylvania	57.77	64.75	72.49
27	Middlesex	55.91	66.22	72.19
28	Buckingham	51.29	71.14	72.13
29	Page	54.16	67.81	72.01
30	Northumberland	71.16	49.30	71.98
31	Charles City	59.67	60.58	71.30
32	Northampton	66.88	52.26	71.01
33	Richmond	58.98	60.84	71.01
34	Danville city	60.22	58.70	70.56
35	Prince Edward	49.87	69.91	70.56
36	Smyth	62.37	55.30	69.96
37	Accomack	56.76	58.79	68.48
38	Surry	58.73	56.40	68.34
39	Westmoreland	64.18	48.53	67.22
40	Galax city	66.18	44.73	66.30
41	Petersburg city	61.60	48.67	65.71
42	Tazewell	60.01	49.99	65.48
43	Norton city	64.92	43.32	64.72
44	Buena Vista city	57.07	51.51	64.53
45	Pulaski	50.35	56.94	63.47
46	Wythe	46.58	60.32	63.06
47	Essex	50.81	55.61	63.00
48	Sussex	46.81	59.63	62.82

49	Alleghany	58.46	45.62	62.04
50	King and Queen	39.02	66.10	61.68
51	Mathews	50.01	53.82	61.49
52	Franklin	42.95	59.27	60.23
53	Shenandoah	44.38	56.51	59.54
54	Martinsville city	54.76	44.99	59.40
55	Washington	52.58	46.59	58.96
56	Hopewell city	57.79	39.98	58.42
57	Bristol city	55.99	41.44	58.13
58	Southampton	43.82	54.27	57.92
59	Nelson	52.54	41.06	55.79
60	Rockbridge	48.26	44.50	55.11
61	Amherst	41.37	49.89	53.92
62	Radford city	45.26	45.34	53.73
63	Louisa	45.59	41.43	51.71
64	Dinwiddie	37.38	49.62	51.30
65	Campbell	32.39	54.78	51.16
66	Craig	42.96	43.11	51.04
67	Covington city	53.02	32.10	50.99
68	Madison	40.21	45.77	50.86
69	Cumberland	36.34	47.98	49.73
70	Gloucester	40.00	40.33	47.63
71	Appomattox	37.70	42.83	47.63
72	Giles	37.30	42.32	47.10
73	Isle of Wight	31.16	48.84	47.01
74	Rockingham	31.19	47.05	46.02
75	Augusta	33.51	43.16	45.24
76	Colonial Heights city	33.65	42.97	45.22
77	Bedford	31.05	45.38	44.98
78	Roanoke city	37.30	37.65	44.44
79	Rappahannock	32.02	42.51	43.95
80	Goochland	40.72	32.75	43.77
81	Waynesboro city	44.09	27.64	42.94
82	Orange	39.49	30.95	41.98
83	Norfolk city	33.35	37.54	41.94
84	Portsmouth city	40.53	28.13	41.02
85	Suffolk city	29.18	40.31	40.94
86	Caroline	31.21	37.97	40.87
87	Greene	30.35	38.41	40.59
88	Frederick	30.43	38.28	40.56
89	Clarke	31.25	37.36	40.55
90	Roanoke	28.19	40.27	40.31
91	Winchester city	36.16	29.93	39.35
92	Warren	34.32	31.59	39.16
93	Botetourt	26.84	39.13	38.83
94	Montgomery	31.60	33.77	38.72
95	New Kent	28.24	36.99	38.47
96	Staunton city	34.09	28.79	37.42
97	James City	32.89	29.68	37.18
98	Lynchburg city	32.69	28.94	36.64
99	Richmond city	36.70	23.56	36.06
100	Prince George	27.38	30.52	34.26

101	Lexington city	33.10	23.97	34.06
102	Harrisonburg city	37.53	18.21	33.53
103	Hampton city	34.81	21.03	33.45
104	King William	16.72	39.00	32.51
105	Culpeper	25.63	29.31	32.50
106	Williamsburg city	24.32	29.58	31.84
107	Hanover	19.05	33.47	30.80
108	Albemarle	20.81	30.29	30.08
109	Fauquier	17.55	32.90	29.55
110	Fluvanna	20.32	28.57	28.79
111	Powhatan	22.67	25.35	28.42
112	Newport News city	28.26	17.86	27.60
113	King George	23.05	22.89	27.25
114	Henrico	29.49	15.60	27.08
115	Salem city	22.17	22.20	26.31
116	Manassas Park city	36.65	4.79	25.35
117	Poquoson city	29.22	12.56	25.18
118	Charlottesville city	25.18	15.61	24.43
119	Fairfax city	32.84	2.89	21.92
120	Alexandria city	14.55	22.64	21.86
121	Fredericksburg city	22.11	14.30	21.78
122	York	21.07	14.28	21.13
123	Spotsylvania	23.34	11.78	21.11
124	Chesapeake city	20.67	14.48	21.00
125	Virginia Beach city	20.57	14.17	20.76
126	Chesterfield	22.01	11.38	20.06
127	Manassas city	18.16	6.35	14.82
128	Stafford	16.21	6.71	13.82
129	Arlington	13.50	7.16	12.41
130	Fairfax	16.66	3.49	12.27
131	Prince William	12.58	3.11	9.53
132	Loudoun	5.17	4.31	5.64
133	Falls Church city	0.00	0.00	0.00

B. ASSET INVENTORY

Organization Name	Contact	Type of Resource (class, service, etc.)	Description	Geography Served	Targeted Populations
Culpeper County Library https://www.cclva.org	Andrew DeNicola adenicola@cclva.org	computer access, computer classes/workshops, Wi-Fi access, Wi-Fi hotspot	The 2nd and 4th Tuesdays of each month offer classroom style sessions in our Computer Lab on a variety of topics. The 4th Tuesday offers "Bring Your Own Tech" days where you can ask questions and have them answered. We also offer free in-Library Wi-Fi access that extends out into the parking lot. There is no time limit for access. Library patrons are also welcome to use our in-Library computers to access the internet, write documents, or do research. Verizon Wi-Fi hot-spots are available for checkout at the circulation desk on a first-come-first-serve basis and may be borrowed for two weeks but are limited to those with access to the Verizon network.	Culpeper	General Population, Older population, Residents of rural areas
Aging Together https://www.agingtogether.org	Ellen Phipps ephipps@agingtogether.org	other	Aging Together partners with AARP and others to provide webinars on fraud and scams to older adults. We also provide information on where older adults can find tech classes and assistance, such as the Tech Tuesday class at Culpeper library	Culpeper, Fauquier, Madison, Orange, Rappahannock	Older population
Germanna Community College https://www.germanna.edu	H. Aaron Finney hfinney@germanna.edu	computer loan, computer access, computer classes/workshops, financial assistance for internet access, free or reduced cost computers, Wi-Fi access, Wi-Fi hotspot	Germanna offers a student laptop loaner program which operates a nearly full capacity. Recently, Germanna purchased an additional 200 laptops to expand availability to enrolled students throughout our service region. Germanna's Title III program funds a 30-unit Wi-Fi hotspot loaner program available for all students. In addition to courses that support digital literacy, Germanna offers specific courses in basic information technology software use and digital literacy. Among services, Germanna Cares program offers students connections to community resources which include free or reduced cost for internet service.	Caroline, Culpeper, Stafford, Spot Sylvania, King George, Madison, Orange, and the City of Fredericksburg	English language learners, Individuals living in households below 150% of the poverty level, Individuals with disabilities, Older population, Other, Individuals with low levels of literacy, Racial or ethnic minorities, Residents of rural areas, Veterans, Incarcerated individuals
Fauquier County Public Library https://fauquierlibrary.org		Wi-Fi access, Wi-Fi hotspot, computer access		Fauquier	

The Work Place https://www.fauquiercounty.gov/government/departments-h-z/social-services/the-work-place	workplace320@gmail.com	computer access, Wi-Fi access, computer classes/workshops		Fauquier	
Madison County Library, Inc. https://www.madisoncountyvalibrary.org	Bonnie G Utz bonnie@madisoncountyvalibrary.org	Wi-Fi access, computer access, other	The library provides both education and access to computers and Wi-fi for anyone. Our Wi-fi alone from 07/01/2022-06/30/2023 had 10,456 session lasting over 13,336 hours. That does not include the 9 landline computers we have on the inside for citizen use.	Madison	Residents of rural areas
Literacy Council of Madison County https://madisonliteracy.org/	Fay Utz president@madisonliteracy.org	computer classes/workshops	Non-profit organization offering computer literacy classes and smart phone classes	Madison	
Orange County Public Library https://www.ocplva.org	Katie Hill khill@orangecountyva.gov	computer access, Wi-Fi access, Wi-Fi hotspot	We own 26 mobile hotspots that we check out at our 3 branches. We also have free Wi-Fi access in our3 buildings that extends to our parking lots. We also have desktop computers that the public can access during our hours of operation Mon.-Sat. (18 total between the 3 locations). We offer library cards to residents of Orange County and our surrounding counties with proper I.D.	Orange	
Orange County Public Schools https://www.ocss-va.org/	Gregory Hill ghill@ocss-va.org	computer access, computer classes/workshops	"1. We are a 1 to 1 district meaning every student pre k through 12th grade has access to a device 2. Pre k through first grade use managed IPads which are kept at school. 3. Students in 2nd – 12th grades have Chromebooks with students in 6-12 taking them home nightly. 4. Digital safety and online digital citizenship is taught at all grades and is part of our current Strategic Plan"	Orange	Students
Rapp at Home https://rappathome.net	Victoria Laing, Executive Director ExecDir@rappathome.org	computer access, technical support, Wi-Fi hotspot	Rapp at Home serves older adults. We offer 3 loaner iPads, access to our office internet connection, individual technical assistance, as well as tech activities (such as a tech help session with high school students, sessions on how to use your iPhone, etc.)	Rappahannock	Older population
Rappahannock County Public Schools https://www.rappahannockschools.us/	rbolt@rappahannockschools.us	computer access	The school system provides Chromebooks for students and staff to enable students to access internet and do classwork from home.	Rappahannock	
Rappahannock County Library https://rappahannocklibrary.org/		computer access, Wi-Fi access		Rappahannock	

Rappahannock Goodwill Industries https://www.mycareeradvisor.com	Daphney Barrett daphney.barrett@fredgoodwill.org	computer classes/workshops	Rappahannock would like to offer no-cost digital literacy and soft-skill training to any individual (job seeker) in our community. The target audience are individuals who lack transportation to come to one of our offices. With My Career Advisor, job seekers can learn Microsoft Word, Excel, PowerPoint, along with typing/keyboarding and other software programs that increase employment skills. There are training modules to review GED information, too. My Career Advisor offers a resume builder with five templates and the ability to pre-fill many job duties. The site is also linked to Indeed but expands the search function that Indeed offers. Users can ask for assistance at any point from a team of Virtual Services Navigators to help facilitate use of this incredible digital learning platform.	Virginia	Incarcerated individuals, Individuals living in households below 150% of the poverty level, Racial or ethnic minorities, Older population, Other, Veterans, Residents of rural areas

C. COMMUNITY ENGAGEMENT TRACKER

Regional Digital Opportunity Plan: Stakeholder Engagement Tracker

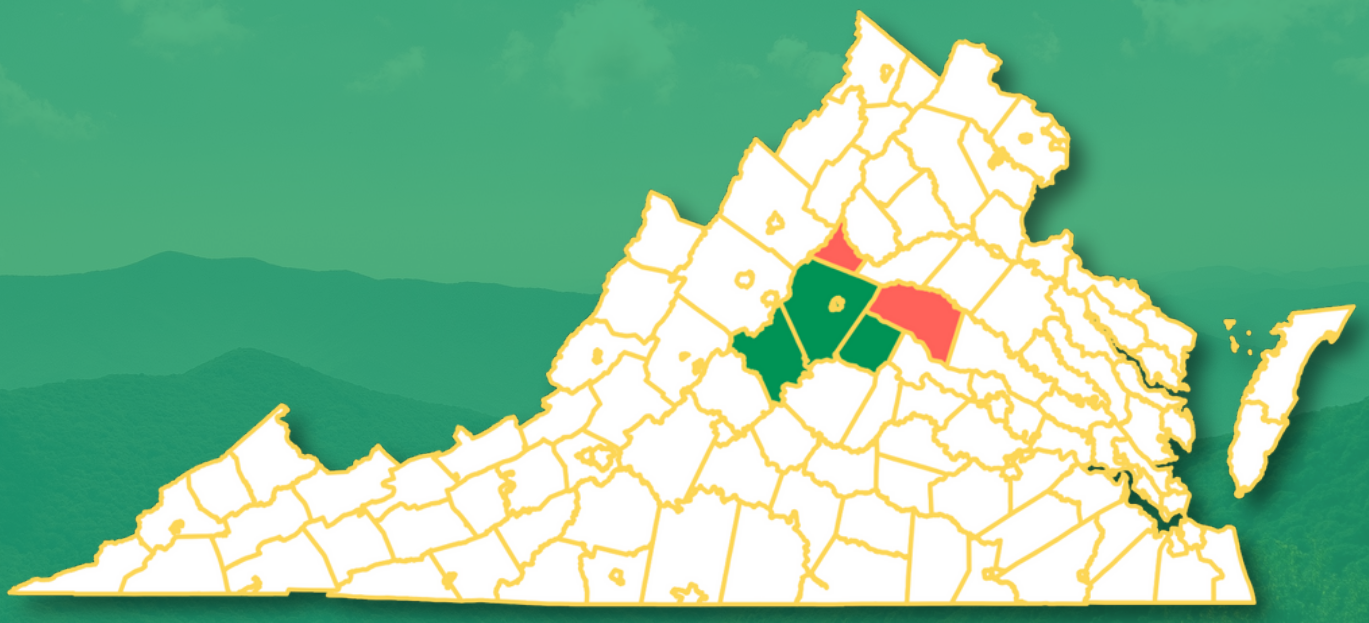
Engagment Title/Description	Engagement Date	Engagement Type	Engagement Location	Target Audience	Target Audience Location	Target Audience County	# Engaged	Covered Populations Reached								Notes
								Which covered populations did you engage?								
Include a brief title of the engagement *(Example: Community Outreach Listening Session #1)*	*Enter the date as MM/DD/YYYY*	*Include the type of stakeholder engagement that occurred, using the dropdown list*	*If applicable, please include the physical address of where the engagement took place*	*Who was the engagement for?* *(Example: Covered Populations, Regional Listening Session, etc.)*	*Is this local, regional, or statewide engagement?*	*If available, indicate which counties will be represented by this engagement*	*How many people were engaged?* *(Example: # of people who attended the event, completed the survey, etc.)*	Individuals who live in covered households	Aging Individuals	Incarcerated Individuals	Veterans	Individuals with disabilities	Individuals with a language barrier	Individuals who are members of a racial or ethnic minority group	Individuals who primarily reside in a rural area	*Add notes of what was discussed and any key themes or feedback (optional)*
Bridging the Community Divide Forum - Louisa County	5/2/2023	Listening Session (In-person)	Louisa County Library, Davis Higl	Local Community	Local	Louisa	1							X	
Bridging the Community Divide Forum - Fauquier County	5/3/2023	Listening Session (In-person)	Bealeton Library, Willow Drive, I	Local Community	Local	Fauquier	2						X	X	
Bridging the Community Divide Forum - Loudoun County	5/4/2023	Listening Session (In-person)	Middleburg Library, Reed Street	Local Community	Local	Loudoun	0							X	
Piedmont Region Work Group	5/5/2023	Other	Online	Key Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	9								This is a core group of stakeholders primarily representing community colleges, wo
Bridging the Community Divide Forum - Greene County	5/6/2023	Listening Session (In-person)	Greene County Public Library 22	Local Community	Local	Greene	1							X	
Bridging the Community Divide Forum - Culpeper County	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Local Community	Local	Culpeper	4	X						X	
Planning to Advance Digital Equity - Piedmont Region	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	3							X	
Bridging the Community Divide Forum - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Local Community	Local	Warren	2							X	
Planning to Advance Digital Equity - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Stakeholders	Regional	Warren	1	X						X	
Bridging the Community Divide Forum - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Local Community	Local	Frederick, Winchester	6						X	X	
Planning to Advance Digital Equity - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Key Stakeholders	Local	Frederick, Winchester	0								
Bridging the Community Divide Forum - Winchester	5/18/2023	Listening Session (In-person)	Shenandoah County Library, Edi	Local Community	Local	Shenandoah	1								
Bridging the Community Divide Forum - Online	5/22/2023	Listening Session (Virtual)		Local Community	Regional	Clarke, Frederick, Page, Shenando	3								
Bridging the Community Divide Forum - Woodbridge	5/23/2023	Listening Session (In-person)	Woodbridge Library	Local Community	Local	Prince William	0								
Planning to Advance Digital Equity	5/23/2023	Listening Session (In-person)	9324 West Street, Manassas, VA	Key Stakeholders	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Rappahannock	5/24/2023	Listening Session (In-person)	Rappahannock County Library, V	Local Community	Local	Rappahannock	6								
Madison County Meeting	5/25/2023	Listening Session (In-person)	American Legion Post 157, Thrift	Key Stakeholders	Local	Madison	14	X	X		X			X	X	
Regional Digital Equity Planning Coalition	5/25/2023	Listening Session (Virtual)		Key Stakeholders	Regional	Greene, Louisa, Charlottesville, Albemarle									
Bridging the Community Divide Forum - Manassas Park	6/1/2023	Listening Session (In-person)	Manassas Park Community Cent	Local Community	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Orange	6/6/2023	Listening Session (In-person)	Orange County Public Library, 14	Local Community	Local	Orange	1	X	X					X	X	
Bridging the Community Divide Forum - Leesburg	6/8/2023	Listening Session (In-person)	Rust Library, Leesburg	Local Community	Local	Loudoun	2								
Hero's Bridge Social Hour	6/12/2023	Listening Session (In-person)	98 Alexandria Pike, Warrenton, '	Covered Populations	Regional	Fauquier, Culpeper, Madison	12	X	X		X	X		X	X	Group of veterans and volunteers
Bridging the Community Divide Forum - Online	6/13/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
PATH Foundation Meeting	6/14/2023	Listening Session (In-person)	PATH Foundation, Walker Drive,	Key Stakeholders	Regional	Fauquier, Culpeper, Rappahannoc	10	X	X			X	X	X	X	
Bridging the Community Divide Forum - Online	6/15/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Life Online: Staying Safe, Creating Opportunities	6/15/2023	Listening Session (In-person)	Reynolds Memorial Baptist Chur	Local Community	Local	Rappahannock	3							X	
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Regional	Culpeper, Fauquier, Madison, Ora	0								
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Blue Ridge Networking Group	6/24/2023	Listening Session (In-person)		Local Community	Local	Greene, Madison, Albemarle	6							X	
Bridging the Community Divide Forum - Online	6/24/2023	Listening Session (Virtual)		Local Community	Local	Loudoun	0								
Piedmont Region Work Group	6/26/2023	Listening Session (In-person)	Germanna Community College, '	Key Stakeholders	Local	Culpeper, Fauquier, Madison, Ora	6	X	X			X	X	X	X	
Discussion with Prince William County Department of Inf	6/28/2023	Other		Local Community	Local	Prince William									
Discussion with Loudoun Hunger Relief	7/20/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Department of Informat	7/24/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Family Services	7/25/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Public Schools	7/28/2023	Other		Local Community	Local	Loudoun									
Discussion with ARC of Loudoun County	8/4/2023	Other		Local Community	Local	Loudoun									

D. LIST OF ORGANIZATIONS

List of Organizations with which you have collaborated in developing the regional plan				
Organization Name	**Type of organization**	**Engagement Purpose (Select the purpose that best matches). If you select "Other", please**	**Notes**	**Link to the organization's website (if available)**
Include the name of the Organization, as it appears on the Organization's website and records.	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes column.*	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes*	*Include any notes or clarifications regarding your previous responses.*	*Please list the organization's website, if applicable.*
Aging Together	Organization that Represents Covered Populations	Plan Development	Older adults	https://www.agingtogether.org/
Culpeper Baptist Church	Organization that Represents Covered Populations	Data Collection	Community Outreach	https://culpeperbaptist.org
Culpeper Chamber of Commerce - Amy Frazier	Industry Representative or Association (501c6)	Community Outreach		https://culpeperchamber.com/
Culpeper County Department of Human Services	County or Municipal Government	Plan Development	Low-Income	https://www.culpeperhumanservices.org/
Culpeper County Library	Community Anchor Institution	Plan Development		https://youseemore.com/culpeper/
Culpeper Department of Human Services, Lisa Peacock	Community Anchor Institution	Data Collection	Households w/ incomes 150% of poverty or less	https://www.culpeperhumanservices.org
Culpeper Fest	Other	Data Collection	Community Event	https://culpeperchamber.com
Culpeper Literacy Council, Director Lynn Gore	Organization that Represents Covered Populations	Data Collection	Literacy	
Fauquier County Chamber of Commerce - Alec Burnett	Industry Representative or Association (501c6)	Data Collection	Racial/Ethnic, Rural Residents, Srs, Veterans	https://www.fauquierchamber.org
Fauquier County Library	Community Anchor Institution	Plan Development		https://fauquierlibrary.org/
Fauquier Free Clinic	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development	Low-Income	https://fauquierfreeclinic.org
Fauquier Free Clinic, Zoila Cortes	Health or Telehealth Organization (Direct Service and Policy foc	Data Collection	Healthcare, English Language learners, low incor	https://www.fauquierfreeclinic.org
Fauquier Habitat for Humanity	Organization that Represents Covered Populations	Plan Development	Low-Income	https://www.fauquierhabitat.org/
Fauquier Public Library, Maria Del Rosso	Community Anchor Institution	Data Collection	Literacy/ Community Education/ Help	https://fauquierlibrary.org
Germanna Community College	Institutions of Higher Education (if not listed above)	Plan Development		https://germanna.edu/
Hero's Bridge	Organization that Represents Covered Populations	Plan Development	Veterans	https://herosbridge.org/
Lake Anna Business Partnership	Industry Representative or Association (501c6)	Community Outreach		https://visitlakeanna.org/
Laurel Ridge Community College	Institutions of Higher Education (if not listed above)	Plan Development		https://laurelridge.edu/
Laurel Ridge Community College, Corporate Training Sales Manager - Larry Baker	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Laurel Ridge Community College, Jeanie Ann Clark	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Laurel Ridge Community College, kblosser@lfcc.edu	Local Education Agency	Community Outreach	Community College	https://laurelridge.edu
Laurel Ridge Community College, Tonya Thornhill	Institutions of Higher Education (if not listed above)	Plan Development	Education	
Laurel Ridge Community College, shetland@lfcc.edu	Local Education Agency	Community Outreach	Communit College	https://laurelridge.edu
Literacy Volunteers, Fauquier County	Organization that Represents Covered Populations	Data Collection	Individuals with low language skills	
Madison County Chamber of Commerce	Industry Representative or Association (501c6)	Community Outreach		https://madisonva.com/
Madison County Department of Social Services	County or Municipal Government	Plan Development		
Madison County Free Clinic	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://www.madisonfreeclinic.org/
Madison County Library	Community Anchor Institution	Plan Development		https://madisoncountyvalibrary.org/
Madison County Public Schools	Local Education Agency	Community Outreach		https://www2.madisonschools.k12.va.us/
Madison County Senior Center	Organization that Represents Covered Populations	Community Outreach	Aging Individuals	https://www.rrcsb.org/senior-services/senior-centers/
Madison County Virginia	County or Municipal Government	Community Outreach		https://www.madisonco.virginia.gov/
Madison Learning Center	Nonprofit Organization (501c3)	Community Outreach		https://sites.google.com/a/madisonlearningcenterchildcare.org/madisonlearning
Moms in Motion - Shalini Mikos	Organization that Represents Covered Populations	Community Outreach		https://momsinmotion.net/
Orange County	County or Municipal Government	Community Outreach		https://orangecountyva.gov/
Orange County Broadband Authority	Other	Plan Development		https://orangecountyva.gov/746/Broadband-Authority-FiberLync
Orange County Department of Social Services	Organization that Represents Covered Populations	Community Outreach		https://orangecountyva.gov/391/Social-Services
Orange County Free Clinic	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach		https://www.orangecountyfreeclinic.org/
Orange County Habitat for Humanity VA	Organization that Represents Covered Populations	Community Outreach		https://ochfh.org/?utm_campaign=HFHI_AffiliateSearch&utm_medium=referral&
Orange County Public Library	Community Anchor Institution	Plan Development		https://ocplva.org/
Orange County Public Schools	Local Education Agency	Community Outreach		https://www.ocss-va.org/
Orange County Senior Center	Organization that Represents Covered Populations	Community Outreach		https://www.rrcsb.org/senior-services/senior-centers/
Orange County VA Chamber of Commerce	Economic Development	Community Outreach		https://www.orangevachamber.com/
Partners 1st Federal Credit Union	Other	Community Outreach	Banking	https://partners1stcu.org
PATH Foundation	Foundation	Plan Development		https://pathforyou.org/
Piedmont Regional Dental Clinic	Organization that Represents Covered Populations	Community Outreach		https://www.vaprdc.org/wordpress/
Rapp at Home	Organization that Represents Covered Populations	Plan Development	Older adults	https://www.rappathome.net/
Rappahannock Center for Education	Institutions of Higher Education (if not listed above)	Plan Development		https://www.rappce.org/
Rappahannock County Board of Supervisors	County or Municipal Government	Plan Development		
Rappahannock County Library	Community Anchor Institution	Plan Development		https://rappahannocklibrary.org/3
Rappahannock County Library, Amanda Weakley - amandawrcpl@gmail.com	Community Anchor Institution	Data Collection	Literacy/ Community Education/ Srs./ Rural Res.	https://rappahannocklibrary.org
Rappahannock County Public Schools	Local Education Agency	Community Outreach		https://www.rappahannockschools.us/
Rappahannock Goodwill - Virginia Career Works Piedmont	Workforce Development Organization	Plan Development		https://fredgoodwill.org/
Rappahannock Goodwill Industries, Daphney Barrett	Community Anchor Institution	Data Collection	Community Needs/ Low Income	https://fredgoodwill.org
Rappahannock Rapidan Community Services	Community Anchor Institution	Plan Development		https://www.rrcsb.org/
Rappahannock Rapidan Community Services, Sheri Sobkowiak	Nonprofit Organization (501c3)	Data Collection	Low Income / Rural Residents	https://www.rrcsb.org
Reynolds Memorial Baptist Church	Other	Community Outreach		
Skyline CAP, Inc., Diane Rosson - hrdirector@skylinecap.org	Community Anchor Institution	Data Collection	Community Action Agency	http://skylinecap.org
SmartyPants Medicine, kelly@smartypantsmedicine.com	Health or Telehealth Organization (Direct Service and Policy foc	Community Outreach	Primary Care	https://www.smartypantsmedicine.com
The Workplace Team, Fauquier County	Organization that Represents Covered Populations	Data Collection		
The Literacy Council of Madison County	Organization that Represents Covered Populations	Community Outreach		https://madisonliteracy.org/
Town of Gordonsville	County or Municipal Government	Community Outreach		https://www.townofgordonsville.org/
Town of Louisa, Virginia	County or Municipal Government	Community Outreach		https://www.louisatown.org/
Town of Madison	County or Municipal Government	Community Outreach		https://townofmadisonva.com/
Town of Mineral, Virginia	County or Municipal Government	Community Outreach		https://www.townofmineral.com/
Town of Orange	County or Municipal Government	Community Outreach		https://www.townoforangeva.org/
Triad - Keeping Seniors Safe	Organization that Represents Covered Populations	Community Outreach	Older adults	https://orangecountyva.gov/389/TRIAD---Keeping-Seniors-Safe
UVA Health Culpeper Medical Center, Jeff Say	Health or Telehealth Organization (Direct Service and Policy foc	Plan Development		https://uvahealth.com/
Virginia Cooperative Extension, Madison County	Other	Community Outreach		https://madison.ext.vt.edu/
Virginia Cooperative Extension, Orange County	Other	Community Outreach		https://orange.ext.vt.edu/
Windmore Foundation for the ARTS	Organization that Represents Covered Populations	Data Collection	ARTS	https://windmorefoundation.org

Regional Digital Opportunity Plan

Greene and Louisa Counties



Prepared By:

People Incorporated of Virginia
Skyline Community Action Partnership, Inc.

August 2023

TABLE OF CONTENTS

Executive Summary 5
Introduction and Vision for Digital Opportunity 9
- Defining Digital Equity 9
- Vision for Digital Equity in Greene and Louisa Counties 9

Current State of Digital Opportunity: Barriers and Assets 10
- Existing Resources, Programs and Strategies Working to Address Digital Equity 10
- Regional Demographics 11
- Barriers to Digital Equity 12
  - Individuals who Primarily Reside in a Rural Area 12
  - Aging Individuals (60+) 12
  - Covered Households (150% of Poverty or less) 13
  - Population with Language Barriers 14
  - Individuals with Disabilities 15
  - Other Primary Target Populations 16
  - Additional Target Populations 17

Collaboration and Stakeholder Engagement 21
- Survey Distribution Efforts 21
- Focus Group Outcomes 22
- Interviews with Key Informants 23

Implementation 24
- Barriers to Digital Opportunity 24
- Target Populations 26
- Implementation Strategy 30
  - Coordination with Key Partners and Stakeholders 31
- Priorities for Implementation 31
  - Assessed Importance of Barriers 31
  - Generating Immediate Digital Opportunities 34
  - Creating Digital Opportunities in the Long-Term 39
- Timeline 42
- Mechanisms for Plan Update 42
- Statewide Activities 43

Conclusion 44
- Key Points 44
  - Digital Opportunity Definition and Vision 44
- Findings 44
- Moving Forward 45
- Impact on Digital Opportunity in the Region 45
  - Goals 45
  - Future Impact 45

Appendices 3
- A. Virginia Digital Divide Index Scores
- B. Asset Inventory
- C. Community Engagement Tracker
- D. List of Organizations

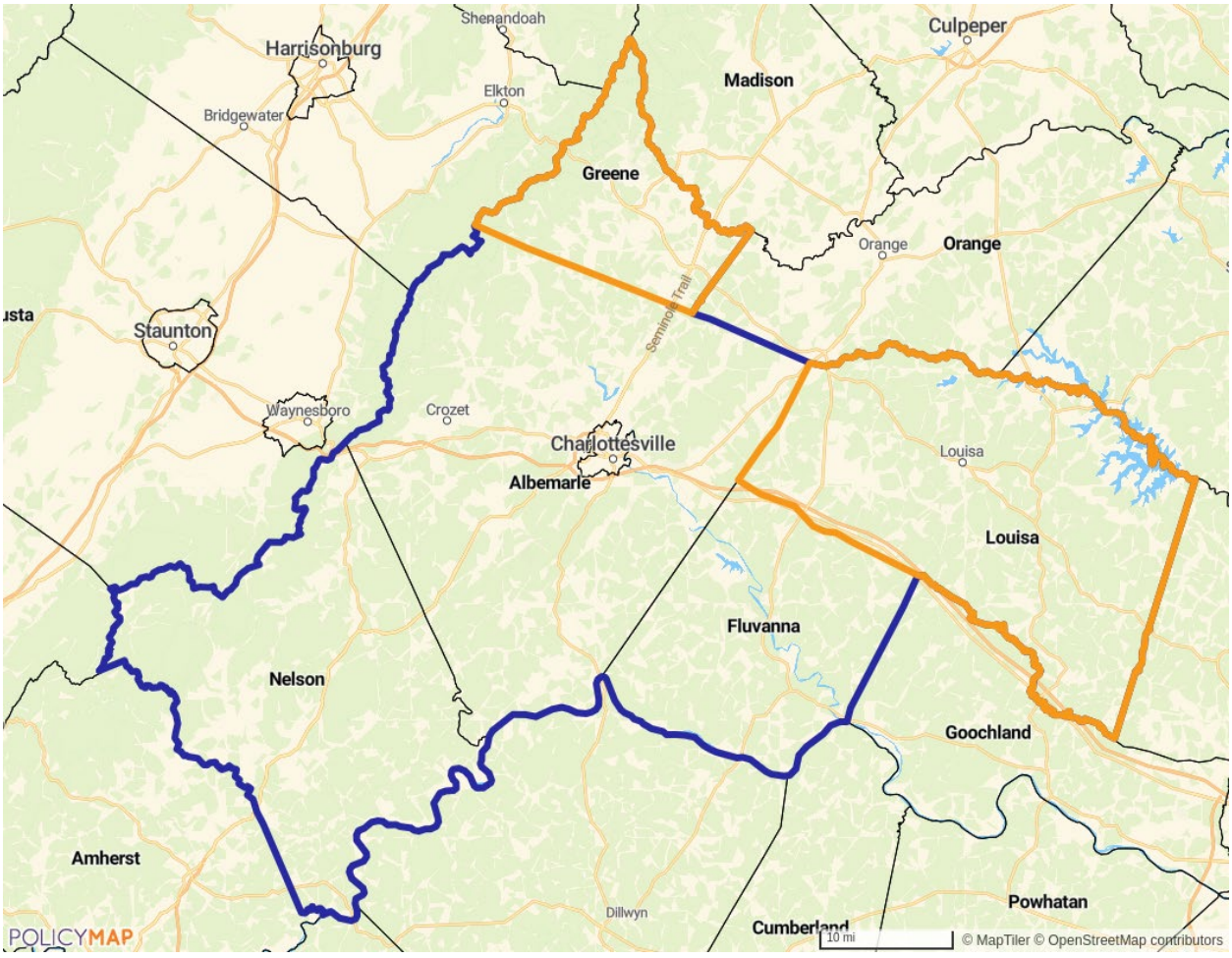
EXECUTIVE SUMMARY

ORIGIN OF PROJECT

In 2023, People Incorporated of Virginia began an extensive community input and data collection effort in order to create a Regional Digital Opportunity Plan as part of a statewide effort overseen by the Virginia Department of Housing and Community Development (DHCD). This goal of the project was to identify the barriers to effective and meaningful use of broadband for selected populations, identify key factors in the service area that define unique service challenges, and develop a preliminary plan to address them for implementation by both public and private sectors.

Greene and Louisa counties account for 670 square miles and 57,000 Virginians within the Thomas Jefferson Planning District, which is a total of 2,140 square miles and over 257,000 people. It includes the City of Charlottesville and the counties of Albemarle, Fluvanna, and Nelson. The region is home to the University of Virginia, which is the central influence on the economy and population. It is also home to Thomas Jefferson's Monticello and James Monroe's Highland, which promote a strong tourism economy.

This plan focuses Greene and Louisa counties but should be considered as part of the entire Planning District, which is outlined on the map below.



FRAMEWORK OF ASSESSMENT

The National Digital Equity Alliance states the "Digital Divide is the issue, Digital Equity is the goal, and Digital Inclusion is the work." The framework for this report supports this belief by first defining the specific obstacles creating the digital divide, developing a plan to achieve digital equity, and recommending implementation methods with inclusivity as a guiding principle.

A comprehensive assessment process, including evaluation of existing data, facilitation of focus groups and community listening sessions, coordination of key informant interviews, cataloguing existing resources, and distribution of a statewide digital survey provided a broad data set from which to draw conclusions and recommendations. People Incorporated and Skyline Community Action Partnership worked closely with Southeast Regional Community Action Partnership, Albemarle County, and the Regional Digital Equity Planning Coalition to coordinate regional planning efforts. The resulting plan should be considered in the broader context as both the barriers and resources to address Digital Opportunity are region-wide. A major focus of the efforts included the Target Populations identified by the Digital Equity Act of 2021:

- Individuals living in households below 150% of the federal poverty level;
- Aging individuals;
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility;
- Veterans;
- Individuals with disabilities;
- Individuals with a language barrier, including individuals who—
    - Are English learners; and
    - Have low levels of literacy
- Individuals who are members of a racial or ethnic minority group; and
- Individuals who primarily reside in a rural area

Barriers exist throughout the region, along with inequities mirroring those found in society at large. Those digital-equity-barriers magnify social inequalities which further highlight the disproportionate impact on those with low incomes, persons with disabilities, the incarcerated, aging individuals, veterans, those with language barriers, members of racial or ethnic minority groups, and those who live in rural locations. Many of the recommendations included can be implemented across the entire region with modifications reflecting local conditions. Population-specific challenges faced by across the region are also included.

Despite the large and diverse area included in this assessment there are overarching commonalities in the obstacles faced. Proposed solutions provide realistic goals that address the needs of communities within the coalition service area, and for those subsets that have distinctly unique concerns. Consequently, funding to implement regional Digital Opportunity Plan activities will have the highest impact where it is attuned to the shifting dynamics within the region. Funding will need to be extremely flexible and responsive to the particular obstacles of numerous target populations across the region to best overcome the barriers to digital equity faced by those living and working there. Programs and resource allocations will need to be clearly targeted to impact those most affected by digital iniquities in the region.

The planning team assessed our region on the activities needed to ensure digital inclusion as identified by the Digital Equity Act of 2021 which include:

- **Broadband Availability & Affordability:** Is high-quality broadband available at a price residents are willing to pay?

- **Online Accessibility & Inclusivity:** Are websites accessible, readable, and functional for the general public, those with disabilities, and those with language barriers?
- **Digital Literacy:** Do individuals know enough about using a computer and the internet to take full advantage of it?
- **Online Privacy & Cybersecurity:** Are individuals able to protect themselves on the internet from identity theft, online predators, and other threats?
- **Device Availability & Affordability:** Can individuals get access to a computer or afford to buy one?

ACTION STEPS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. DEVELOP A COHESIVE, COORDINATED REGIONAL APPROACH TO PROMOTING DIGITAL OPPORTUNITIES.

The foundation for this effort exists in the Regional Digital Equity Planning Coalition, currently coordinated by Albemarle County. This organization needs to be broadened and formalized to ensure representation throughout the region and assign responsibility and funding for administrative oversight.

The lead agency should be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development that consider capacity, experience, and ability to serve the entire region. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will oversee the Thomas Jefferson Area Digital Opportunity Network (TJADON) and be responsible for coordinating participation in plan implementation and renewal efforts among stakeholders.

2. ESTABLISH A DIGITAL NAVIGATOR PROGRAM TO PROVIDE COMPREHENSIVE TECHNICAL SUPPORT AND TRAINING TO MEET THE SPECIFIC INDIVIDUAL NEEDS OF THE LOCAL POPULATION.

The most vulnerable populations within Greene and Louisa counties will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new opportunities as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population, a Network of Navigators should be established to work with local residents.

An organization selected by the TJADON through an RFP process will be responsible for operating the Digital Navigator Network consisting of a small group of lead Navigators who train and coordinate efforts with a

network of subcontracted Navigators working throughout the region. These subcontractors will work for trusted partner organizations that have strong ties to the target populations and are able to engage with them on multiple levels in a to address needs beyond digital opportunities. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

3. PROMOTE DIGITAL OPPORTUNITIES IN A WAY THAT CREATES THE GREATEST IMMEDIATE IMPACT.

In keeping with the planning approach established by the Regional Coalition, this plan is primarily focused on issues beyond internet access and affordability, leaving those two issues to be addressed by the VATI projects currently underway and planned as well as the Affordable Connectivity Program. The most urgent barriers residents face, which are the focus of this plan, are:

1. Access to devices
2. Digital literacy skills
3. Fear of the online world, which is related to digital literacy skills as well as privacy and cybersecurity issues

Programs supported under this plan should be focused on these issues and specifically designed to accommodate the needs of the target populations.

4. ADDRESS THE LONG-TERM NEEDS OF THE COMMUNITY.

In order to present a comprehensive assessment of the barriers to Digital Opportunities in the region, internet access and affordability cannot be ignored even if they are a lower priority.

Louisa County will offer comprehensive broadband coverage upon completion of existing VATI projects. Greene County has a far greater need for funding. Although there is one project underway through the Thomas Jefferson Planning District Commission, a second application for funding was denied. Additional funding will be required to continue on a path towards full coverage. In addition, because of the mountainous terrain, residents may need additional methods of connecting to the internet such as Low Orbit Satellite.

In addition, affordability issues must be addressed. Proposed solutions supported by stakeholders include:

- Conduct outreach about ACP and other resources available to assist with affordability of internet access.
- Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost.
- Additional public access points throughout the region including more computers and expanded hours at libraries.

Although cost-prohibitive, there is also strong support in the community for deep subsidies for internet access and/or free internet service.

INTRODUCTION AND VISION FOR DIGITAL OPPORTUNITY

DEFINING DIGITAL EQUITY

Greene and Louisa Counties embrace the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

VISION FOR DIGITAL EQUITY IN GREENE AND LOUISA COUNTIES

Digital Equity in the region is expected to create economic mobility, improve wages, increase access to services, and promote education.

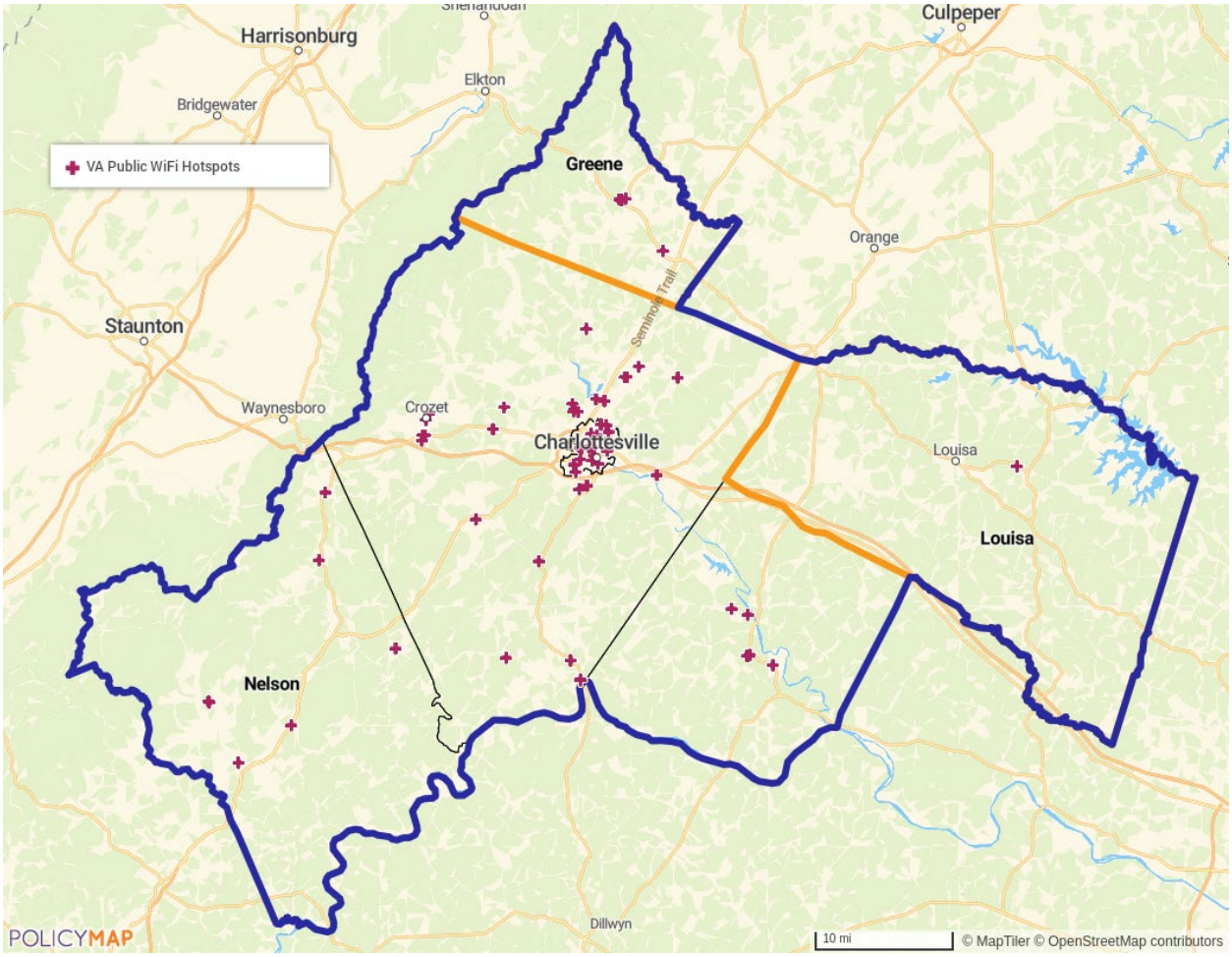
CURRENT STATE OF DIGITAL OPPORTUNITY: BARRIERS AND ASSETS

EXISTING RESOURCES, PROGRAMS AND STRATEGIES WORKING TO ADDRESS DIGITAL EQUITY

The attached Asset Inventory provides a more detailed assessment of the resources already in place to address barriers to Digital Equity. Highlights include:

- Each school district provides a device loan program for students.
- The Workforce Development Board, through one or more agencies, provides a variety of digital literacy classes ranging from basic computer skills to more advanced courses tailored to specific workplace needs.
- The local libraries have taken on a lead role in the community to provide digital literacy programs. Although not specifically targeted, these classes generally serve seniors. Libraries are also key Wi-Fi access locations and important device access centers.
- The Jefferson Area Board for Aging (JABA) has begun offering tech-centered programming at its senior centers in Charlottesville but has not yet done so in Louisa or Greene counties.

The map below shows the public Wi-Fi hotspots available in Greene and Louisa Counties, as well as the Charlottesville MSA. The data is provided by Commonwealth Connect.



In addition to the locally provided assets, the Affordable Connectivity Program has been instrumental in providing affordable access to many households in Greene and Louisa. However, there is still much that needs to be done for local residents to fully benefit from it. Data from Education Superhighway shows a 27.9% adoption rate in Greene and Louisa, higher than the 22.1% rate in the Planning District overall. The rate is highest in Louisa County at 30.1%, likely due to efforts by Firefly, the local ISP, and the county accompany broadband expansion efforts.[1]

REGIONAL DEMOGRAPHICS

The data on the table below is from the U.S. Census Bureau's Digital Equity Act Population Viewer.[2] The Census Bureau partnered with National Telecommunications and Information Administration to calculate the population qualified for Digital Equity Act services based on the targeted populations identified in the legislation. Because Louisa and Greene are 100% rural, the covered population in each county is 100%. However, when looking at the whole Charlottesville MSA, 93.9% of the population is covered.

	Greene	Louisa	Thomas Jefferson Planning District Total
Rural Status	Rural	Rural	
Total Population (2019)	19,819	37,591	256,206
Covered Population	9,819	37,591	240,466
% of Population that is Covered	*100%*	*100%*	*93.9%*
% <150% of Poverty	19.9%	21.6%	17.6%
% Aged 60+	24%	28.2%	23.9%
% Incarcerated	0%	0%	0.6%
% Veterans	7.5%	9.0%	6.5%
% w/ Disabilities	14.1%	17.5%	11.4%
% w/ Language Barriers	16.1%	17.8%	14.3%
% speaking English as a Second Language	3.2%	1.5%	3.1%
% w/ Low Literacy Skills	20%	22.1%	17.0%
% Minorities	17.4%	22.0%	23.7%
% Rural	100%	100%	79.8%
% of HHs w/ No Fixed Broadband	0.1%	32.0%	10.5%
% w/ no broadband or computer	11.9%	16.8%	16.2%

Source: U.S. Census Bureau's Digital Equity Act Population Viewer

[1] This calculation is based on data provided in the ACP Enrollment Dashboard for locations in the Thomas Jefferson Planning District, including Greene and Louisa counties. https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard

[2] https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html

BARRIERS TO DIGITAL EQUITY

The barriers to digital equity are similar for all target populations in the Greene-Louisa region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Device Access and Affordability
2. Digital Literacy
3. Privacy and Cybersecurity
4. Broadband Access and Affordability
5. Online Accessibility

INDIVIDUALS WHO PRIMARILY RESIDE IN A RURAL AREA

Data from the Census' 2021 American Community Survey shows that, in the Charlottesville metro area, only 3.8% of all households lack a computer, 4.1% in Greene, and 3.6% in Louisa. However, for those 65 and older, 9.7% lack a computer in the metro area, 12.0% in Greene, and 12.8% in Louisa. Noe only is device access a more significant problem for older adults in the region, but Greene and Louisa face a higher barrier than the region overall. The following table provides more details.

	Greene			**Louisa**			**Charlottesville MSA**		
	W/ Computer		No Computer	W/ Computer		No Computer	W/ Computer		No Computer
	W/ Broadband	W/o Internet		W/ Broadband	W/o Internet		W/ Broadband	W/o Internet	
All Households	89.4%	6.3%	4.1%	86.2%	10.0%	3.6%	89.6%	6.5%	3.8%
65+	75.5%	11.2%	12.0%	79.8%	6.4%	12.8%	83.4%	6.3%	9.7%

Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 100% of the population in Greene and Louisa resides in a rural area. This is, unquestionably, the most significant target population when considering barriers to digital equity and it is the cohesive element driving the barriers.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
100%	1. Access: The mountainous terrain and low-density development have made infrastructure deployment in the area slow and difficult. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Use of non-broadband options such as low-orbit satellite and fixed wireless to provide connections to remote locations quickly. 2. Ongoing infrastructure development. 3. Digital Navigator who can provide one-on-one technical assistance over the phone or in-person to directly reach individuals in remote areas.

AGING INDIVIDUALS (60+)

Aging Individuals comprise the second largest group among the target populations in Green and Louisa Counties according to the U.S. Census accounting for 25.9% of the population. For the most part, their barriers are the same as the population at large. The biggest difference is in how they would need to be approached.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
25.9%	1. Digital Literacy: The seniors in Greene and Louisa as well as the region overall are a diverse group. Most have experience using computers of some sort in their adult years but have become more uncertain about their use as they have retired, and the uses of computers and the internet have multiplied. Seniors are more likely to need assistance learning how to access services online and attend telehealth appointments while some seniors want to be reskilled to remain in the workforce. 2. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge to help individuals grow their skills in order to engage in the online world. Ideal settings include libraries, senior centers, and churches as well as one-on-one in the person's home. 3. Library of videos about how to identify scams, protect your information online, and other cybersecurity/privacy issues that can be viewed as needed. 4. E-mail alerts about active scams sent from trusted sources such as the library, law enforcement agencies, or a Digital Navigator.

COVERED HOUSEHOLDS (150% OF POVERTY OR LESS)

Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 20.1% of the households in the Greene-Louisa Region have incomes within the targeted range of 150% of poverty or less. This has the third greatest impact on access to digital equity.

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
20.1%	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. 3. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Expansion of outreach efforts and assistance in enrolling households in the

	Affordable Connectivity Program and/or other subsidy programs as they become available. 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. Devices can be provided by expansion of VA STAR program into local schools, partnerships with national refurbishment organizations, or development of local programs. 4. Digital Navigator services to help clients identify the resources available to them and "navigate" through the enrollment process. 5. Digital Literacy courses available in a variety of settings and for all levels of knowledge, including online, to help individuals grow their skills in order to engage in the online world.

POPULATION WITH LANGUAGE BARRIERS

In identifying the percentage of the population with language barriers, the U.S. Census Bureau's Digital Equity Act Population Viewer considers both those who speak English less than "very well" and those who have low levels of literacy.[3] There is some overlap in these two populations. In Greene-Louisa, only 1.9% of the population is identified as speaking English less than "very well." The primary concern is low levels of literacy, which accounts for 21.4% of the population.

Percent of Population: 15.8% *English as a Second Language:* 1.9% *Low Levels of Literacy:* 21.4%	**BARRIERS TO DIGITAL EQUITY:** 1. Digital Literacy: For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. 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. There is a secondary problem for those speaking English as a Second Language in that this population often has immigration concerns as well that makes them reticent to accept assistance. 2. Online Accessibility: Language options are an important part of the accessibility of websites. They need to be written at a reading level that is easily understood and available in multiple languages or able to be translates. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult

[3] The estimate of those with Language Barriers is derived from 2015-2019 ACS 5-Year file (for speaks English less than "very well") and 2017 Program for the International Assessment of Adult Competencies (PIAAC) Household file and 2012/2014/2017 PIAAC State and County Small Area Estimates of Adult Skills on Literacy and Numeracy (for low literacy) from the National Center for Education Statistics.

	Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable.

INDIVIDUALS WITH DISABILITIES

There was not a significant discussion among stakeholders about this population group, but it does represent a significant portion of the region and they do have specific barriers and needs that should be considered when creating digital opportunities. The table below shows the percent of the local population with these types of disabilities. While the other data has been based on the U.S. Census' Digital Equity Population Viewer, which used data from 2019, the data below is from the U.S. Census Bureau's 2021 American Community Survey Five-Year Estimates.

	Greene	Louisa
Total civilian noninstitutionalized population	20,247	37,046
Total population with a disability	**2,791**	**5,960**
Percent with a Disability	**13.8%**	**16.1%**
hearing difficulty	4.1%	5.1%
vision difficulty	2.7%	3.2%
cognitive difficulty	5.4%	5.9%
ambulatory difficulty	7.7%	9.7%
self-care difficulty	3.2%	2.9%
independent living difficulty	6.3%	7.3%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021		

Percent of Population: 15.3%[4]	**BARRIERS TO DIGITAL EQUITY:** 1. Online Accessibility: The only barrier augmented for those with disabilities is online accessibility, primarily related to those with vision and hearing difficulties. 2. Digital Literacy: Digital literacy has two areas of concern. One is teaching individuals with disabilities, many of whom have cognitive difficulties, how to use basic digital devices. The second is providing access and training to assistive digital devices for those with disabilities designed to improve their quality of life. 3. Cybersecurity and Privacy: More intimately tied with digital literacy, privacy standards and cyber-etiquette is a significant concern for those with certain cognitive disabilities who need to be protected from the dangers and inappropriate content to be found online while learning what is and is not appropriate online behavior. **SOLUTIONS TO DIGITAL EQUITY:** 1. Education about and improvements to local websites with regards to online accessibility in keeping with ADA standards and the Web Accessibility Initiative. This can be facilitated through the county government, which already audits its own websites for accessibility.

[4] This number from the 2021 ACS Five-Year Estimates of the U.S. Census is a slight variation from the U.S. Census Bureau's Digital Equity Act Population Viewer, which shows 24.4% of the population with a disability based on 2019 data.

	2. Digital literacy classes hosted in conjunction with The ARC or other organizations specifically serving individuals with disabilities so that they are in a safe, comfortable atmosphere as they learn to navigate life online and address the issues that are specific to their needs. 3. Training on how to use assistive digital devices to improve their quality of life.

OTHER PRIMARY TARGET POPULATIONS

POPULATION IDENTIFYING AS MINORITY

The minority population accounts for nearly a fifth of the population in Greene and Louisa, 19.7% in total. Data from the U.S. Census Bureau does show a disparity in internet and computer adoption, but these differences can also be attributed to income and education levels as well.

	Greene			Louisa			Charlottesville MSA		
	With a computer		No Computer	With a computer		No Computer	With a computer		No Computer
	% w/ Internet	% w/o Internet		% w/ Internet	% w/o Internet		% w/ Internet	% w/o Internet	
White	91.4%	4.8%	3.5%	87.2%	9.5%	3.0%	90.9%	5.6%	3.3%
Black or African American	80.9%	16.7%	2.4%	76.1%	15.4%	8.6%	80.8%	11.4%	7.8%
American Indian/ Alaska Native	97.2%	2.8%	0.0%	100.0%	0.0%	0.0%	68.4%	10.9%	20.7%
Asian	88.5%	11.5%	0.0%	85.9%	3.6%	10.4%	89.3%	9.1%	1.5%
Native Hawaiian/ Other Pacific Islander	100.0%	0.0%	0.0%	-	-	-	77.4%	0.0%	22.6%
Other race	78.4%	0.0%	21.6%	81.1%	18.9%	0.0%	80.2%	12.0%	7.8%
Two or more races	78.2%	21.1%	0.7%	96.5%	3.1%	0.0%	93.7%	4.6%	1.7%
Hispanic /Latino origin (any race)	94.4%	3.4%	2.1%	64.0%	36.0%	0.0%	86.6%	10.0%	3.3%
White alone, not Hispanic or Latino	91.3%	4.9%	3.5%	88.1%	8.6%	3.1%	91.2%	5.2%	3.3%

Efforts to address this population are best done through trusted organizations and the Digital Navigator Network.

OTHER TARGET POPULATIONS

The other target populations in the region represent a minimal portion of the whole and do not have barriers different than those already discussed. Therefore, there is no need to create any specific programs or services targeted to them. There are no prisons in Greene and Louisa counties, although there are prisons in the region.

Other Target Populations	
% of Population who are Incarcerated	0.0%
% of Population who are Veterans	8.2%
% of Population speaking English as a Second Language	1.9%
% of Population who Identify as Minorities	19.7%

ADDITIONAL TARGET POPULATIONS

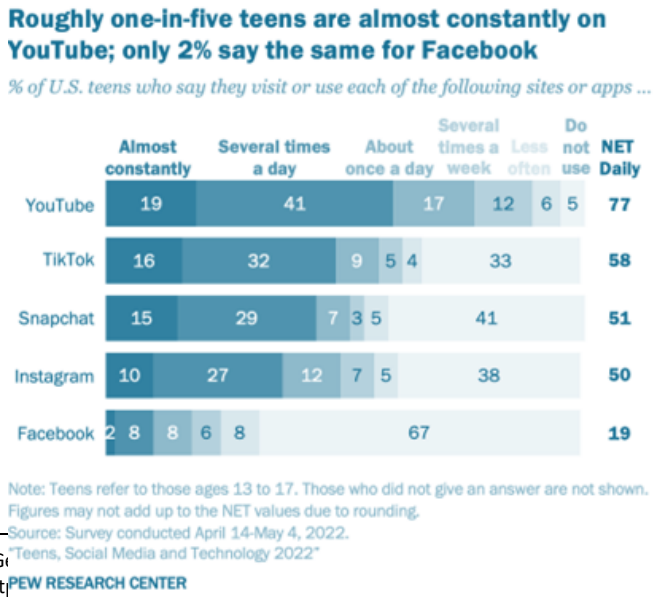
In addition to the target populations identified in the Digital Equity Act of 2021, Greene and Louisa Counties have two other specific target populations that need to be prioritized. Although they also fall within the other categories, primarily individuals in rural areas and, often, households at or below 150% of poverty, students and parents have specific, high-priority needs.

STUDENTS

The following table shows internet and computer access data for students three and over enrolled in school within Greene and Louisa schools according to the U.S. Census Bureau's ACS Five-Year Estimates for 2021. Because these are five-year estimates spanning a period that pre-dates the Covid-19 pandemic when most students were provided with computers or other digital devices and more households registered for internet service, these percentages might be slightly understated.

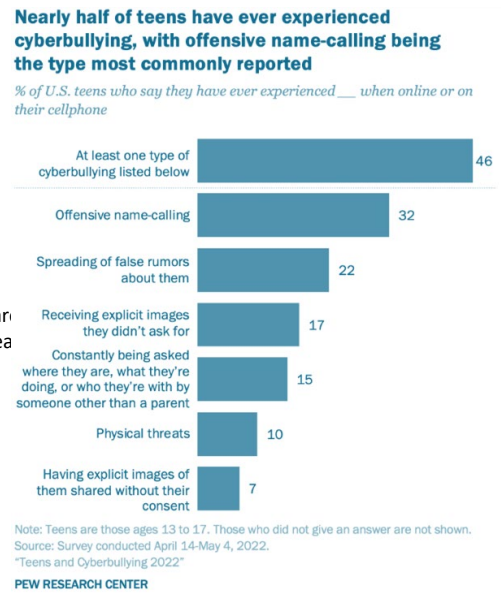
Student Population without a Computer and/or Internet Subscription		
	Greene	**Louisa**
Population 3 and older enrolled in school		
Pre-K to 4th Grade		
No subscription or no computer	12.8%	9.6%
5th to 8th Grade		
No subscription or no computer	0.0%	15.7%
9th to 12th Grade		
No subscription or no computer	0.0%	8.6%
Undergraduate or Higher		
No subscription or no computer	0.0%	14.3%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021		

WITH school work increasingly being done online, students who are victims of the digital divide are falling further behind. They have difficulty completing school assignments without regular access to email and online tools. Students need convenient access to the internet and a reliable device.



There is growing concern about the dangers of children and teens being online, which creates another barrier to digital equity. A 2022 survey from Pew Research Center found that teens are almost always online using a variety of platforms.[5]

While the impact of this is still being studied, there is mounting evidence that both digital devices and



[5] G… ch Center surveys," Pew Resear…
htt… lia-key-findings-from-pew-resea…

social media negatively impact students. For instance, one recent study correlated eight hours or more of screen time per day with increased risk of depression in teens. "Excessive time on social media has been linked to "fear of missing out," cyberbullying, emotional insecurity, and body-image problems. The time devoted to social media also inhibits in-person socializing, exercise and sleep, all of which are crucial for adolescents' emotional well-being."[6] Students will need resources to help navigate this barrier if internet expansion is to have more of a positive impact than negative.

Even teenagers admit the negative impact of social media with the Pew survey finding that nearly half of teens have been bullied or harassed online.

With this in mind, all attempts to increase internet and device access for students must also be concerned with protecting students from the dangers that lurk on the internet. Although Virginia Standards of Learning require digital literacy training for students, the extent and quality of that training varies. More standardization and resources would help improve outcomes.

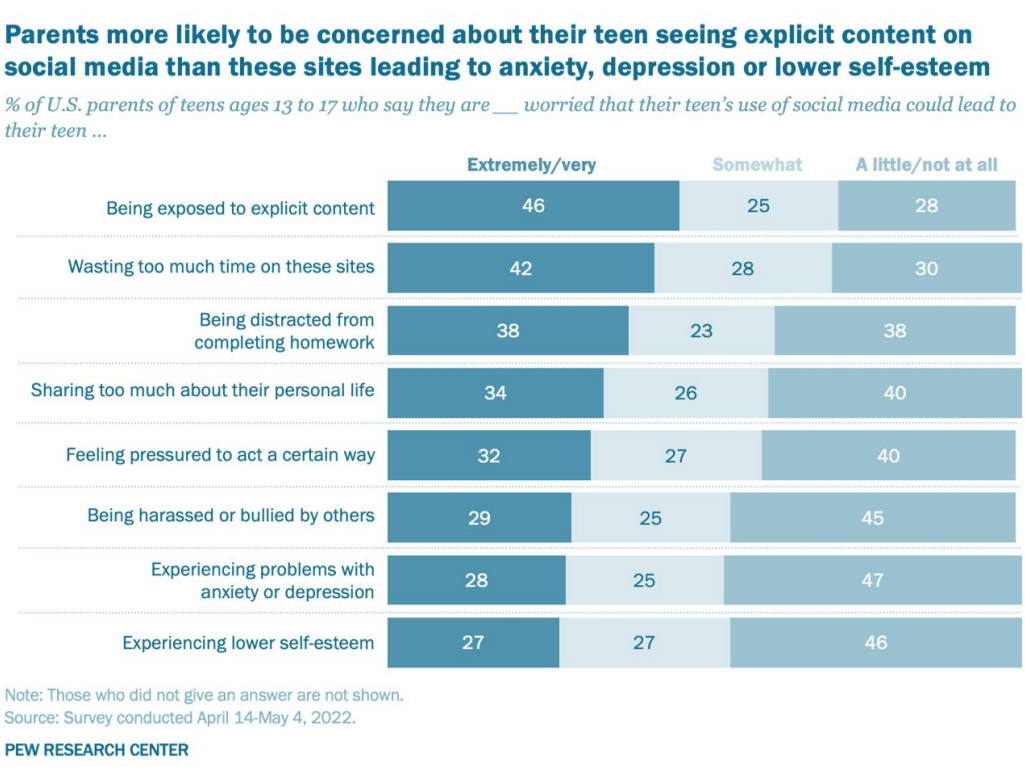
Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
27.2%	1. Broadband Access: As is the case with the rest of the region, broadband access for students is limited due to availability and/or affordability. 2. Digital Literacy: It is assumed that students are tech-savvy and, for the most part, they are. However, their skills are often limited to their phones and the apps and websites they use frequently. Knowledge of more advanced skills, those that will be required for higher education or the workforce, is limited. Likewise, their use of the internet is primarily for social and entertainment purposes leaving them with a gap in research skills and the ability to analyze news sources. 3. Cybersecurity and Privacy: While privacy is a growing concern for students who need to learn basic information about protecting their identity online, this wide-ranging topic encompasses the much larger concern of social media use and its impact on teens. This was one of the most-mentioned topics in focus groups. **SOLUTIONS TO DIGITAL EQUITY:** 1. While infrastructure expansion continues, the best option for addressing access options for students is to create more public Wi-Fi centers with longer hours at libraries and other community centers. 2. Providing assistance to families with school-aged children in accessing non-broadband resources such as Starlink while broadband infrastructure continues to be put in place will also increase access in a targeted manner to this high-priority population. This assistance can be in the form of a subsidy for installation or a Digital Navigator to help select the right option and assist with the enrollment process. 3. Homework hours before and after school where students can remain and complete their homework with assistance while using school-based internet is also an option for those who have transportation available. 4. Prioritizing subsidies for internet service to families receiving Free and/or Reduced Lunch will assist with those who face affordability barriers.

[6] Wilcox, W. Bradford, and Riley Peterson. "It's Time to Treat Big Tech Like Big Tobacco," American Enterprise Institute, January 20, 2023. https://www.aei.org/op-eds/its-time-to-treat-big-tech-like-big-tobacco/

	Creating an automatic approval for these families for programs such as the ACP will also increase the likelihood that they will be used. 5. Digital Literacy Prep Course for high school students outside the bounds of the SOL requirements that focuses on the software and research skills they need to thrive in college or the workplace. The course, to be offered as a club, camp, or after school activity, can also provide education about privacy and online predators. 6. Regional marketing campaigns targeting teens about online safety and cyber-bullying that will reach children and youth outside the public schools. Efforts can/should also be made by local organizations that serve teens such as 4-H, the Boys & Girls Club, churches, and libraries.

PARENTS

Like children, parents have most of the same barriers as the rest of the population in the region, but they need to be addressed as a high priority concern and in a slightly different way. Their needs are interwoven with those of the students but should be considered in addition to those of students. A report by Pew Research Center identified the following as concerns parents have about their children being online.



Parents are going to need resources to address these barriers as internet and computer access expands.[7]

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
35.7%	1. Device Access: While students are typically provided with access to devices, the same is not true for parents. For those with young children who are not provided with devices, it is difficult to keep up with communications from the school. 2. Digital Literacy: Many parents do not have the digital skills they need to manage the online systems the schools use to communicate with them and/or to help their children with their homework. 3. Cybersecurity and Privacy: Parents are concerned about the cybersecurity and privacy implications of students gaining increased access to the internet as well as the impact of social media. **SOLUTIONS TO DIGITAL EQUITY:** 1. Provide devices for even younger students enrolled in schools so that parents can use them to access online student management systems. 2. Provide opportunities for parents to learn how to use the school student management system through Parent Teacher Organization programs or in other casual environments. 3. Offer digital literacy classes for parents that are specifically tailored to the information they will need to assist their students such as browsing the internet and using Google products. 4. Provide education and resources to parents to help them understand the online dangers their children face and learn how to monitor their child's activities.

[7] Gelles-Wetnick, Risa. "Explicit content, time-wasting are key social media worries for parents of U.S. teens," Pew Research Center, December 15, 2022. https://www.pewresearch.org/short-reads/2022/12/15/explicit-content-time-wasting-are-key-social-media-worries-for-parents-of-u-s-teens/

COLLABORATION AND STAKEHOLDER ENGAGEMENT

SURVEY DISTRIBUTION EFFORTS

Skyline CAP used social media and email to distribute information about the DHCD survey. Digital documents were distributed to community partners in Greene and Louisa counties, including libraries, food pantries, and free clinics. Digital documents included the survey in English and Spanish, flyers, and cards containing a QR code to be handed to clients. Many of these partners agreed to print the survey for completion by their clients. Unfortunately, no paper surveys were returned. Emails were also distributed to Skyline's internal program managers with requests to distribute the survey link to their clients. Multiple individualized emails were sent to community stakeholders with a request to complete the survey and to forward it to family and friends in Virginia. Skyline also emailed its Board of Directors and employees requesting that they complete the survey. Efforts were also made via Skyline's social media accounts and internal newsletter. Skyline's efforts included:

SKYLINE CAP OUTREACH

- Facebook
  - June 12 – Shared DHCD post
  - June 21: Survey – 368 impressions; 4 shares
- Skyline CAP Internal Newsletter
  - July 12 – article about survey with QR code and links

People Incorporated also assisted with social media posts and advertisements as well as a postcard mailing to a targeted list.

PEOPLE INCORPORATED OUTREACH

- Twitter
  - June 12: Survey – 76 impressions
  - June 15: Survey – 100 impressions
  - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
  - June 28: Survey – 73 impressions
  - July 14: Survey – 28 impressions
- Facebook
  - June 13: Survey
- Instagram
  - June 29: Survey reel – 48 accounts reached
- LinkedIn
  - May 19: Luray forum – 130 impressions
  - June 12: Survey – 191 impressions
- People Inc. Digital Newsletter
  - June 27 – Partner email focused on survey (50 Total Clicks)
  - June 27 – Client email focused on survey (139 Total Clicks)
  - July 3 - "Have you taken the digital equity survey?" (3 link clicks)
- Postcard Mailing
  - Mailing to purchased list in high-priority areas

FOCUS GROUP OUTCOMES

People Incorporated hosted a series of focus groups from May through early July 2023 to seek feedback from individuals in the region. These meetings were advertised via e-mail, social media, flyers, and direct invitation over the phone and in person. In addition to clients and general members of the public, which were targeted through general marketing and outreach efforts, we also directly contacted strategic partners including the local school systems, community colleges, county administrators and members of the boards of supervisors, adult education providers, public libraries, and workforce development offices.

PEOPLE INCORPORATED OUTREACH

- Facebook
  - April 30: Community forums – 10,159 impressions
  - May 1 – May 8: Boosted Facebook post advertising community forums- ad run in Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
    - Reach: 6,484
    - Link Clicks: 64
  - May 2: Culpeper, Fauquier, Greene, Louisa, Madison, Orange, and Rappahannock county forums – 3,430 impressions
  - May 2 – May 22: Boosted Facebook posts advertising community forums- ad run in Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
    - Reach: 1,684
    - Link Clicks: 6
  - May 18 – June 1: Boosted Facebook post advertising community forums- ad run in Manassas Park Community Center (+1 mi), Potomac Community Library (+1 mi), Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, Prince William County, and Madison County
    - Reach: 15,032
    - Link Clicks: 175
- Twitter
  - April 29: community forums – 78 impressions
  - May 2: Culpeper, Fauquier, Greene, Louisa, Madison, Orange, and Rappahannock counties forums – 58 impressions
  - May 7: community forums – 97 impressions
  - May 16: Community forums – 83 impressions
  - May 21: Community forums – 54 impressions
- Instagram
  - June 29: Survey reel – 48 accounts reached
- LinkedIn
  - June 12: Survey – 191 impressions

Skyline CAP also used social media, email, and telephone contact to distribute information about the various focus group meetings scheduled in Greene, Louisa, Madison, and Orange counties. While there were some emails distributed to groups of people, many were individualized to avoid spam filters. Skyline's Head Start Family Advocates were asked to contact parents via email with dates of forums in Greene County. Skyline CAP also reached out to community partners to solicit information on groups/organizations that might be able to host a

focus group meeting with their members. Response to those emails was minimal but did result in one focus group meeting taking place with members of the Blue Ridge Networking Group.

SKYLINE CAP OUTREACH

- Facebook
  - May 2: Greene County forum – 868 impressions; 3 shares
  - May 4: Shared People Inc. post advertising community forums
  - May 4: Community forums – 218 impressions; 2 shares
  - May 23: Madison Co. forum – 82 impressions
  - June 7: Blue Ridge Networking Group forum – 103 impressions
  - June 8: Online forum – 67 impressions
  - June 13: Shared Blue Ridge Networking Group's post about 6/15 forum
  - June 13: Reminder of Blue Ridge Networking Group forum – 72 impressions
- Instagram
  - June 9: Online community meeting – reached 5

There was little interest in the subject of digital equity during the initial meetings other than to discuss the long-delayed broadband infrastructure developments. Attendance was limited with many meetings cancelled due to a lack of registrants. However, ongoing discussions with stakeholders in the community on the subject and careful guidance of the conversations at the focus groups allowed partners to identify consistent themes among the concerns. A full list of meetings and outreach efforts is included in the Appendix. The following table shows the community meetings that were held throughout the region.

Date	Location	Target Population	Attendance
5/2/23	Louisa County Library Davis Highway, Mineral, VA	General Population	1
5/6/23	Greene County Public Library 222 Main Street Suite 101 Stanardsville, VA 22973	General Population	1
5/25/23	Online	Regional Digital Equity Planning Coalition	5
6/15/23	Blue Ridge Networking Group Maybelle's on Main Stanardsville, VA	Greene County Business Representatives	6

INTERVIEWS WITH KEY INFORMANTS

In addition to focus group participants, we received direct feedback from:

- Jefferson-Madison Regional Library, Louisa
- Jefferson-Madison Regional Library, Greene
- Louisa County Public Schools CTE and Workforce Development
- Region 10 Community Services Board
- Greene County Department of Social Services
- Skyline Community Action Partnership Housing Services and Head Start

Details on how the Region will coordinate the implementation of its plan with workforce agencies, labor organizations, and institutions of higher of learning can be found in Section 5, Implementation.

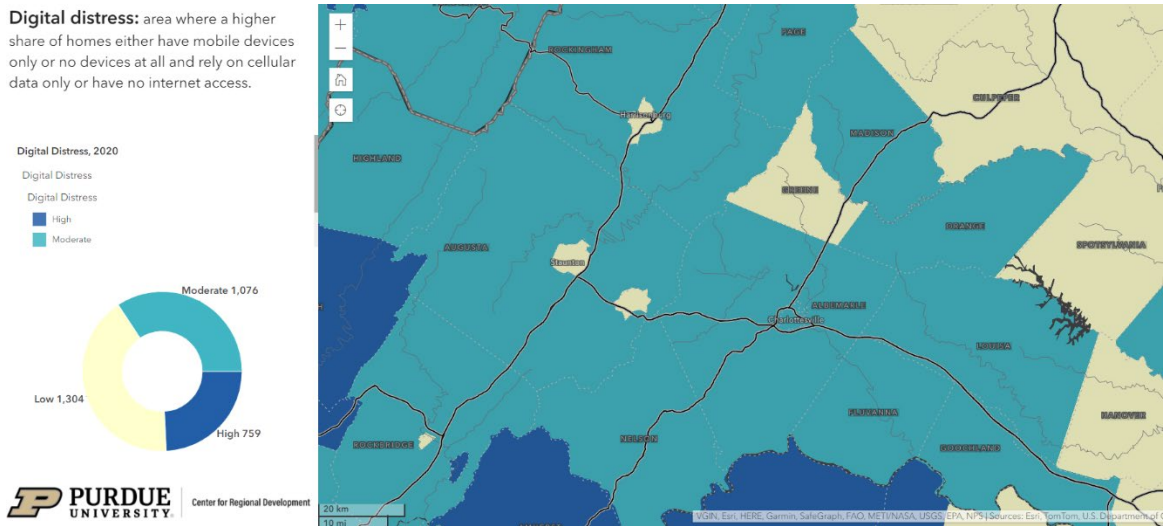
IMPLEMENTATION

BARRIERS TO DIGITAL OPPORTUNITY

Greene and Louisa Counties are encumbered by many barriers to digital opportunities as is common in rural areas. The mountainous terrain adds to the expense of installing the broadband infrastructure. Higher than average poverty and lower levels of education lower the market for enrollment. A lack of internet access and limited disposable income leads many households to being without computers of any kind.

These barriers lead many people in the area rely on cell phones for access to the internet because they lack a more appropriate device and/or lack internet access. Some also rely on their phone because they have insufficient digital literacy skills to use a computer. Stakeholders report that this is insufficient because they cannot use a phone to complete an employment application or do their homework.

Understanding the insufficiency of a mobile phone and cellular plan for meeting needs in the digital worlds, The Center for Regional Development at Purdue University developed a Digital Distress[8] calculation based on data from the American Community Survey that considers the percent of homes with no internet access, those using cellular data only, those with mobile phones only, and those with no computing devices. They then calculate a score and identify the county as low, moderate, or high distress. Areas of digital distress (the darker areas) are those with a higher share of homes having either mobile devices only, cellular data only, or no internet access.



The Center for Regional Development also developed the Digital Divide Index to compare barriers to digital opportunities based on infrastructure and socioeconomic characteristics. This provides an unbiased view of the factors influencing what they characterize as Digital Distress.[9] The Digital Divide Score is further assessed by an Infrastructure and Socioeconomic Score. This helps identify where the greatest barrier to Digital Equity lies. If the infrastructure score is higher, that would indicate a need to prioritize that area to increase access while a higher

[8] Gallardo, Robert, and Benjamin St. German.: Digital Distress: What is?" April 18, 2022, https://pcrd.purdue.edu/digital-distress-what-is-it/

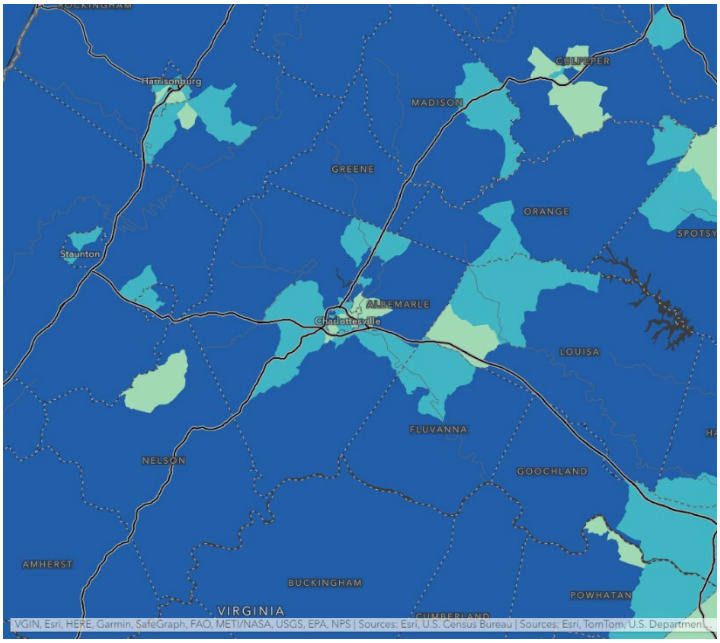
9 Gallardo, R. (2023). Digital Divide Index. *Purdue Center for Regional Development*. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi

The digital divide index (DDI) consists of three scores ranging from 0 (lowest divide) to 100 (highest divide) and includes ten variables grouped in two categories: infrastructure/adoption and socioeconomic. For purposes of analysis, the overall DDI score was utilized.

Socioeconomic Score would drive attention towards affordability, device access, and digital literacy. The table is sorted from highest to lowest Digital Divide Score.

The data presented in the table is based on a national index comparing Greene and Louisa Counties to every jurisdiction in the country. A statewide index is included in the Appendix. Of the 133 jurisdictions in Virginia, Greene County is ranked as having the 87th highest Digital Divide Index score and Louisa County ranks at 63. When distributing money within the region, the Digital Equity Index should be one factor used to prioritize allocations.[10]

	Greene	Louisa	Albemarle	Charlottesville	Fluvanna	Nelson
Digital Divide Score:	20.82	24.87	15.13	11.94	15.07	27.1
Infrastructure Score	22.84	24.28	17.9	8.88	16.91	23.56
Socioeconomic Score	14.51	19.84	9.46	11.83	10.2	24.16
Average Download Speed (Mbps)	121.5	113.1	142.3	173.2	179.5	133
Average Upload Speed (Mbps)	18.0	67.3	31.9	61.1	75.4	115.1
Population with no access to 100/20 (Mbps)	89.9%	75.3%	64.1%	10.9%	57.0%	38.8%
No internet access	9.5%	15.4%	8.6%	7.1%	9.5%	21.4%
No computer device	5.4%	7.3%	4.9%	5.0%	5.9%	11.0%
Less than HS degree	11.6%	10.8%	6.7%	7.6%	6.5%	15.5%
Poverty Rate	10.1%	10.8%	6.9%	23.1%	4.6%	12.5%
Age 65+	17.9%	19.7%	18.7%	12.0%	19.9%	27.0%
Disability Rate	13.8%	16.1%	9.3%	8.6%	12.6%	13.7%
Internet Income Ratio	3.40	8.57	5.78	3.38	3.99	5.27



INFRASTRUCTURE SCORE[11]

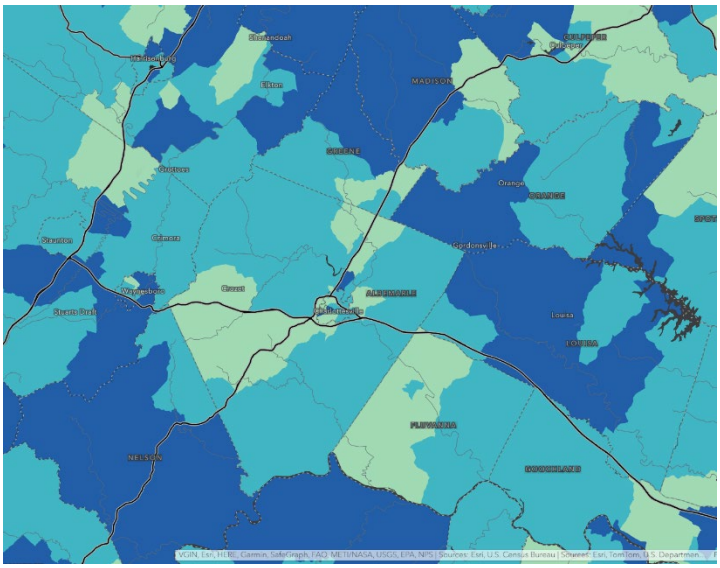
The map shows the infrastructure results for the Thomas Jefferson Planning District. The colors are divided into **Low**, **Moderate**, and **High** categories based on an index that ranges from 0 to 100 where 100 indicates the highest divide. The map clearly shows that Greene County and eastern Louisa County face a high infrastructure burden, particularly compared to the City of Charlottesville and the center of Albemarle County. Most of the development, as

Digital Distress
High
Moderate
Low

[10] Counties were divided into three roughly equal groups based on the DDI score: low (1,031 counties), moderate (1,031 counties), and high (1,063 counties). The average DDI for those in the high category is 36.5. All the counties listed have a DDI score over 36.5.

[11] The Infrastructure Score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests) (4) download and (5) upload speeds in Megabits per second (Mbps).

expected, is situated along the major roadways.



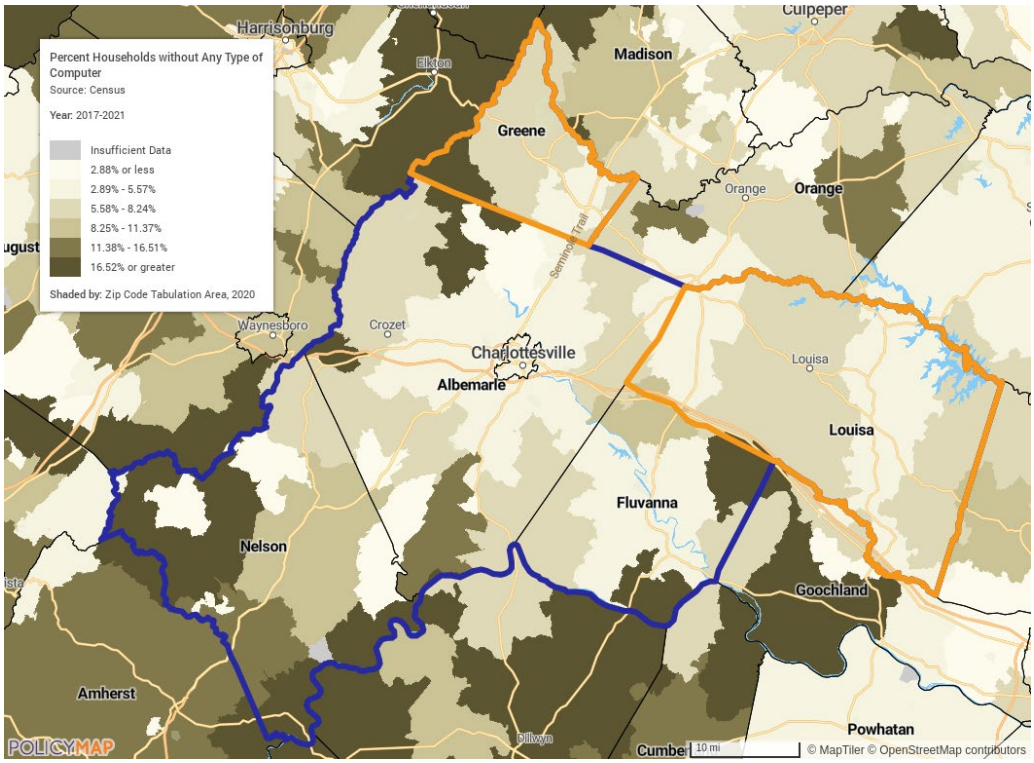
SOCIOECONOMIC SCORE[12]

Socioeconomic scores in the region are much more diverse. Greene and Louisa counties have some of the highest scores in the region. More detailed statewide data is available in Appendix A.

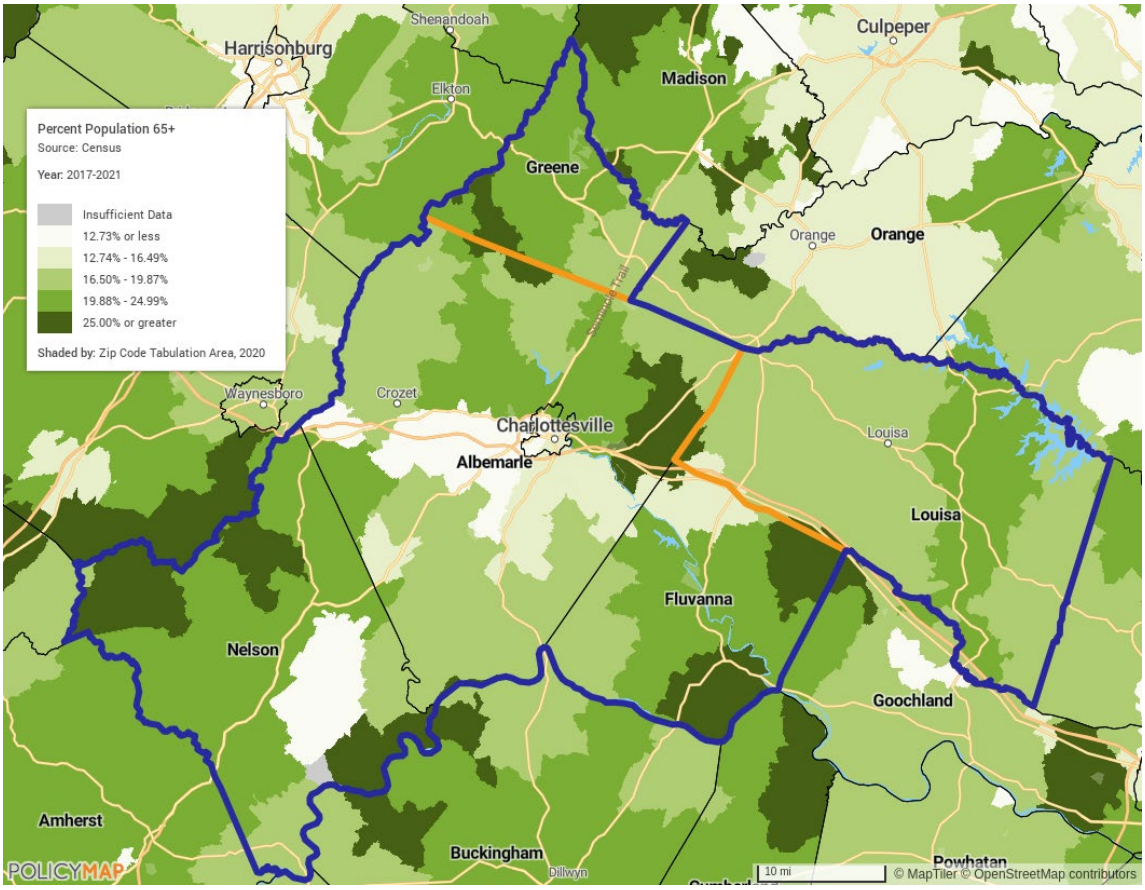
TARGET POPULATIONS

The map shows those without any type of computer. These are the population facing the highest barriers to digital opportunity. Individuals lack computers for a variety of reasons including not knowing how to use them, not being able to afford one, not needing one due to a lack of internet access (also often associated with affordability), and/or not considering them necessary. Lacking a computer is a primary indicator of digital inequity.

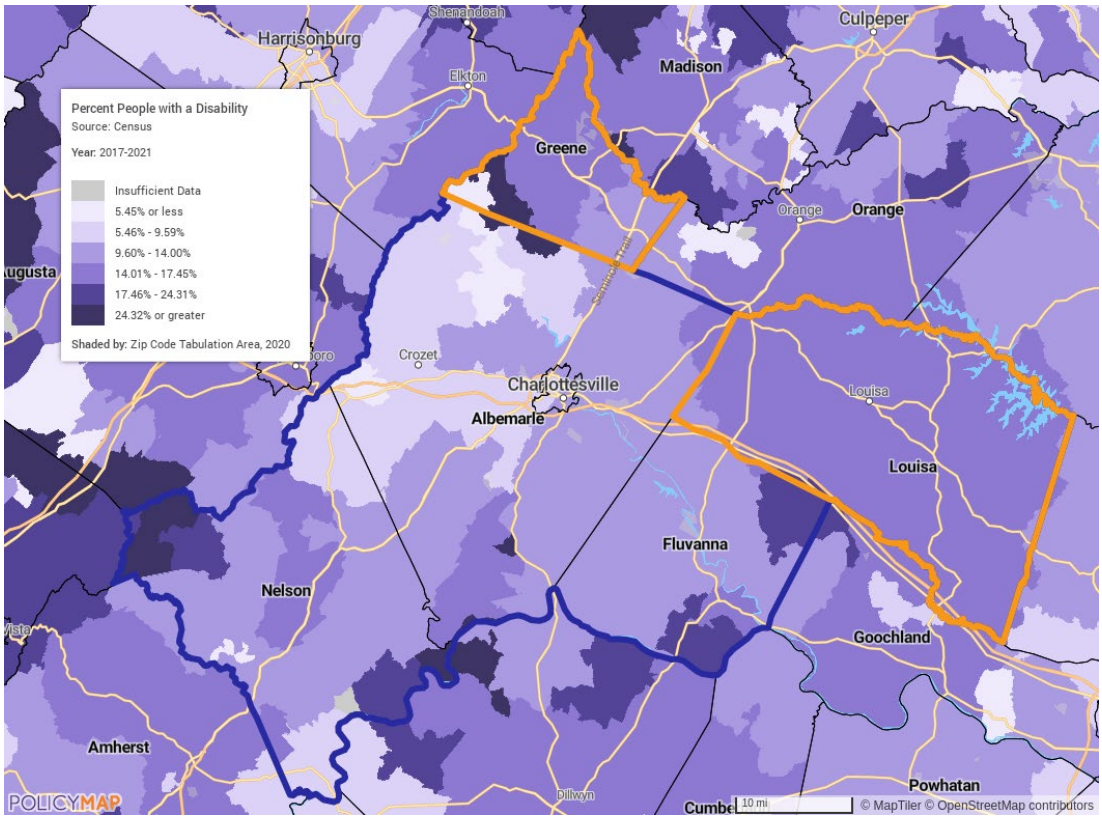
[12] The socioeconomic score indirectly measures the potential for adoption of technology or potential of reinforcing existing inequities by factoring five data variables that are known to reflect the likelihood of adoption of technology: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; (4) percent of noninstitutionalized civilian population with a disability: and (5) internet income ratio measure (IIR).



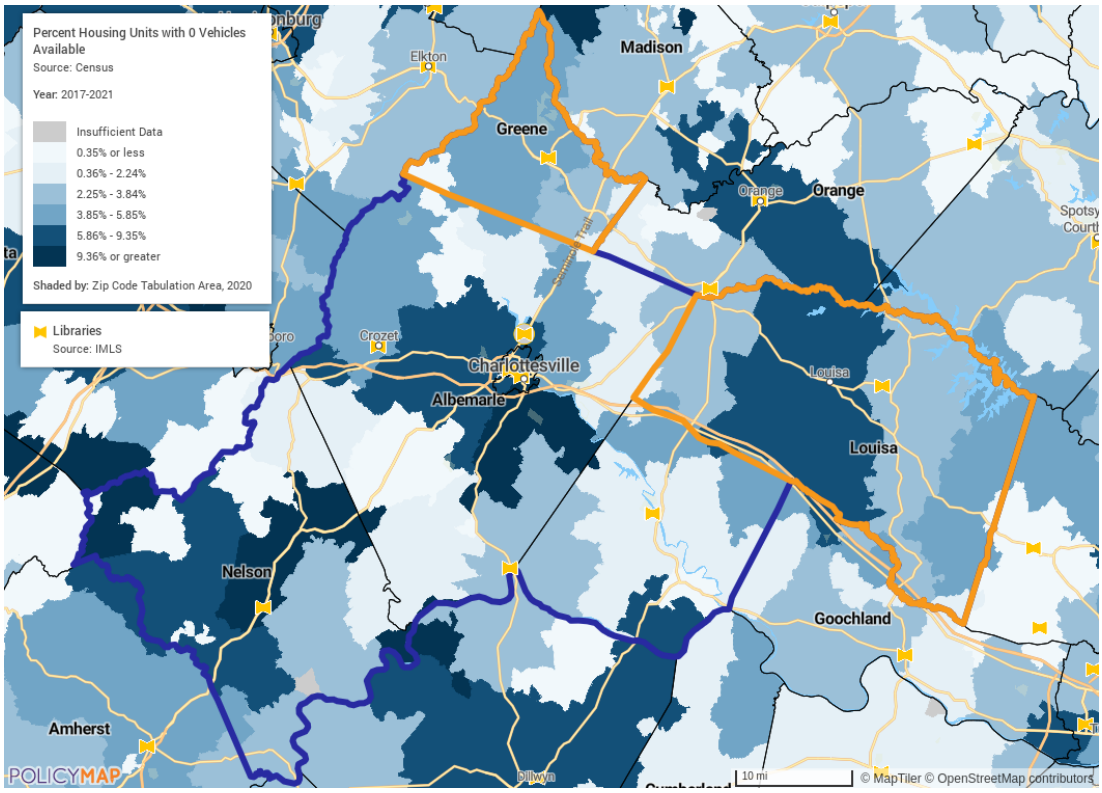
Among the specified target populations, the highest priority for receiving services is those in rural areas as they constitute the majority of residents in Greene and Louisa Counties. The second priority is for those with incomes at or below 150% of poverty. The barriers and needs within the region are based on the limitations of income and geography more than any other characteristic. As with many rural areas, the region has a rapidly aging population making it a crucial target for services. While many of their needs are similar to the population at large, the approach to services for them will be unique.



Although people with disabilities do not represent a large portion of the region, they are one target population that require a specific approach to services for which location will need to be considered. This map shows the distribution of individuals within Greene and Louisa counties as well as the entire Charlottesville region.



The final population characteristic that will impact service location is access to transportation. This map shows the percentage of households with no vehicles. It is overlayed with the locations of the local libraries.



IMPLEMENTATION STRATEGY

The first step in the implementation of the regional plan is to identify a lead agency to oversee the efforts. The foundation for this exists in the Regional Digital Equity Planning Coalition, currently coordinated by Albemarle County. This organization needs to be broadened and formalized to ensure representation throughout the region and assign responsibility and funding for administrative oversight.

The lead agency should be chosen through a competitive application process according to guidelines established by the Virginia Department of Housing and Community Development that consider capacity, experience, and ability to serve the entire region. The contract will last for two years, the length of time between plan renewals. Eligible entities include:

- local governments;
- planning districts;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations.

The lead agency will receive funding for coordinating activities including, but not limited to:

- establishing the Thomas Jefferson Area Digital Opportunity Network, a consortium of organizations that meet on a regular basis to discuss Digital Opportunity barriers and opportunities in the region and guide the implementation of the plan;
    - The agency will be responsible for recruiting members representing all areas of the region as well as the following:
        - local governments;
        - planning districts;
        - institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
        - labor organizations;
        - community-based 501c3 organizations; and
        - all organizations providing programs and resources to reduce barriers to Digital Equity.
- directing the bi-annual update of the Digital Opportunity plan; and
- serving as a resource for best practices and technical assistance to other organizations working to address Digital Opportunities in the Community.

As a matter of best practice, future Digital Equity plans will coordinate with local Consolidated Plans to occur on the same schedule and coordinate resources whenever possible. This will help meet the requirements established in 81 FR 90997 in December 2016 requiring that Consolidated Plans for jurisdictions "address the need for broadband access for low- and moderate-income residents in the communities they serve."[13]

[13] https://www.federalregister.gov/documents/2016/12/16/2016-30421/modernizing-huds-consolidated-planning-process-to-narrow-the-digital-divide-and-increase-resilience

COORDINATION WITH KEY PARTNERS AND STAKEHOLDERS

As outlined above, the key partners and stakeholders will be integrated into the Digital Opportunity Plan implementation process through the organized Network as the lead agency, members, or grantees. Through this organization, all efforts in the region will be coordinated with constant reference made to the plan and an ongoing review of progress.

- The Network will be responsible for ensuring activities related to the Digital Opportunity plan are carried out among all parts of the region and reach all targeted populations;
- recommending new programs for funding and coordinating submission of applications to DHCD to ensure that services and funding are distributed throughout the region and to areas and populations of greatest need;

Details about the partners and stakeholders consulted during the planning process are included in the Collaboration and Stakeholder Engagement Section.

PRIORITIES FOR IMPLEMENTATION

ASSESSED IMPORTANCE OF BARRIERS

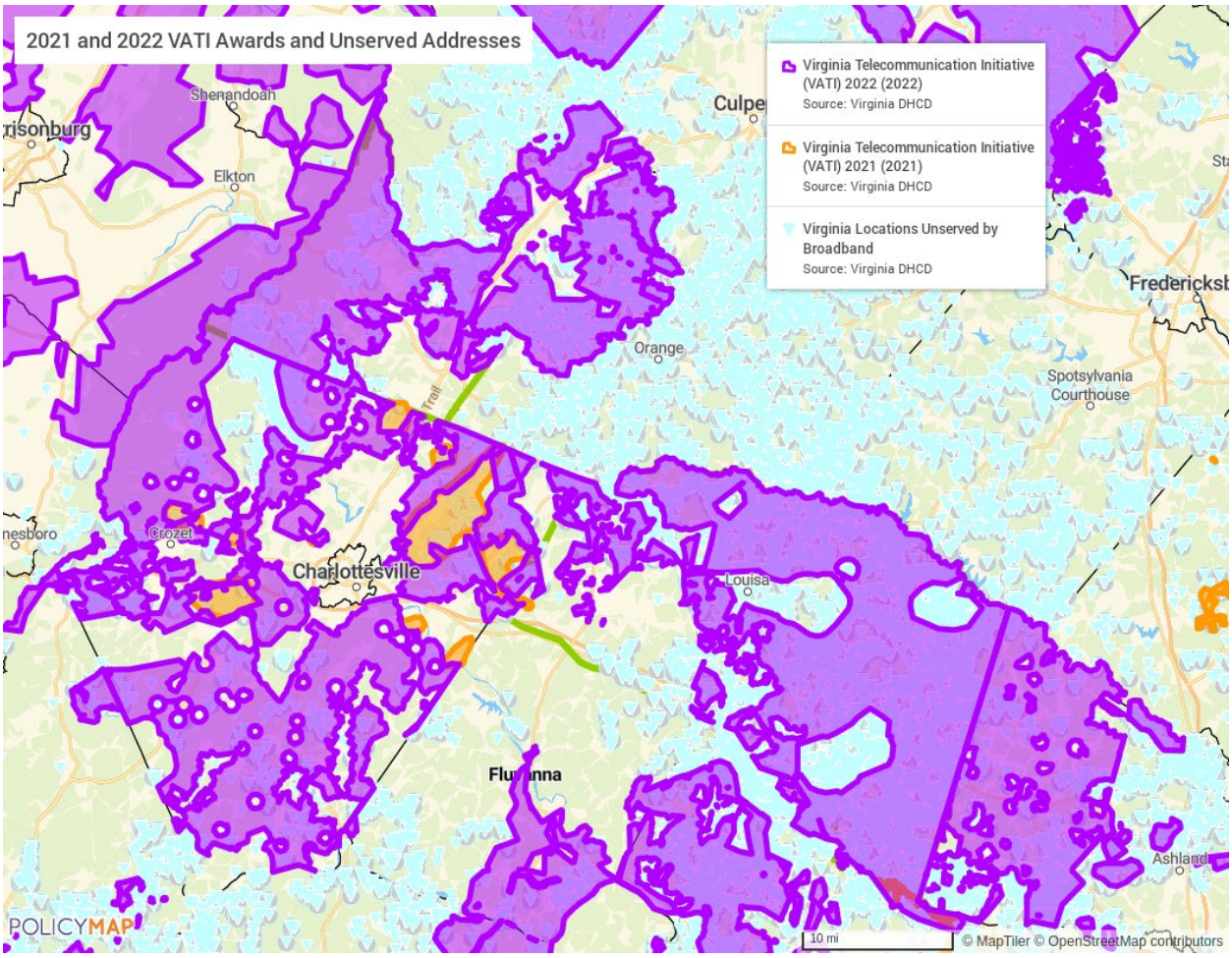
Over the next two years, priorities for the region are focused on:

1. Device Access and Affordability
2. Digital Literacy
3. Privacy and Cybersecurity
4. Broadband/Internet Access
5. Online Accessibility

While many of these issues are seen as interconnected and, as a result, difficult to prioritize, there is some consensus that there is a need to first address Digital Literacy for those who currently have, or could have, access to broadband and a device.

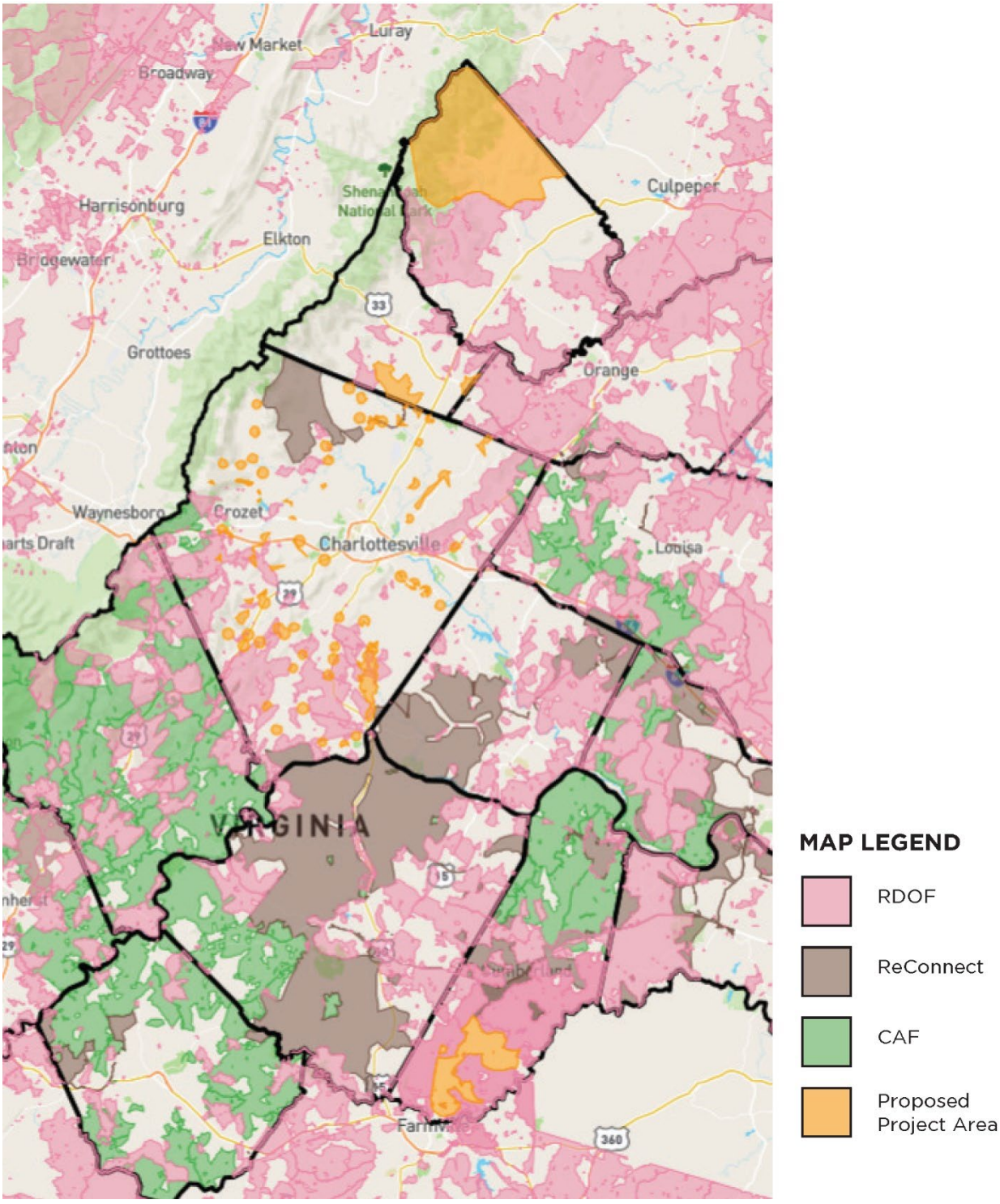
Privacy and Cybersecurity is tightly intertwined with Digital Literacy and is a key element of securing Device Access. However, it is also its own concern, particularly with regards to social media and its impact on children/teens.

Discussions about Digital Opportunity assume the need for expanded infrastructure to increase physical access to high-quality broadband services. This is expected to be a long-term project. Currently, the region is engaged in a VATI project that will cover a significant portion of the geography as identified on the following map.



The Thomas Jefferson Planning District Commission submitted a VATI application for the 2023 round that did not receive funding. The Commission is working cooperatively with Firefly to provide services to the region. Their application shows a build-out plan that will, eventually, have the region fully served dependent upon financial resources.

The 2023 application showed the following plan. The areas in orange are those still in need of funding to access services. As the map shows, Louisa County is already well served. Greene County has a large area on the southern end that lacks connections.



For many focus group participants, broadband access was their singular focus although many were more immediately concerned about the quality of existing access than expanding access. The map shows the unserved addresses in the region. Given the development patterns and mountainous terrain, many homes will have difficulty gaining access to broadband fiber, which is why residents advocated for alternative forms of internet access such as satellite.

With infrastructure efforts in process that will reach fruition by the time the plan is ready for revision, there is little focus on broadband access in this plan. In two years, the planning process should reconsider the status of unserved households as well as advances in technology to create a new plan to reach 95% accessibility coverage.

The issue of affordability has been addressed separately as it applies to both current and future internet users. However, it has also been moved lower on the priority list for two reasons. The first is the existence of the Affordable Connectivity Program. The second is the high cost of implementing a subsidy program in the region, regardless of how narrowly it is focused.

GENERATING IMMEDIATE DIGITAL OPPORTUNITIES

DIGITAL NAVIGATOR

The most vulnerable populations within the region will need dedicated support to navigate the digital world that is being opened to them. In order to access existing resources and be aware of new opportunities as they come available, residents need a Digital Navigator to guide them. This position will be instrumental in coordinating the various services and educational activities that will be part of the Digital Opportunities Plan. In order to properly accommodate the needs of the diverse population within the region, a Network of Navigators should be established to work with local residents.

Either the lead agency or another organization selected by RFP will be responsible for operating the Digital Navigator Network consisting of a small group of lead Navigators who train and coordinate efforts with a network of subcontracted Navigators working throughout the region. These subcontractors will work for trusted partner organizations that have strong ties to the target populations and are able to engage with them on multiple levels in a to address needs beyond digital opportunities. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.[14]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES

Digital Navigator
• Provide one-on-one technical assistance to clients related to:
  • Selection of technology and internet services
  • Instruction on how to use individual devices
  • Selection of necessary software
• Coordinate training programs in
	• # of hours of services
	• # of clients served
	• # of clients connected to the internet
	• # of clients who obtain a device
		Eligible Parties include:
		• Lead Agency
		• Community Action Agencies
		• Workforce Agencies
		• Libraries
		• Other regional non-profits

[14] This model has been implemented in Orlean County, New York, where they began training Meals on Wheels delivery volunteers. https://orleanshub.com/grant-secured-by-united-way-will-fund-computer-and-digital-literacy-mentors-for-community/
The Patterson Foundation in Southwest Florida also offers a similar program.
https://www.thepattersonfoundation.org/digital-navigator-program.html

the community. • Provide technical assistance over the phone. • Coordinate a marketing campaign related to privacy and cyber-security issues. • Maintain a list of available resources in the community and make referrals, as necessary. • Assist in enrollment for Affordable Connectivity Program or other programs available to assist with increasing affordability		

Based on community feedback related to the organizations most likely to be trusted to provide reliable information related to privacy and cyber-security, it is not recommended that government organizations or internet service providers be responsible for providing Digital Navigator services.

"Navigating the world today requires a computer in order to fully participate and not be left behind."

INCREASING ACCESS TO DEVICES SUITABLE FOR USING THE INTERNET

Focus group participants consistently reported that the lack of an actual computer or tablet was a significant barrier for individuals as it is not adequate for those needing to do tasks such as completing an employment application, participating in an online class, completing homework, filling out online forms, or engaging in many online essential services.

The general consensus among partners is that it is necessary to get devices directly into the hands of the individuals who need them. There is also a strong preference for programs that provide devices outright rather than loan them as loan programs are difficult to manage and there are some associated security issues with people sharing the use of a computer.

However, there is also understanding that providing devices to the large number of people in need is cost prohibitive so making more computers publicly accessible is a necessary step. This is especially useful for individuals who are just learning how to use a computer. Therefore, device access programs should initially be developed on a small scale and targeted to those with a specific need.

OBJECTIVE: INCREASE ACCESS TO TABLETS OR COMPUTERS FOR INDIVIDUALS WHO NEED A MORE ADEQUATE DIGITAL DEVICE TO USE THE INTERNET FOR HEALTHCARE, WORKFORCE, OR ESSENTIAL SERVICE USES.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Develop a list of available computer resource centers in the community for referral.	# of referrals made	Digital Navigator
Develop more publicly available computer and Wi-Fi location from	• # of clients served • # of locations	• Digital Opportunity Network • Libraries

which residents can access the internet. This means more locations, extended times, and more computers at existing locations.	Hours resources are accessed	• Workforce Agencies • Social Service Agencies Small businesses
Expand number of computers available for Workforce Agencies to loan or give to clients.	# of clients served	Workforce Agencies
Develop Digital Literacy/Cybersecurity training program after which participants may purchase their computer for a small fee.	• # of classes • # of participants • # of students who pass test • # who complete program • # who purchase a computer	• Workforce Agencies • Adult Education programs • Digital Navigator • Libraries
Develop partnerships with national device refurbishment and distribution programs. https://planitroi.com/ https://www.techsoup.org/refurbished-computers https://www.pcsforpeople.org/ https://digitunity.org/get-involved/receive-equipment/ https://www.sagese.com/good-together	• # of computers distributed • # of households served	• Lead Agency • Digital Navigator • Community Anchor Institutions • Adult Education Programs • Workforce Agencies
Expand the VA Star program to create a partnership with the local schools to teach students to repair donated computers and redistribute them to pre-qualified clients in need.[15] The program is currently available in the City of Charlottesville.[16]	• # of students engaged in training classes • # of computers repaired • # of recipients	• Public Schools • Human Services providers of Digital Opportunity Network • Departments of Social Services

DIGITAL LITERACY

As mentioned previously, digital literacy is closely entwined with cybersecurity and privacy concerns. Proposed activities are also linked to device accessibility.

OBJECTIVE: IMPROVE DIGITAL LITERACY FOR THE REGION'S POPULATION WITH A PRIORITY ON BASIC COMPUTER SKILLS FOLLOWED BY COMPUTER USE FOR ESSENTIAL SERVICES, WORKFORCE NEEDS, AND EDUCATION.		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**

[15] In the Statewide Recommendations section, the VA STAR program is recommended as a program to develop in every school district. In addition, a comparable program for community colleges is recommended. These would have a large impact in the local region, but require a significant investment of time, funds, and technical skills in developing the curriculum that make them difficult to implement at the regional level. https://vastar.org/

[16] https://www.vastar.org/participating-districts/

One-on-one technical assistance to be provided in a variety of locations to make services most convenient for the client including, but not limited to, the client's home, homeless shelters, senior centers, and libraries.	• # of clients assisted • # of problems solved	Digital Navigator
Computer classes to accommodate all levels of knowledge from the most basic to more advanced classes that address specific uses and needs. Classes should be available in a variety of settings that would be most comfortable for the target audience. Settings may include local libraries, community centers, senior centers, public schools, churches, workforce centers, or institutions of higher learning.	• # of classes • # of participants • # of students who pass test • # who complete program	• Libraries • Workforce Agencies • Adult Education programs • Digital Navigator
Intergenerational training classes to match youth and older adults. Resources for these programs include the Cyber-Seniors Program[17] that trains teenagers to be technology mentors to older adults and GenYes[18], which trains students to be tech leaders and teachers.	• # of classes • # of participants • # of youth who complete coursework wo become a trainer	• Schools • Libraries • Senior Centers • Digital Navigator Network
Computer training for parents to help them be able to use necessary software for schools and assist their children with homework.	• # of parents trained • Increased engagement of parents in school as identified through increase in emails opened and use of online learning systems	Public Schools
Online classes available for those who have basic computer skills and need additional training to make better use of the internet for workforce, health, or social engagement purposes. Ideally, these classes will build on themselves to lead clients on a path towards a pre-defined goal.	• # who participate • # of hours of classes • # who complete program • # of students who pass tests	• Workforce Agencies • Adult Education programs • Libraries

HELPING USERS OVERCOME FEAR

[17] https://cyberseniors.org/
[18] https://www.genyes.org/genyes/

As mentioned previously, many of these issues can be resolved through Digital Literacy training or in the same manner used to address Digital Literacy. However, there are a number of parents in the region who expressed growing concern about the impact of social media on their children and increased access to the internet in general.

Members of focus groups frequently shared stories of older relatives who fell prey to online scams. The potential for this increasing caused concerns about expanded use of the internet, particularly by older adults.

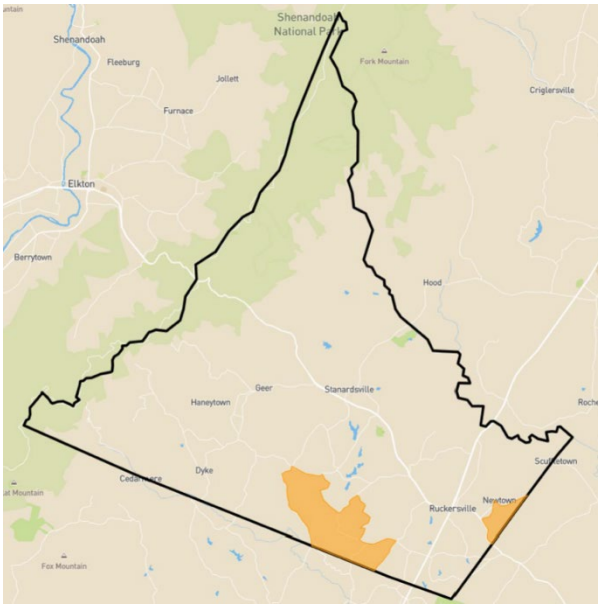
OBJECTIVE: HELP USERS OVERCOME THE FEAR OF DIGITAL DEVICES AND LEARN HOW TO PROTECT THEMSELVES ONLINE FROM CYBER-THREATS AND SOCIAL MEDIA ABUSES		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Regional marketing campaigns targeting teens about online safety and cyber-bullying that will reach children and youth outside the public schools. Efforts can/should also be made by local organizations that serve teens such as 4-H, the Boys & Girls Club, churches, and libraries.	• # of students who participate • # of resources provided	Public schools
Educate parents about the dangers of social media and how to address these issues with their children	• # of parents who participate • # of resources provided	Public schools
Implement a marketing campaign to educate individuals about the need to protect their privacy online and how to avoid scams	• # of resources provided • # of people reached	Digital Navigator
Digital Literacy Prep Course for high school students outside the bounds of the SOL requirements that focuses on the software and research skills they need to thrive in college or the workplace. The course, to be offered as a club, camp, or after school activity, can also provide education about privacy and online predators.	• # of students who participate • # of hours of learning • Results from testing at end	• Schools • Youth organizations
E-mail blasts or other news distribution detailing popular scams currently occurring	• # of emails sent	• Digital Navigators • Law Enforcement • Libraries
"Open house" technical assistance days at libraries, senior centers, or other venues during which individuals can have their devices scanned for viruses and/or receive free or reduced cost antivirus software.	• # of individuals served • # of services provided	• Digital Navigators • Libraries • Senior Centers • Lead Agency • Local computer repair businesses
Tech support and cybersecurity	• # of clients served	• Piedmont Community College

clinics at and/or in partnership with Piedmont Community College and students enrolled in IT and cybersecurity programs.	• # of services provided • # of volunteer hours • # of issues resolved • # of events held	• Senior Centers • Lead Agency • Digital Navigators
Provide free or low-cost antivirus software through a bulk purchase, donation, or Tech Soup	• # of computers protected • Amount of money saved	• Digital Navigator • Digital Opportunity Lead Agency
Expand existing education programs for students in school about all aspects of online privacy, cybersecurity, and social media protections	• # of students who participate • # of resources provided • # of hours of education • Results of tests/evaluations following completion	• Public Schools
Develop online education videos where people can learn on their own	• # of videos created • # of times watched	• Digital Navigator • Libraries • Public Schools • Law Enforcement Agencies

CREATING DIGITAL OPPORTUNITIES IN THE LONG-TERM

INCREASE INTERNET ACCESS AND AFFORDABILITY

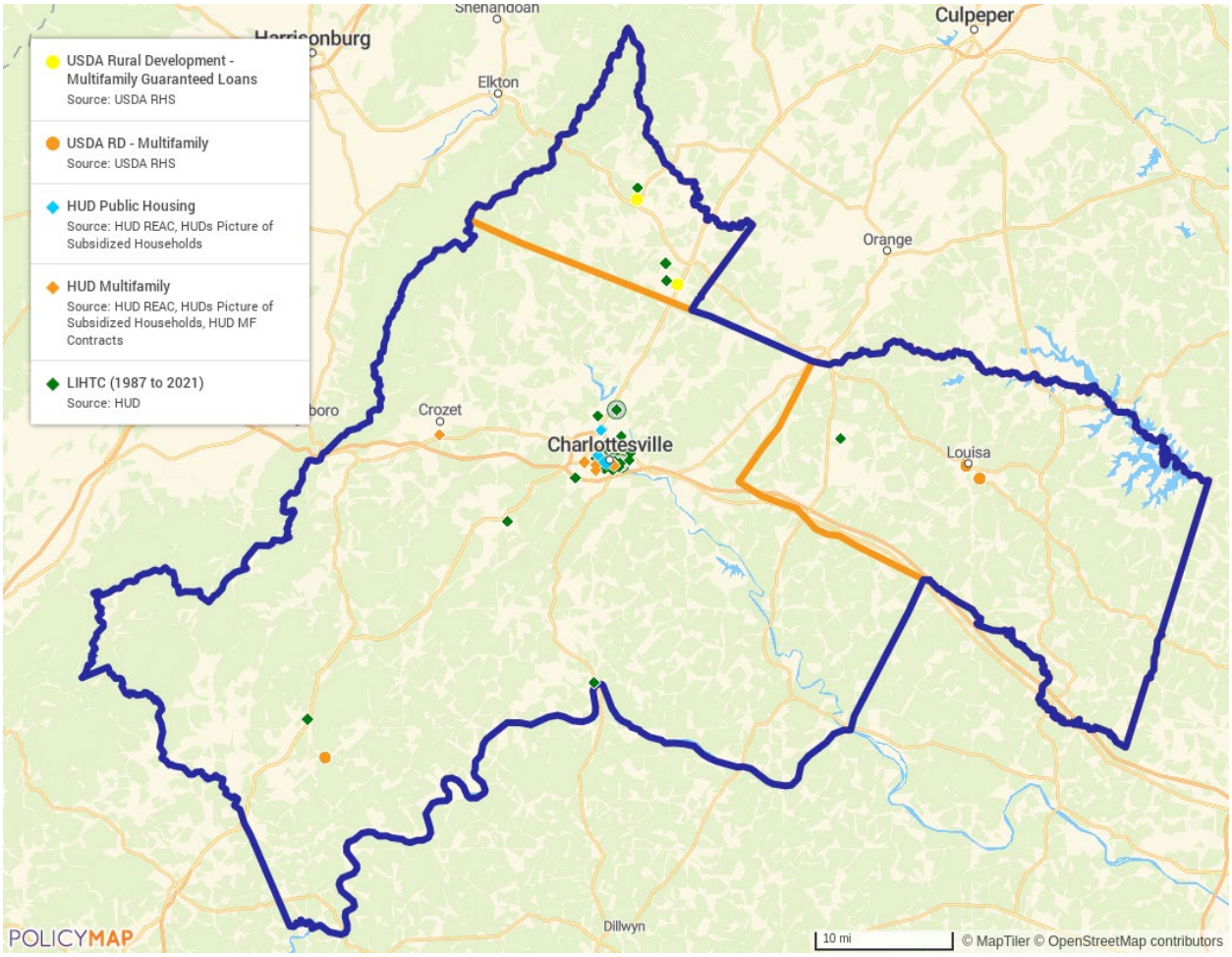
Internet access and affordability are not high-priority concerns in the region as they are currently being Addressed by VATI and ACP. Louisa County will offer comprehensive broadband coverage upon completion of existing VATI projects. Greene County has a far greater need for funding. Although there is one project underway through the Thomas Jefferson Planning District Commission, a second application for funding was denied. Additional funding will be required to continue on a path towards full coverage. In addition, because of the mountainous terrain, residents may need additional methods of connecting to the internet such as Low Orbit Satellite. The map shows the unserved region in Greene County proposed for expansion in the unfunded VATI



application submitted by the Thomas Jefferson Planning District Commission.[19]

While the infrastructure issues are resolved, there are efforts that can be made to increase access through affordability. The first is outreach and enrollment efforts for the ACP, which should be a key function of the Digital Navigator Network. The second is the installation of Wi-Fi infrastructure in affordable housing rental communities.

Installing internet services in affordable housing rental communities is one of the most expedient and effective means of increasing access and affordability in the short term. This method allows for expansion of service to the targeted low-income population with a sustainable method for maintaining the service after the initial investment. The map shows the locations of apartments that might be eligible for such a program.



Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as residents can then be supplied with service for free or at a reduced cost. Methodology for this is illustrated in a

[19] Thomas Jefferson Planning District Commission, Virginia Telecommunication Initiative 2023 - Application

graphic designed by Education Superhighway for their publication, "Closing the Digital Divide with Free Apartment Wi-Fi." They propose a structure modeled after the installation of services in hotels. [20]

The guide from Education Superhighway recommends these steps:

1. Activate an Internet connection in the building. This can be purchased from a local Internet service provider, or the city can leverage the Internet access it uses to connect city facilities by extending its network to apartment buildings using a wired or wireless wide area network.
2. Install Wi-Fi infrastructure in the apartment building. This step involves simply wiring hallways and common areas for Wi-Fi access points and then configuring the network.
3. Provide residents with the SSID and password to connect to the Internet. Residents can also be given a unique username and password for enhanced security.

Depending on the availability of hardware, funding, and permits, the installation process can take as little as two months. In the end, the networks can supply symmetrical speeds far exceeding FCC guidelines making this not only an affordable option bit an expedient one as well.

Rural LISC has also developed resources to promote this path to access and affordability It includes models for financing and case studies.[21]

There is strong support for internet subsidies among stakeholders, although they are a low-priority because of the cost and the current availability of the Affordable Connectivity Program. Proponents encouraged everything from a completely free internet plan to one specifically targeted to those with the greatest need. Most favored an approach that identified a minimum service plan with a price determined by the local median income.

OBJECTIVE: INCREASE ACCESS TO AFFORDABLE, HIGH-QUALITY BROADBAND SERVICE		
SHORT-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Conduct outreach about ACP and other resources available to assist with affordability of internet access	• # of people reached • # of people enrolled in ACP	• Digital Navigator • Digital Opportunity Network
Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost.	• # of units served • Cost savings compared to individual per-unit subsidies	• Local governments • DHCD • VHDA • Apartment owners
MEDIUM-TERM		
CORE ACTIVITIES	**MEASURABLE GOALS**	**RESPONSIBLE PARTIES**
Increase competition among providers to decrease costs and increase quality.	• % decrease in price • Increase in internet speed • Decrease in wait time for installation Decrease in wait time for service calls	• Local governments • Internet Service Providers
Increase access to non-broadband internet options include low-orbit satellite and fixed satellite.	# of new households connected	• Local governments • Internet Service Providers

[20] https://www.educationsuperhighway.org/free-apartment-Wi-Fi/

[21] https://www.lisc.org/rural/our-work/broadband-infrastructure/resources/broadband-resources-affordable-housing/

Expand infrastructure to fill gaps in service.	# of new households connected	• Local governments • Internet Service Providers
LONG-TERM		
Develop subsidy programs to increase affordability.	• # of individuals/households served • # of households able to sustain internet connection after 6 months, 1 year	• Digital Navigator • Community Action Agencies • Department of Social Services • Workforce Agencies • Institutions of higher learning

ONLINE ACCESSIBILITY

Online Accessibility is not a significant concern within the region. Stakeholders indicated some frustrations with website navigation primarily related to organization and function. Recommendations that may be implemented by local governments, non-profits, schools, and other providers of public services include:

- Use language that is written at a lower grade level.
- Use a design that can be read on a phone or tablet.
- Provide information boxes that will pop-up to guide users through a process.
- Create a website that is in keeping with ADA requirements, particularly for standards to accommodate those who are deaf, blind, or have difficulty seeing.
- Increase options for contacting people and completing paperwork online while still leaving the option for phone and mail service.

TIMELINE

The timeline for implementation of the plan will begin once the Lead Agency has been selected. After that, activities will occur based on the following timeline:

PLAN MONTH	ACTIVITY
1-3	Establish Digital Navigator Network
2-5	Solicit proposals for digital literacy and cyber security/privacy activities
6-8	Award funds and begin implementation of digital literacy and cyber security/privacy activities Begin training and funding of Digital Navigators to expand Network throughout the region.
4-8	Solicit proposals for digital access and broadband access activities
8-11	Award funds and begin implementation of digital access and broadband access activities
12-14	Begin six-month review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
16-18	Begin six-month review of digital access and broadband access activities
18-20	Begin annual review of digital literacy and cyber security/privacy activities as well as Digital Navigator Network
20-22	Conduct update to Digital Opportunity Plan
24-26	Begin annual review of digital access and broadband access activities

MECHANISMS FOR PLAN UPDATE

The designated lead agency described in the Implementation Section will have primary responsibility for updating the plan on a bi-annual basis. However, this, and all other work regarding the plan's implementation and monitoring of progress will be done with the coordination of the key partners and stakeholders in the Thomas Jefferson Area Digital Opportunity Network.

The plan will be evaluated on at least a semi-annual basis to determine:

- if efforts are being made in all regions and for target populations;
- what changes might need to be made to improve the reach of activities,
- what programs and services need to be abandoned, expanded, or improved; and
- what new programs should be added next to address the most pressing barriers to Digital Opportunity.

STATEWIDE ACTIVITIES

Many of the barriers and solutions to digital opportunities in the region require decisions and actions to be made at the state level. To that point, the regional planning team recommends the following:

INTERNET ACCESS AND AFFORDABILITY

- Because the most rural regions of the state will be the most expensive to serve, broadband infrastructure allocations should be based on need as defined by the percentage of with access to the internet and the percentage of high-risk target populations (prioritizing areas with high poverty rates) rather than financial metrics. Understanding that rural areas have less money to invest and are a larger financial risk for Internet Service Providers, these areas should not be required to provide matching funds for VATI or BEAD allocations.
- Provide funding from state or federal resources for installation of non-broadband internet access such as satellite to provide more immediate access to internet for residents in the most remote areas of the commonwealth.
- Work with the Virginia Housing Alliance to provide funding for affordable housing developers to install mesh Wi-Fi networks to provide access to residents of existing and future properties. Prioritize funding for developments in Persistent Poverty Counties and Title I school districts.
- Work with community colleges to develop a workforce trained to install the necessary broadband infrastructure.
- Create a statewide referral system or work with Everyone On[22] to maintain accurate information related to options for low-cost internet access, devices, and digital literacy training.[23]

DEVICE ACCESS AND AFFORDABILITY

- Expand the VA STAR program to at least one school in every district across the state as interest and capacity allow.

[22] https://www.everyoneon.org/find-offers

[23] The state of Wisconsin recently announced the creation of an online system to provide these services. (https://content.govdelivery.com/accounts/WIGOV/bulletins/36760f5). It has the added benefit of providing residents with information about other available resources in the state. It can be found online at https://apps.psc.wi.gov/InternetDiscountFinder

- Work with Virginia community colleges to develop a training program for computer repair that can also be used as a redistribution source and dual enrollment program for high school students.
- Provide supplemental funding for VPI and Head Start programs to provide tablets to families to increase parent engagement.

ONLINE ACCESSIBILITY

- Update state websites for website accessibility standards. Conduct bi-annual audits.
- Provide technical assistance and resources for local government agencies to update their website to meet accessibility standards.

CONCLUSION

KEY POINTS

DIGITAL OPPORTUNITY DEFINITION AND VISION

Greene and Louisa Counties embrace the definition adopted by the Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

Digital Equity in the region is expected to create economic mobility, improve wages, increase access to services, and promote education.

FINDINGS

Despite the large geography and variety of residents, the barriers to digital equity are similar for all target populations in Greene, Louisa, and the Thomas Jefferson Planning District. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Device Access and Affordability
2. Digital Literacy
3. Privacy and Cybersecurity

There is a consensus among the population that internet access/affordability are, for the time being, sufficiently addressed by the VATI program for infrastructure expansion and Affordable Connectivity Program for subsidies, although the ACP needs to increase enrollment and its ongoing funding is uncertain. Further investments in either of these efforts are cost-prohibitive for the moment.

In addition, online accessibility is not considered of great importance in the region and is, therefore, not part of the plan. Recommendations have been made for organizations seeking to address the issue. Those who do

have troubles in this area are most frustrated by incoherent or incomplete directions and not being able to fully complete tasks online.

MOVING FORWARD

Implementation should occur in a multi-stage process beginning with the selection of a lead agency that can build on the existing Regional Digital Equity Planning Coalition to create an organization that serves the entire Thomas Jefferson Planning District and coordinates work between stakeholders, monitors progress in meeting plan goals, and assumes responsibility for maintaining and updating the plan bi-annually.

The second stage should be implementation of a Digital Navigator Network within the region. It is the single solution to the most common barriers for residents. The Navigator is crucial to developing trusted relationships with target populations to help them meet their specific needs whether that be accessing the Affordable Connectivity Plan, identifying the type of device they need, learning how to use their specific device, or referring them to resources available in the community.

Finally, resources should be directed to meet the needs of target populations as prioritized, based on the significance of the barrier, and the ability of the solution to create Digital Opportunities in the short-term.

IMPACT ON DIGITAL OPPORTUNITY IN THE REGION

GOALS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. Develop a cohesive, coordinated regional approach to promoting digital opportunities.
2. Provide comprehensive technical support and training to meet the specific individual needs of the local population.
3. Promote Digital Opportunities in a way that creates the greatest immediate impact.
4. Address the long-term needs of the community.

FUTURE IMPACT

In Greene and Louisa counties and the Thomas Jefferson Planning District, Digital Opportunity is expected to create equality throughout the region in the resources and knowledge available to residents. Digital Opportunities will overcome barriers they may face related to access to devices, digital skills, or concerns about the safety of the internet. It will also ameliorate any differences that may arise due to demographic factors such as location, age, or income level.

In the end, the entire district will have equal access to essential services, employment opportunities, education, societal engagement, and online healthcare resources.

APPENDICES

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

B. ASSET INVENTORY

C. COMMUNITY ENGAGEMENT TRACKER

D. LIST OF ORGANIZATIONS

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

The Digital Divide Index was developed by the Center for Regional Development at Purdue University[24] to provide a quick overview of the factors impacting the Digital Divide in the U.S. The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. It is based on z-scores normalized to 0-100 for each geography. For the analysis presented here, the geography is the Commonwealth of Virginia. The numbers presented in the main body of the report were indexed nationally and, therefore, differ from these.

The data on the table is sorted by Socioeconomic Index as the Infrastructure Index will be greatly impacted by the VATI projects currently underway. This analysis is for 2021 and does not take that into account. The Socioeconomic Index Score indirectly measures the potential for technology adopting using considers the following factors, known have an impact:

1. percent population ages 65 and over;
2. percent population 25 and over with less than high school;
3. individual poverty rate;
4. percent of noninstitutionalized civilian population with a disability: and
5. digital inequality or internet income ratio measure (IIR).

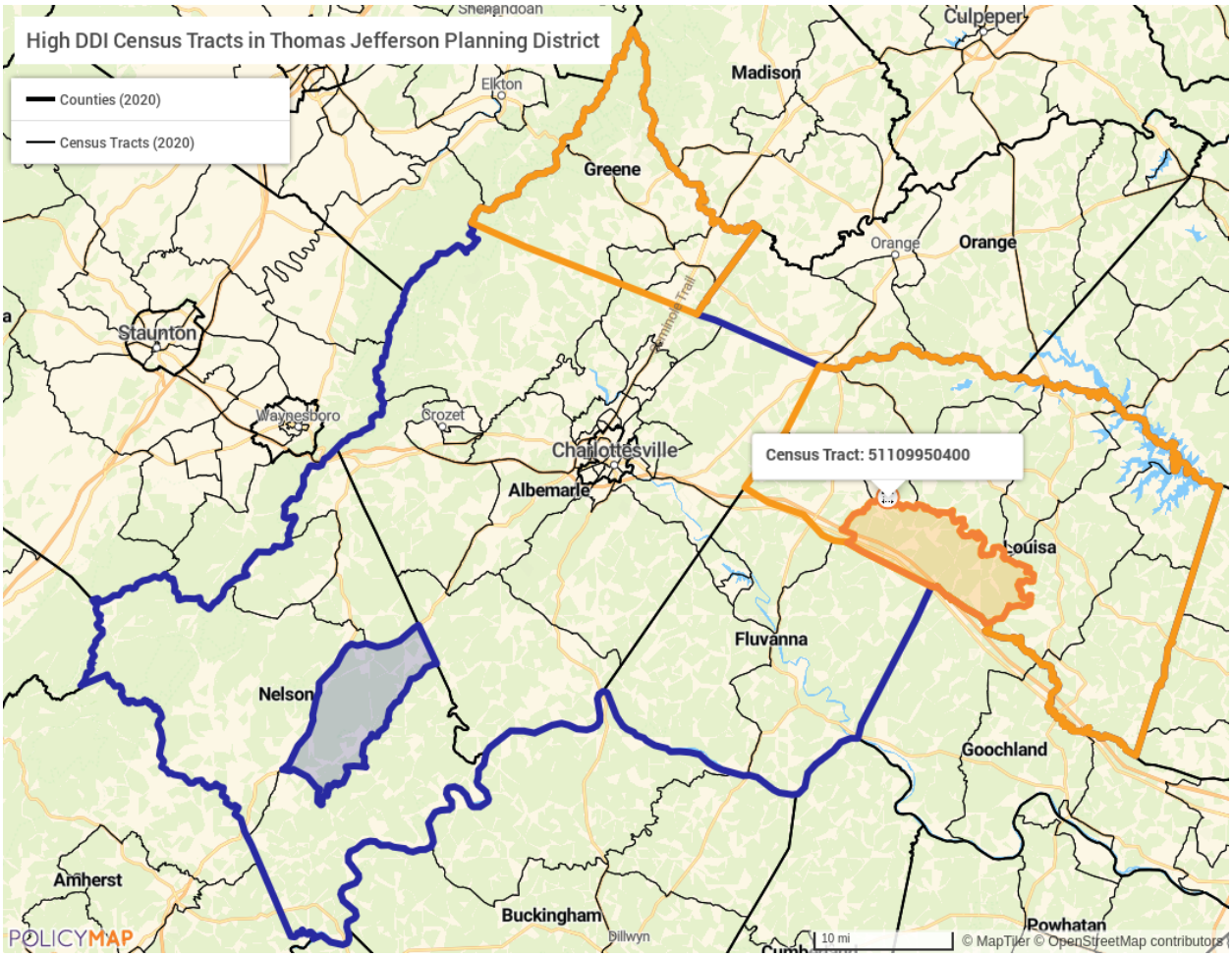
The Infrastructure Index considers the following variables related to broadband infrastructure and adoption:

1. percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset;
2. percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.);
3. percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests)
4. download and speeds in Megabits per second (Mbps)
5. (5) upload speeds in Megabits per second (Mbps)

VIRGINIA DIGITAL DIVIDE INDEX BY CENSUS TRACT

The map on the following page shows the Census Tracts in the Thomas Jefferson Planning District and highlights the Census Tract in Louisa County and one in Nelson that have a high Socioeconomic Index Score (over 50).

[24] Gallardo, R. (2023). Digital Divide Index. PURDUE CENTER FOR REGIONAL DEVELOPMENT. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi



Census Tract	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
51079030101	Greene	43.90	42.32	49.10
51079030102	Greene	34.40	32.06	37.79
51079030202	Greene	18.85	34.58	28.67
51079030201	Greene	24.94	25.33	28.22
51109950400	Louisa	47.82	42.41	51.75
51109950201	Louisa	41.84	39.79	46.50
51109950500	Louisa	31.33	50.52	44.73
51109950102	Louisa	35.07	39.70	41.95
51109950101	Louisa	32.47	33.99	37.45
51109950303	Louisa	36.28	24.37	35.30
51109950202	Louisa	29.78	32.50	34.93
51109950302	Louisa	39.77	18.70	34.87
51109950301	Louisa	27.09	10.93	22.64
51540000202	Charlottesville	41.54	17.17	35.30
51540000402	Charlottesville	30.64	21.89	30.34
51540000600	Charlottesville	39.75	9.11	30.19
51540000800	Charlottesville	28.91	20.65	28.58
51540000401	Charlottesville	23.62	22.96	26.19
51540000501	Charlottesville	24.46	21.67	26.12

51540001000	Charlottesville	27.66	13.44	24.25
51540000900	Charlottesville	27.37	12.07	23.39
51540000302	Charlottesville	27.10	10.02	22.21
51540000700	Charlottesville	19.71	16.42	20.41
51540000201	Charlottesville	26.51	7.06	20.37
51540000502	Charlottesville	16.07	7.90	13.84
51003010603	Albemarle	49.19	32.35	47.77
51003010100	Albemarle	30.72	47.08	42.64
51003011400	Albemarle	33.22	39.56	40.65
51003011301	Albemarle	33.05	32.68	37.19
51003010604	Albemarle	37.49	25.45	36.63
51003010801	Albemarle	32.08	28.98	34.74
51003010702	Albemarle	26.45	36.56	34.69
51003010401	Albemarle	29.13	29.61	33.09
51003010904	Albemarle	22.13	34.24	30.68
51003010802	Albemarle	26.37	26.40	29.70
51003011101	Albemarle	18.24	36.34	29.12
51003010202	Albemarle	26.17	25.15	28.95
51003010901	Albemarle	23.94	27.39	28.56
51003011103	Albemarle	19.29	33.42	28.39
51003010502	Albemarle	28.33	20.52	28.14
51003010301	Albemarle	25.07	24.75	28.02
51003011201	Albemarle	15.38	35.35	26.73
51003010303	Albemarle	20.44	27.44	26.25
51003010402	Albemarle	26.60	18.81	26.15
51003011000	Albemarle	24.44	20.74	25.66
51003011202	Albemarle	22.79	21.42	24.88
51003011102	Albemarle	19.11	24.91	24.14
51003010701	Albemarle	19.49	23.24	23.57
51003010602	Albemarle	31.46	6.13	23.22
51003010302	Albemarle	22.14	16.44	22.03
51003011303	Albemarle	22.29	14.66	21.27
51003011302	Albemarle	21.07	11.64	18.99
51003010201	Albemarle	13.80	19.97	18.20
51003010501	Albemarle	14.48	14.45	15.96
51065020200	Fluvanna	29.49	30.61	33.82
51065020103	Fluvanna	30.15	28.52	33.24
51065020300	Fluvanna	23.06	28.38	28.45
51065020101	Fluvanna	23.04	21.65	25.16
51065020104	Fluvanna	17.12	18.39	19.64
51125950102	Nelson	67.01	34.66	60.75
51125950300	Nelson	37.99	46.41	47.16
51125950101	Nelson	41.19	41.64	46.97
51125950201	Nelson	33.74	31.49	37.07
51125950202	Nelson	34.61	9.97	27.18

VIRGINIA DIGITAL DIVIDE INDEX BY COUNTY

The following table ranks all jurisdictions within the Commonwealth. It is sorted by Digital Divide Index.

State Rank	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
1	Buchanan	100.00	67.27	100.00
2	Lunenburg	57.32	100.00	92.26
3	Dickenson	85.80	68.71	92.05
4	Emporia city	96.30	57.05	91.90
5	Russell	74.58	77.56	90.15
6	Scott	77.08	73.09	89.16
7	Halifax	60.66	86.10	86.42
8	Lee	79.80	63.74	85.52
9	Greensville	80.08	60.45	83.82
10	Brunswick	75.69	64.01	83.13
11	Charlotte	62.34	78.30	83.02
12	Mecklenburg	62.15	76.76	82.03
13	Nottoway	53.47	81.48	79.36
14	Lancaster	62.17	71.90	79.28
15	Floyd	76.37	51.83	76.63
16	Wise	71.22	56.81	76.28
17	Amelia	64.06	61.56	74.57
18	Henry	60.21	65.38	74.36
19	Highland	58.78	66.82	74.30
20	Bath	62.05	63.06	74.18
21	Grayson	61.55	62.72	73.67
22	Bland	39.93	85.95	73.55
23	Franklin city	67.33	56.19	73.53
24	Patrick	54.94	69.21	73.28
25	Carroll	57.84	65.52	72.98
26	Pittsylvania	57.77	64.75	72.49
27	Middlesex	55.91	66.22	72.19
28	Buckingham	51.29	71.14	72.13
29	Page	54.16	67.81	72.01
30	Northumberland	71.16	49.30	71.98
31	Charles City	59.67	60.58	71.30
32	Northampton	66.88	52.26	71.01
33	Richmond	58.98	60.84	71.01
34	Danville city	60.22	58.70	70.56
35	Prince Edward	49.87	69.91	70.56
36	Smyth	62.37	55.30	69.96
37	Accomack	56.76	58.79	68.48
38	Surry	58.73	56.40	68.34
39	Westmoreland	64.18	48.53	67.22
40	Galax city	66.18	44.73	66.30
41	Petersburg city	61.60	48.67	65.71
42	Tazewell	60.01	49.99	65.48
43	Norton city	64.92	43.32	64.72
44	Buena Vista city	57.07	51.51	64.53
45	Pulaski	50.35	56.94	63.47
46	Wythe	46.58	60.32	63.06
47	Essex	50.81	55.61	63.00
48	Sussex	46.81	59.63	62.82

49	Alleghany	58.46	45.62	62.04
50	King and Queen	39.02	66.10	61.68
51	Mathews	50.01	53.82	61.49
52	Franklin	42.95	59.27	60.23
53	Shenandoah	44.38	56.51	59.54
54	Martinsville city	54.76	44.99	59.40
55	Washington	52.58	46.59	58.96
56	Hopewell city	57.79	39.98	58.42
57	Bristol city	55.99	41.44	58.13
58	Southampton	43.82	54.27	57.92
59	Nelson	52.54	41.06	55.79
60	Rockbridge	48.26	44.50	55.11
61	Amherst	41.37	49.89	53.92
62	Radford city	45.26	45.34	53.73
63	**Louisa**	**45.59**	**41.43**	**51.71**
64	Dinwiddie	37.38	49.62	51.30
65	Campbell	32.39	54.78	51.16
66	Craig	42.96	43.11	51.04
67	Covington city	53.02	32.10	50.99
68	Madison	40.21	45.77	50.86
69	Cumberland	36.34	47.98	49.73
70	Gloucester	40.00	40.33	47.63
71	Appomattox	37.70	42.83	47.63
72	Giles	37.30	42.32	47.10
73	Isle of Wight	31.16	48.84	47.01
74	Rockingham	31.19	47.05	46.02
75	Augusta	33.51	43.16	45.24
76	Colonial Heights city	33.65	42.97	45.22
77	Bedford	31.05	45.38	44.98
78	Roanoke city	37.30	37.65	44.44
79	Rappahannock	32.02	42.51	43.95
80	Goochland	40.72	32.75	43.77
81	Waynesboro city	44.09	27.64	42.94
82	Orange	39.49	30.95	41.98
83	Norfolk city	33.35	37.54	41.94
84	Portsmouth city	40.53	28.13	41.02
85	Suffolk city	29.18	40.31	40.94
86	Caroline	31.21	37.97	40.87
87	**Greene**	**30.35**	**38.41**	**40.59**
88	Frederick	30.43	38.28	40.56
89	Clarke	31.25	37.36	40.55
90	Roanoke	28.19	40.27	40.31
91	Winchester city	36.16	29.93	39.35
92	Warren	34.32	31.59	39.16
93	Botetourt	26.84	39.13	38.83
94	Montgomery	31.60	33.77	38.72
95	New Kent	28.24	36.99	38.47
96	Staunton city	34.09	28.79	37.42
97	James City	32.89	29.68	37.18
98	Lynchburg city	32.69	28.94	36.64
99	Richmond city	36.70	23.56	36.06
100	Prince George	27.38	30.52	34.26

101	Lexington city	33.10	23.97	34.06
102	Harrisonburg city	37.53	18.21	33.53
103	Hampton city	34.81	21.03	33.45
104	King William	16.72	39.00	32.51
105	Culpeper	25.63	29.31	32.50
106	Williamsburg city	24.32	29.58	31.84
107	Hanover	19.05	33.47	30.80
108	Albemarle	20.81	30.29	30.08
109	Fauquier	17.55	32.90	29.55
110	Fluvanna	20.32	28.57	28.79
111	Powhatan	22.67	25.35	28.42
112	Newport News city	28.26	17.86	27.60
113	King George	23.05	22.89	27.25
114	Henrico	29.49	15.60	27.08
115	Salem city	22.17	22.20	26.31
116	Manassas Park city	36.65	4.79	25.35
117	Poquoson city	29.22	12.56	25.18
118	Charlottesville city	25.18	15.61	24.43
119	Fairfax city	32.84	2.89	21.92
120	Alexandria city	14.55	22.64	21.86
121	Fredericksburg city	22.11	14.30	21.78
122	York	21.07	14.28	21.13
123	Spotsylvania	23.34	11.78	21.11
124	Chesapeake city	20.67	14.48	21.00
125	Virginia Beach city	20.57	14.17	20.76
126	Chesterfield	22.01	11.38	20.06
127	Manassas city	18.16	6.35	14.82
128	Stafford	16.21	6.71	13.82
129	Arlington	13.50	7.16	12.41
130	Fairfax	16.66	3.49	12.27
131	Prince William	12.58	3.11	9.53
132	Loudoun	5.17	4.31	5.64
133	Falls Church city	0.00	0.00	0.00

B. ASSET INVENTORY

Organization	Jefferson Madison Regional Library	Piedmont Community College	Thomas Jefferson Adult Career Education	Jefferson Area Board for Aging
Website	JMRL.Org	www.pvcc.edu/	www.pvcc.edu/tjace	www.jabacares.org
Contact	Ophelia Payne			Tish Blackwell
E-mail	Opayne@Jmrl.org		tjace@pvcc.edu	info@jabacares.org
Type of Resource (class, service, etc.)	computer access, Wi-Fi access, Wi-Fi hotspot, computer loan	computer access, computer classes/workshops, technical support	computer classes/ workshops	technical support, device access, computer classes/workshops
Program Name	Library Usage	Degrees and Career Certificates	Career Focused Training	Senior Center Technology Resources
Description	Within the library you are able to access one of our multiple computers with internet access. We also provide free Wi-Fi 24/7 for use on your laptop of phone. Another convenience that the library provides are Chromebooks that can be used within the library for a more private use/ meetings. With an active library card, you are able to check out Wi-Fi hotspots to be used for 3 weeks	Offers degrees and certifications in computer science, computer and network support, cybersecurity, information systems technology, and fundamentals of programming	Northstar Computer training curriculum provides training and verification beginning with the most basic skills	Each senior center offers a "digital café" to provide IT support. They use volunteers to teach members how to navigate online and do so safely. They recently received a grant to provide clients with a training session after which they will be provided with tablets.
Geography Served	Charlottesville, Greene, Louisa, Nelson	Greene, Louisa	Entire Planning District, but services are only offered in Charlottesville	Albemarle, Charlottesville, Greene, Louisa, Nelson

C. COMMUNITY ENGAGEMENT TRACKER

Regional Digital Opportunity Plan: Stakeholder Engagement Tracker

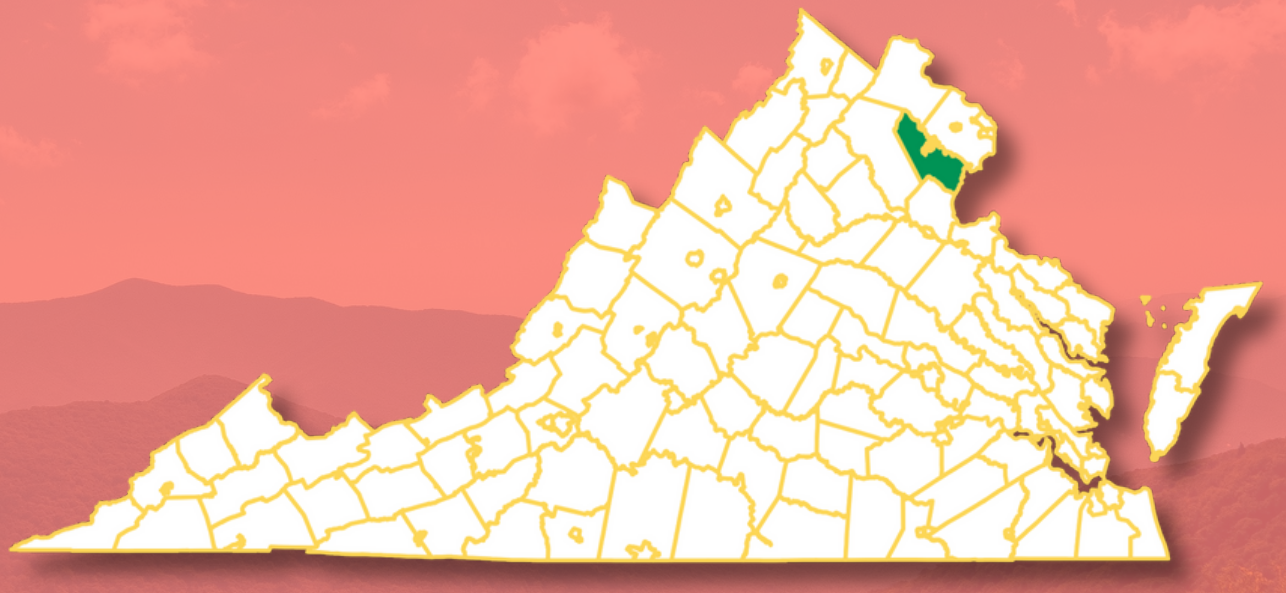
Engagment Title/Description	Engagement Date	Engagement Type	Engagement Location	Target Audience	Target Audience Location	Target Audience County	# Engaged	Covered Populations Reached								Notes
								Which covered populations did you engage?								
Include a brief title of the engagement *(Example: Community Outreach Listening Session #1)*	*Enter the date as MM/DD/YYYY*	*Include the type of stakeholder engagement that occurred, using the dropdown list*	*If applicable, please include the physical address of where the engagement took place*	*Who was the engagement for?* *(Example: Covered Populations, Regional Listening Session, etc.)*	*Is this local, regional, or statewide engagement?*	*If available, indicate which counties will be represented by this engagement*	*How many people were engaged?* *(Example: # of people who attended the event, completed the survey, etc.)*	Individuals who live in covered households	Aging Individuals	Incarcerated Individuals	Veterans	Individuals with disabilities	Individuals with a language barrier	Individuals who are members of a racial or ethnic minority group	Individuals who primarily reside in a rural area	*Add notes of what was discussed and any key themes or feedback (optional)*
Bridging the Community Divide Forum - Louisa County	5/2/2023	Listening Session (In-person)	Louisa County Library, Davis Higl	Local Community	Local	Louisa	1							X	
Bridging the Community Divide Forum - Fauquier County	5/3/2023	Listening Session (In-person)	Bealeton Library, Willow Drive, I	Local Community	Local	Fauquier	2						X	X	
Bridging the Community Divide Forum - Loudoun County	5/4/2023	Listening Session (In-person)	Middleburg Library, Reed Street	Local Community	Local	Loudoun	0							X	
Piedmont Region Work Group	5/5/2023	Other	Online	Key Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	9								This is a core group of stakeholders primarily representing community colleges, wo
Bridging the Community Divide Forum - Greene County	5/6/2023	Listening Session (In-person)	Greene County Public Library 22	Local Community	Local	Greene	1							X	
Bridging the Community Divide Forum - Culpeper County	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Local Community	Local	Culpeper	4	X						X	
Planning to Advance Digital Equity - Piedmont Region	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	3							X	
Bridging the Community Divide Forum - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Local Community	Local	Warren	2							X	
Planning to Advance Digital Equity - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Stakeholders	Regional	Warren	1	X						X	
Bridging the Community Divide Forum - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Local Community	Local	Frederick, Winchester	6						X	X	
Planning to Advance Digital Equity - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Key Stakeholders	Local	Frederick, Winchester	0								
Bridging the Community Divide Forum - Winchester	5/18/2023	Listening Session (In-person)	Shenandoah County Library, Edi	Local Community	Local	Shenandoah	1								
Bridging the Community Divide Forum - Online	5/22/2023	Listening Session (Virtual)		Local Community	Regional	Clarke, Frederick, Page, Shenando	3								
Bridging the Community Divide Forum - Woodbridge	5/23/2023	Listening Session (In-person)	Woodbridge Library	Local Community	Local	Prince William	0								
Planning to Advance Digital Equity	5/23/2023	Listening Session (In-person)	9324 West Street, Manassas, VA	Key Stakeholders	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Rappahannock	5/24/2023	Listening Session (In-person)	Rappahannock County Library, V	Local Community	Local	Rappahannock	6								
Madison County Meeting	5/25/2023	Listening Session (In-person)	American Legion Post 157, Thrift	Key Stakeholders	Local	Madison	14	X	X		X			X	X	
Regional Digital Equity Planning Coalition	5/25/2023	Listening Session (Virtual)		Key Stakeholders	Regional	Greene, Louisa, Charlottesville, Albemarle									
Bridging the Community Divide Forum - Manassas Park	6/1/2023	Listening Session (In-person)	Manassas Park Community Cent	Local Community	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Orange	6/6/2023	Listening Session (In-person)	Orange County Public Library, 14	Local Community	Local	Orange	1	X	X					X	X	
Bridging the Community Divide Forum - Leesburg	6/8/2023	Listening Session (In-person)	Rust Library, Leesburg	Local Community	Local	Loudoun	2								
Hero's Bridge Social Hour	6/12/2023	Listening Session (In-person)	98 Alexandria Pike, Warrenton, '	Covered Populations	Regional	Fauquier, Culpeper, Madison	12	X	X		X	X		X	X	Group of veterans and volunteers
Bridging the Community Divide Forum - Online	6/13/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
PATH Foundation Meeting	6/14/2023	Listening Session (In-person)	PATH Foundation, Walker Drive,	Key Stakeholders	Regional	Fauquier, Culpeper, Rappahannoc	10	X	X			X	X	X	X	
Bridging the Community Divide Forum - Online	6/15/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Life Online: Staying Safe, Creating Opportunities	6/15/2023	Listening Session (In-person)	Reynolds Memorial Baptist Chur	Local Community	Local	Rappahannock	3							X	
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Regional	Culpeper, Fauquier, Madison, Ora	0								
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Blue Ridge Networking Group	6/24/2023	Listening Session (In-person)		Local Community	Local	Greene, Madison, Albemarle	6							X	
Bridging the Community Divide Forum - Online	6/24/2023	Listening Session (Virtual)		Local Community	Local	Loudoun	0								
Piedmont Region Work Group	6/26/2023	Listening Session (In-person)	Germanna Community College, '	Key Stakeholders	Local	Culpeper, Fauquier, Madison, Ora	6	X	X			X	X	X	X	
Discussion with Prince William County Department of Inf	6/28/2023	Other		Local Community	Local	Prince William									
Discussion with Loudoun Hunger Relief	7/20/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Department of Informat	7/24/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Family Services	7/25/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Public Schools	7/28/2023	Other		Local Community	Local	Loudoun									
Discussion with ARC of Loudoun County	8/4/2023	Other		Local Community	Local	Loudoun									

D. LIST OF ORGANIZATIONS

List of Organizations with which you have collaborated in developing the regional plan				
Organization Name	**Type of organization**	**Engagement Purpose (Select the purpose that best matches). If you select "Other", please**	**Notes**	**Link to the organization's website (if available)**
Include the name of the Organization, as it appears on the Organization's website and records.	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes column.*	*Select the category that best matches from the dropdown list. If you select "Other", please specify in the notes*	*Include any notes or clarifications regarding your previous responses.*	*Please list the organization's website, if applicable.*
Albemarle Housing Improvement Program (AHIP)	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://ahipva.org/
Boys & Girls Club of Central Virginia, Orange County	Nonprofit Organization (501c3)	Community Outreach		https://bgclubcva.org/clubs/orange-club/
Charlottesville Area Community Foundation	Foundation	Plan Development		https://www.cacfonline.org/
Feeding Greene	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://www.feedinggreeneinc.org/
Fluvanna/Louisa Housing Foundation	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://www.fluvannalouisahousing.org/
Greene Alliance of Church/Community Efforts, Inc.	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://www.greenealliance.org/
Greene Care Clinic	Health or Telehealth Organization (Direct Service and Policy focus)	Community Outreach		https://www.greenecareclinic.org/
Greene County Chamber of Commerce	Industry Representative or Association (501c6)	Community Outreach		https://www.greenecoc.org/
Greene County Department of Social Services	County or Municipal Government	Data Collection		
Greene County Public Schools	Local Education Agency	Community Outreach		https://www.greenecountyschools.com/Page/1330
Habitat for Humanity of Greater Charlottesville	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://hfhgreene.org/
Jefferson Area Board for Aging (JABA), Greene and Louisa	Organization that Represents Covered Populations	Community Outreach	Aging Individuals	https://www.jabacares.org/
Jefferson-Madison Regional Library / Greene County Library	Community Anchor Institution	Plan Development		https://jmrl.org/br-greene.htm
Jefferson-Madison Regional Library / Louisa County Library	Community Anchor Institution	Plan Development		https://www.jmrl.org/br-louisa.htm
Lake Anna Business Partnership	Industry Representative or Association (501c6)	Community Outreach		https://visitlakeanna.org/
Louisa Chamber of Commerce	Industry Representative or Association (501c6)	Community Outreach		https://www.louisachamber.org/
Louisa Community Emergency Fund	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://www.louisacommunityemergencyfund.org/
Louisa County Administrator's Office	County or Municipal Government	Plan Development		https://www.louisacounty.gov/
Louisa County Commission on Aging	County or Municipal Government	Community Outreach		https://www.louisacounty.gov/1355/Commission-on-Aging
Louisa County Public Schools	Local Education Agency	Community Outreach		https://lcps.k12.va.us/
Louisa County Resource Council	Organization that Represents Covered Populations	Community Outreach	Low-Income	https://louisaresource.org/
Louisa County, Virginia	County or Municipal Government	Community Outreach		https://www.louisacounty.gov/
Monticello Area Community Action Agency (MACAA)	Organization that Represents Covered Populations	Plan Development	Low-Income	https://www.macaa.org/
Piedmont Housing Alliance	Organization that Represents Covered Populations	Community Outreach		https://piedmonthousingalliance.org/
Region Ten Community Services Board	Health or Telehealth Organization (Direct Service and Policy focus)	Plan Development		https://regionten.org/about/
Town of Louisa, Virginia	County or Municipal Government	Community Outreach		https://www.louisatown.org/
Town of Stanardsville	County or Municipal Government	Community Outreach		http://www.stanardsville.org/
United Way of Greater Charlottesville	Organization that Represents Covered Populations	Plan Development		https://unitedwaycville.org/
Virginia Cooperative Extension, Greene County	Other	Community Outreach		https://greene.ext.vt.edu/
Virginia Cooperative Extension, Louisa County	Other	Community Outreach		https://louisa.ext.vt.edu/

Regional Digital Opportunity Plan

Greater Prince William Region



Prince William · Manassas · Manassas Park

People inc.
Building Futures, Realizing Dreams™

August 2023

TABLE OF CONTENTS

Executive Summary 5
Introduction and Vision for Digital Opportunity 9
- Defining Digital Opportunity 9
- Digital Opportunity in the Greater Prince WIlliam Area 9

Current State of Digital Opportunity: Barriers and Assets 10
- Existing Resources, Programs and Strategies Working to Address Digital Equity 10
- Regional Demographics 12
- Barriers to Digital Equity 12
  - Population identifying as Minority 12
  - Population with Language Barriers 14
  - Aging Individuals (60+) 16
  - Covered Households (150% of Poverty or less) 16
  - Individuals with Disabilities 17
  - Other Primary Target Populations 18
  - Additional Target Populations 18

Collaboration and Stakeholder Engagement 22
- Survey Distribution Efforts 22
- Focus Group Outcomes 22
- Interviews with Key Informants 24

Implementation 25
- Barriers to Digital Opportunity 25
- Implementation Plan 29
- Timeline 32
- Mechanisms for Plan Update 37

Conclusion 38

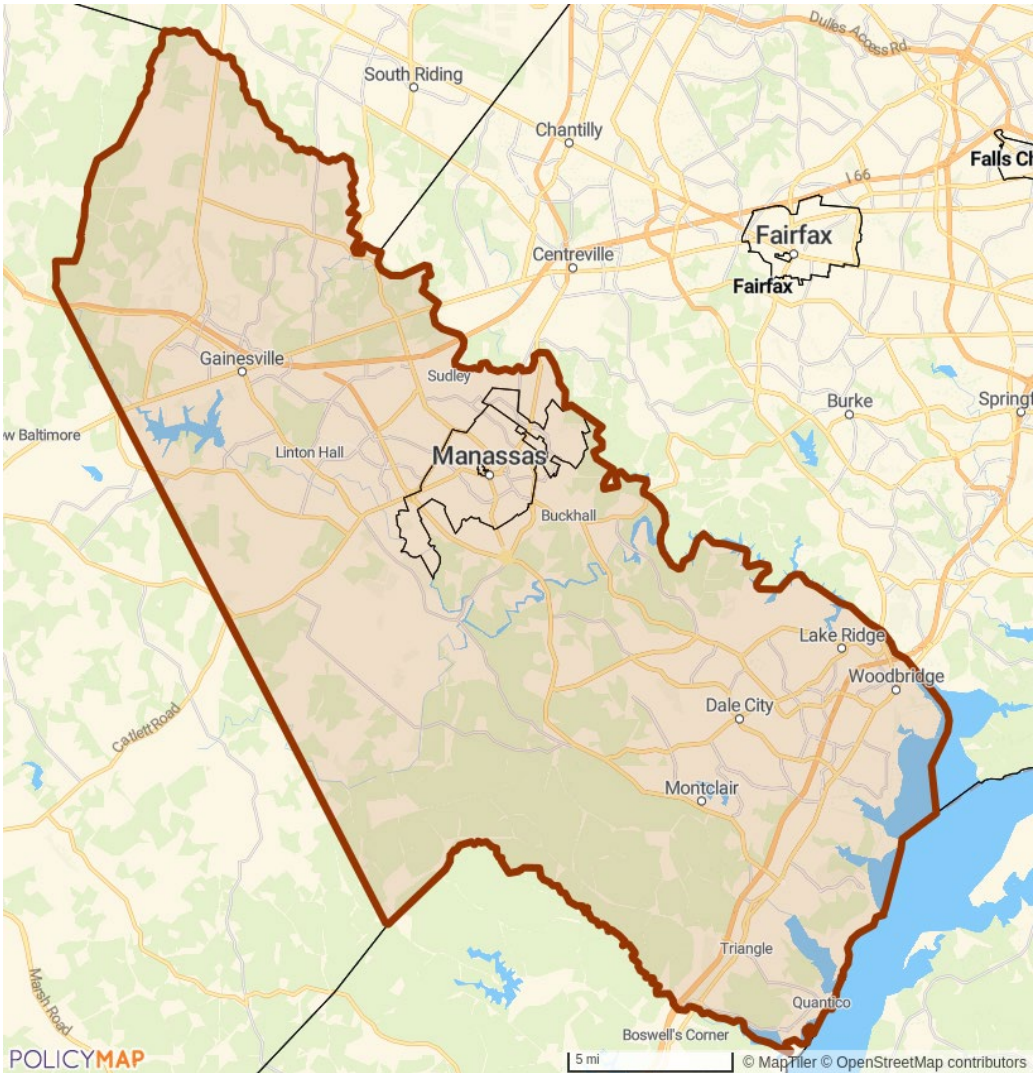
Appendices
- A. Virginia Digital Divide Index Scores
- B. Asset Inventory
- C. Community Engagement Tracker
- D. List of Organizations14

EXECUTIVE SUMMARY

ORIGIN OF PROJECT

In 2023, People Incorporated began an extensive community input and data collection effort in order to create a Regional Digital Opportunity Plan as part of a statewide effort overseen by the Virginia Department of Housing and Community Development (DHCD). This goal of the project was to identify the barriers to effective and meaningful use of broadband for selected populations, identify key factors in the service area that define unique service challenges, and develop a preliminary plan to address them for implementation by both public and private sectors.

Prince William County is home to over 411,000 individuals according to the 2021 American Community Survey covering 515 square miles. It is one of the most diverse communities in the state with a low-density rural crescent encompassing the western side and high-density development including a large immigrant population the southeast portion. The region also includes the cities of Manassas and Manassas Park, which are surrounded by the county and often incorporated into program efforts such as the health district, the homeless continuum of care, and other housing services.



FRAMEWORK OF ASSESSMENT

The National Digital Equity Alliance states the "Digital Divide is the issue, Digital Equity is the goal, and Digital Inclusion is the work." The framework for this report supports this belief by first defining the specific obstacles creating the digital divide, developing a plan to achieve digital equity, and recommending implementation methods with inclusivity as a guiding principle.

A comprehensive assessment process, including evaluation of existing data, facilitation of focus groups and community listening sessions, coordination of key informant interviews, cataloguing existing resources, and distribution of a statewide digital survey provided a broad data set from which to draw conclusions and recommendations. Participants in this process included schools, government programs, and community members. The assessment also relies heavily on the Draft "Scaling Technology Inclusion in Prince William" plan developed by Prince William County in 2020 and updated in the summer of 2023.

The resulting plan identifies both the barriers to digital equity and an implementation plan to eliminate them. These efforts focused on the region at large and the Target Populations identified by the Digital Equity Act of 2021, including:

- Individuals living in households below 150% of the federal poverty level;
- Aging individuals;
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility;
- Veterans;
- Individuals with disabilities;
- Individuals with a language barrier, including individuals who—
    - Are English learners; and
    - Have low levels of literacy
- Individuals who are members of a racial or ethnic minority group; and
- Individuals who primarily reside in a rural area

Barriers exist throughout the region, along with inequities mirroring those found in society at large. Those digital-equity-barriers magnify social inequalities which further highlight the disproportionate impact on those with low incomes, persons with disabilities, the incarcerated, aging individuals, veterans, those with language barriers, members of racial or ethnic minority groups, and those who live in rural locations. Many of the recommendations included can be implemented across the entire region with modifications reflecting local conditions. Population-specific challenges faced by across the region are also included.

Despite the large and diverse area included in this assessment there are overarching commonalities in the obstacles faced. Proposed solutions provide realistic goals that address the needs of communities within the coalition service area, and for those subsets that have distinctly unique concerns. Consequently, funding to implement regional Digital Opportunity Plan activities will have the highest impact where it is attuned to the shifting dynamics within the region. Funding will need to be extremely flexible and responsive to the particular obstacles of numerous target populations across the region to best overcome the barriers to digital equity faced by those living and working there.

The planning team assessed our region on the activities needed to ensure digital inclusion as identified by the Digital Equity Act of 2021 which include:

- **Broadband Availability & Affordability:** Is high-quality broadband available at a price residents are willing to pay?
- **Online Accessibility & Inclusivity:** Are websites accessible, readable, and functional for the general public, those with disabilities, and those with language barriers?
- **Digital Literacy:** Do individuals know enough about using a computer and the internet to take full advantage of it?
- **Online Privacy & Cybersecurity:** Are individuals able to protect themselves on the internet from identity theft, online predators, and other threats?
- **Device Availability & Affordability:** Can individuals get access to a computer or afford to buy one?

FINDINGS

The overarching need in the county is a network of Digital Navigators that can develop a personal relationship with individuals and help them access the resources available to them. Developing such a network will help overcome many of the barriers to digital equity. On a broader scale, the impact of the barriers varies by population and solutions must generally be tailored to meet the needs of that population. Each of these populations will be served through the various activities incorporated into this plan.

1. Digital Literacy
    - Target Populations:
        - Aging Individuals
        - Individuals with a Language Barrier
        - Individuals with Disabilities
    - Primary Solutions:
        - Digital literacy classes in a variety of settings targeted to the identified population and offered at different skill levels and to meet specific needs.
2. Privacy and Cybersecurity
    - Target Populations
        - Individuals with Disabilities
        - Aging Individuals
        - Students
        - Parents
    - Primary Solutions
        - Marketing/informational campaigns regarding cybersecurity and active scams
        - Marketing/informational campaigns regarding social media risks targeted to students and parents
        - Classes targeted to individuals with disabilities and aging individuals to be presented in a comfortable environment and address their specific needs.
3. Device Access and Affordability
    - Target Populations:
        - Individuals with incomes under 150% of Poverty
    - Primary Solutions
        - Program to offer the opportunity to purchase a computer at a reduced cost upon completion of a digital literacy/cybersecurity training class.
        - Local recycle/repair/redistribution program for devices.
        - Partner with national refurbishment organizations to secure devices for redistribution.

4. Broadband/Internet Affordability
    - Target Populations:
        - Individuals with incomes under 150% of Poverty
        - Immigrants (including those speaking English as a Second Language and Minorities)
    - Priority Solutions
        - Expanded outreach for Affordable Connectivity Program performed by non-profits within the county who have established relationships with the target populations.
        - Installation of Wi-Fi networks in low-income rental communities (specifically those in Title I school districts) so that free access to the internet does not require any additional registration.
5. Broadband/Internet Access
    - Target Populations:
        - Residents in Primarily Rural Areas (Prince William County's Rural Crescent)
    - Primary Solutions:
        - Continue negotiations with cable companies to encourage expansions
6. Online Accessibility
    - Target Populations:
        - Individuals with a Language Barrier
        - Individuals with Disabilities
    - Primary Solutions:
        - Expand website accessibility efforts throughout the county by offering education and technical assistance

INTRODUCTION AND VISION FOR DIGITAL OPPORTUNITY

DEFINING DIGITAL OPPORTUNITY

The Greater Prince William Region embraces the definition adopted by Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

DIGITAL OPPORTUNITY IN THE GREATER PRINCE WILLIAM AREA

Digital inequities in the Greater Prince William Area hinder job creation and economic growth, limit property values, prevent expansion of economic opportunities, and diminish the quality of life for local residents. Insufficient broadband services present barriers to telecommuting, online education, telehealth services, and the establishment and expansion of new business.

"WE'RE NOT SIMPLY LOOKING TO MEET PEOPLE WHERE THEY ARE. WE WANT TO MEET THEM AT A HIGHER POINT OF POTENTIAL."

Rob Mancini, CIO, Prince William County

To overcome this, the Greater Prince William Area envisions a tech inclusive community where residents are able to access and use the technology they need to thrive in the 21st century. Whether that be a computer, tablet, smart phone, or other device, the region is striving towards a goal of making these resources available and usable through education and affordability initiatives. GPW seeks to create a community that thrives because of the technological advances and resources available, unhindered by fear or cost.

CURRENT STATE OF DIGITAL OPPORTUNITY: BARRIERS AND ASSETS

EXISTING RESOURCES, PROGRAMS AND STRATEGIES WORKING TO ADDRESS DIGITAL EQUITY

Prince William County has an extensive array of resources available to promote digital opportunities for county residents. They have been heavily engaged in planning and implementation efforts since 2000 that have resulted in a recent award from the federal government for an ACP enrollment campaign, the development of a Digital Navigator Position, creation of new digital literacy classes, and development of a draft plan, "Scaling Technology Inclusion in Prince William County."

Other highlighted activities in the region include:

- The three public school systems provide a digital device for all students. They also provide digital citizenship training in keeping with the Virginia SOLs.
    - In 2020, Prince William County schools was able to secure Wi-Fi hotspot devices for students in Title I schools where internet access is limited using money from the CARES Act.
- All public libraries offer free Wi-Fi internally and externally as well as computers for use on site, and digital literacy classes.
- In Fall 2021, Prince William's Department of Information Technology launched Digital Prince William, a program offering free technology classes. The initial pilot program used ARPA funding for classes targeted to older adults with six hours of beginner-level instruction on smartphones (both iPhones and Android).
- In 2023, the County's digital literacy initiative implemented the Northstar platform for computer literacy skills. It is available in English and Spanish with classes beginning with the most basic levels and advancing to coding and other career-focused skills. The program is now offered in all 12 of the county's libraries, the two senior centers, the Virtual Senior Center (which serves multiple jurisdictions in Northern Virginia), and the vocational services center which makes it available via a mobile classroom.
- Prince William County Senior Centers provide free computer access at both locations.

The attached Asset Inventory provides a more detailed assessment of the resources already in place to address barriers to Digital Equity. The map below shows the public Wi-Fi hotspots available in the region. The data is provided by Commonwealth Connect.

In addition to the locally provided assets, the Affordable Connectivity Program has the ability to remove the barrier to affordability many households in the Prince William Area face. However, enrollment in the county has not been successful. Data from Education Superhighway shows only a 23.4% adoption rate in the region, 25% in Prince William County, 16% in Manassas Park, and 17% in Manassas.[1] None of the ISPs in the area participate in the ACP's low-cost device program.

[1] This calculation is based on data provided in the ACP Enrollment Dashboard for locations in Prince William County, Manassas, and Manassas Park. Adoption rates in the region vary widely from 10% to 50%. https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard

REGIONAL DEMOGRAPHICS

The data on the table below is from the U.S. Census Bureau's Digital Equity Act Population Viewer.[2] The Census Bureau partnered with National Telecommunications and Information Administration to calculate the population qualified for Digital Equity Act services based on the targeted populations identified in the legislation.

	Manassas	Manassas Park	Prince William	Total
Rural/Urban	Not rural	Not rural	Not rural	
Total Population (2019)	41,085	17,478	470,335	528,898
Covered Population	33,770	13,705	372,391	419,866
% of Population that is Covered	82.2%	78.4%	79.2%	79.4%
% of Population with income <150% of Poverty	16.4%	15.1%	12%	12.1%
% of Population 60+	15.4%	13%	14.4%	14.1%
% of Population Incarcerated	0.0%	0.0%	0.3%	0.3%
% of Population who are Veterans	5.6%	5.4%	9.1%	8.6%
% of Population with Disabilities	6.7%	9.2%	7.8%	7.6%
% of Population with Language Barriers	30.7%	33.2%	23.9%	24.3%
% of Population speaking English as a Second Language	19.1%	21.3%	13.9%	13.2%
% of Population with Low Literacy Skills	28.5%	27.7%	20.5%	21.4%
% of Total Identifying as Minority	59.2%	66.9%	57.1%	56.5%
% of Total living in Rural Area	0.0%	0.0%	4.3%	3.7%
% of HHs with No Fixed Broadband	3.9%	1.6%	2.7%	2.7%
% of Households with no Broadband or Computer	10.1%	9.2%	4.6%	0.0%
Source: U.S. Census Bureau's Digital Equity Act Population Viewer, 2019 Data				

BARRIERS TO DIGITAL EQUITY

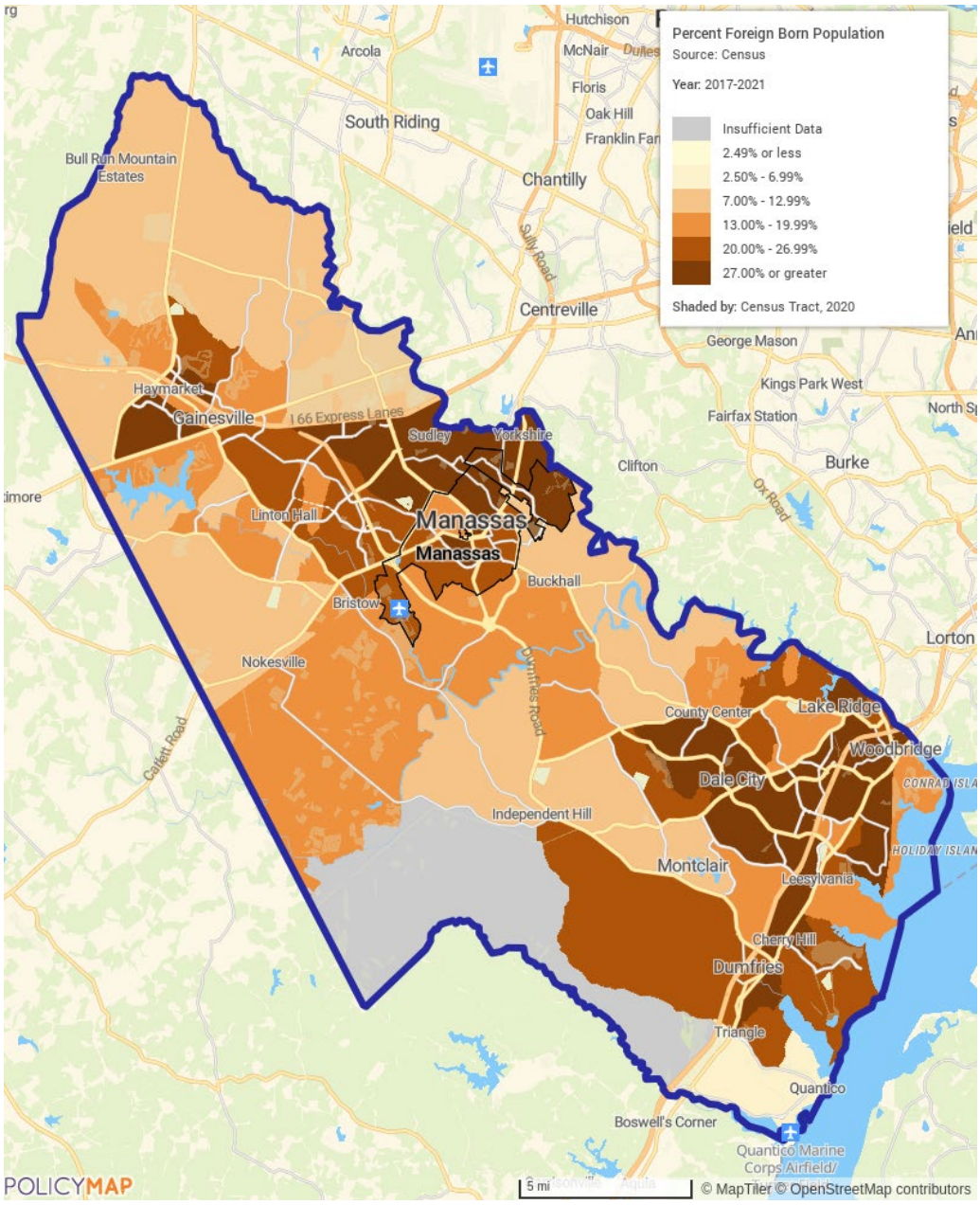
The barriers to digital equity are similar for all target populations in the Prince William Area. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Affordability
2. Privacy and Cybersecurity
3. Digital Literacy
4. Online Accessibility
5. Device Access and Affordability
6. Broadband/Internet Access

POPULATION IDENTIFYING AS MINORITY

One of the largest covered populations in the Prince William Region is the population identifying as a minority. Even more relevant than an individual's minority status is their immigration status. In the Prince William area, data from the U. S. Census Bureau's American Community Survey shows that 27.9% of the population is foreign-born and 12.5% is not a U.S. citizen. The map shows the distribution of the foreign-born population in the county.

[2] https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html



Percent of Population identifying as Minority: 56.5% *Percent of Population Foreign-Born:* 27.9% *Percent of Population Not a U.S. Citizen:* 12.5%	**BARRIERS TO DIGITAL EQUITY:** 1. Internet Affordability: Census data shows that, while 5.8% of the Prince William Area lives in poverty, 8.4% of foreign-born residents are in poverty. Therefore, affordability is more of an issue for aspects of their daily life. 2. Device Affordability: As with internet affordability, device affordability becomes more of an issue for households more likely to live in poverty. **SOLUTIONS TO DIGITAL EQUITY:** 1. Digital Navigator Network services to provide individuals with assistance from trusted resources to help them identify the resources available to them and provide services one-on-one both in person and over the phone.

POPULATION WITH LANGUAGE BARRIERS

In identifying the percentage of the population with language barriers, the U.S. Census Bureau's Digital Equity Act Population Viewer considers both those who speak English less than "very well" and those who have low levels of literacy.[3] There is some overlap in these two populations.

POPULATION SPEAKING ENGLISH AS A SECOND LANGUAGE

The county has a large and diverse population of non-English speakers with the Public Schools reporting 93 different languages accommodated among their students. In the Greater Prince William Area, only 13.2% of the population is identified by the Digital Equity Act Population Viewer as speaking English less than "very well." Data from the 2021 American Community Survey shows that 37.0% of the population in Prince William County speaks a language other than English including 17.8% who speak Spanish, the most prevalent among them. Similarly detailed data is not available for Manassas and Manassas Park due to their size.

Prince William County Non-English Speakers		
Total - Speak a Language Other Than English		154,619
Percent - Speak a Language Other Than English		37.00%
Percent Who Speak English Less Than "Very Well" by Primary Language*		
Spanish:	**14,668**	**17.8%**
Limited English-speaking household	1,586	22.6%
French, Haitian, or Cajun:	**1,595**	**1.0%**
Limited English-speaking household	97	0.0%
German or other West Germanic languages:	**2,227**	**0.5%**
Limited English-speaking household	42	0.0%
Russian, Polish, or other Slavic languages:	**1,247**	**0.6%**
Limited English-speaking household	276	5.4%
Other Indo-European languages:	**11,029**	**5.2%**
Limited English-speaking household	1,314	11.5%
Korean:	**1,317**	**1.3%**
Limited English-speaking household	299	21.5%
Chinese (incl. Mandarin, Cantonese):	**2,659**	**0.6%**
Limited English-speaking household	552	31.1%
Vietnamese:	**2,275**	**0.8%**
Limited English-speaking household	947	20.6%
Tagalog (incl. Filipino):	**1,101**	**1.2%**
Limited English-speaking household	0	0.0%
Other Asian and Pacific Island languages:	**9,387**	**1.1%**
Limited English-speaking household	1,337	4.5%
Arabic:	**2,116**	**1.5%**
Limited English-speaking household	112	1.9%
Other and unspecified languages:	**1,706**	**5.3%**
Limited English-speaking household	0	5.3%

Source: US Census ACS 1-Year Estimates Detailed Tables, 2021

The following table shows information specifically for the region's immigrant population. Immigration status, as will be discussed later, is a major factor in whether or not an individual or household seeks assistance from the government. An individual who is foreign-born and has difficulty speaking English has multiple barriers not only to digital opportunities, but to receiving services to help them overcome the barriers.

[3] The estimate of those with Language Barriers is derived from 2015-2019 ACS 5-Year file (for speaks English less than "very well") and 2017 Program for the International Assessment of Adult Competencies (PIAAC) Household file and 2012/2014/2017 PIAAC State and County Small Area Estimates of Adult Skills on Literacy and Numeracy (for low literacy) from the National Center for Education Statistics.

Residents Who Speak English Less Than "Very Well" by Citizenship Status			
	Prince William	**Manassas**	**Manassas Park**
Aged 5 to 17	1,322	661	65
Aged 18+	28,970	5,026	1,715
Total	30,292	5,687	1,780
Percent of Non-Citizens	57.3%	80.9%	66.9%
Percent of Foreign-Born Population	25.0%	48.9%	28.6%
Percent of Total Population	6.8%	14.5%	11.2%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021			

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
13.2%	1. Digital Literacy: While this is an issue for the county at large, it is exacerbated for this population by low literacy skills and the immigration concerns that often come with the ESL population. 2. Online Accessibility: Language options are an important part of the accessibility of websites. Spanish is the second most prevalent language in the region. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable. 3. With so many different languages spoken by county residents, it is important the county websites be easily translatable through Google translate or other similar online services.

POPULATION WITH LOW-LITERACY SKILLS

Closely tied to those who have difficulty speaking English is those with low levels of literacy.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
21.4%	1. Digital Literacy: For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. To address the intertwined issues of literacy, digital skills, and poverty, specific classes for those with low literacy skills will need to be developed. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable.

AGING INDIVIDUALS (60+)

Aging Individuals are a relatively small portion of the population in the region compared to the more rural areas of the state, comprising only 14.1% of the population. However, given the large population in the region, this accounts for over 50,000 individuals. Their biggest needs relate to learning how to use computers and other technology safely and effectively.

Digital Prince William conducted a survey of seniors in January 2022 specifically about the digital literacy training they would like to receive. Feedback from the survey indicated a strong preference for assistance with smartphones and other devices rather than computers. It also showed that they are primarily concerned about privacy and security, but also want to be sure they are using their devices effectively to get the most out of them and do what is both available and required in the digital world.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
14.1%	1. Digital Literacy: There are many in the Greater Prince William Area who are resistant to embracing technology and nervous about learning the digital skills required for today's world. They know there is more out there for them to take advantage of and would like to do so, but need reassurances that they are doing so safely and effectively. 2. Cybersecurity and Privacy: Linked with digital literacy skills, older adults are more likely to be targeted for cybercrimes and require more dedicated education about how to protect themselves. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge to help individuals grow their skills in order to engage in the online world. Ideal settings include libraries, senior centers, and churches as well as one-on-one in the person's home. 3. Library of videos about how to identify scams, protect your information online, and other cybersecurity/privacy issues that can be viewed as needed. 4. E-mail alerts about active scams sent from trusted sources such as the library, law enforcement agencies, or a Digital Navigator.

COVERED HOUSEHOLDS (150% OF POVERTY OR LESS)

Although not the largest population subgroup in the county, those living in poverty do have some of the most difficult barriers to digital opportunity.

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
12.1%	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. 3. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Expansion of outreach efforts and assistance in enrolling households in the Affordable Connectivity Program and/or other subsidy programs as they become available. 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. 4. Programs that provide digital literacy and cybersecurity training followed by an opportunity to purchase a computer. 5. Digital Navigator services to help clients identify the resources available to them and "navigate" through the enrollment process. 6. Digital Literacy courses available in a variety of settings and for all levels of knowledge, including online, to help individuals grow their skills in order to engage in the online world.

INDIVIDUALS WITH DISABILITIES

Responses to meeting the digital needs will vary depending on a person's disability. The table below shows the region's population by type of disability according to the U.S. Census Bureau's 2021 American Community Survey Five-Year Estimates.

Percent of Civilian Noninstitutionalized Population with a Disability				
	Prince William	**Manassas**	**Manassas Park**	**Total**
Total civilian noninstitutionalized population	468,730	42,480	17,081	528,291
Total population with a disability	**37,432**	**3,342**	**1,453**	**42,227**
Percent with a Disability	**8.0%**	**7.9%**	**8.5%**	**8.0%**
hearing difficulty	1.9%	2.5%	1.6%	24.6%
vision difficulty	1.4%	1.3%	2.9%	17.7%
cognitive difficulty	3.4%	3.3%	3.2%	39.5%
ambulatory difficulty	3.8%	4.3%	3.4%	44.2%
self-care difficulty	1.6%	2.2%	1.0%	19.3%
independent living difficulty	3.5%	3.3%	2.8%	31.8%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021				

Percent of Population: 8.0%[4]	**BARRIERS TO DIGITAL EQUITY:** 1. Online Accessibility: The only barrier augmented for those with disabilities is online accessibility, primarily related to those with vision and hearing difficulties. 2. Digital Literacy: Digital literacy has two areas of concern. One is teaching individuals with disabilities, many of whom have cognitive difficulties, how

[4] This number from the 2021 ACS Five-Year Estimates of the U.S. Census is a slight variation from the U.S. Census Bureau's Digital Equity Act Population Viewer, which shows 7.64% of the population with a disability based on 2019 data.

	to use basic digital devices. The second is providing access and training to assistive digital devices for those with disabilities designed to improve their quality of life. 3. Cybersecurity and Privacy: More intimately tied with digital literacy, privacy standards and cyber-etiquette is a significant concern for those with certain cognitive disabilities who need to be protected from the dangers and inappropriate content to be found online while learning what is and is not appropriate online behavior. **SOLUTIONS TO DIGITAL EQUITY:** 1. Education about and improvements to local websites with regards to online accessibility in keeping with ADA standards and the Web Accessibility Initiative. This can be facilitated through the county government, which already audits its own websites for accessibility. 2. Digital literacy classes hosted in conjunction with The ARC or other organizations specifically serving individuals with disabilities so that they are in a safe, comfortable atmosphere as they learn to navigate life online and address the issues that are specific to their needs. 3. Training on how to use assistive digital devices to improve their quality of life.

OTHER PRIMARY TARGET POPULATIONS

The other target populations in the county represent a minimal portion of the whole and do not have barriers different than those already discussed. Therefore, there is no need to create any specific programs or services targeted to them. All the rural residents live in Prince William's rural crescent. They do face issues with access to broadband, an issue that county is working to address. Likewise, all the incarcerated individuals are in the county's jail. Although a small portion of the population, specific programs would need to be developed to serve them. This is addressed in the Statewide Recommendations portion of the plan.

Additional Target Populations in the Greater Prince William Region	
% of Population who are Veterans	8.6%
% of Population who live in a Primarily Rural Area	3.7%
% of Population who are Incarcerated	0.3%

ADDITIONAL TARGET POPULATIONS

In addition to the target populations identified in the Digital Equity Act of 2021, the Greater Prince William Area has two other specific target populations that need to be prioritized. Although they also fall within the other categories, students and parents have specific, high-priority needs.

STUDENTS

The following table shows internet and computer access data for students three and over enrolled in school according to the U.S. Census Bureau's ACS Five-Year Estimates for 2021.

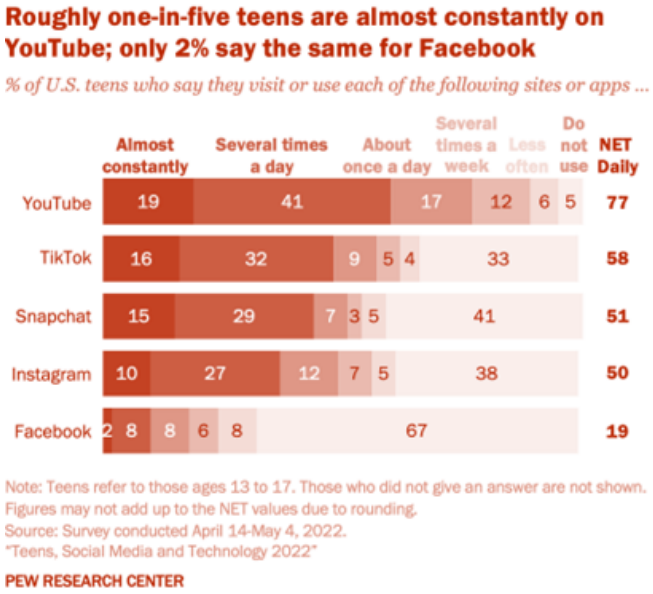
Student Population without a Computer and/or Internet Subscription

	Prince William	Manassas	Manassas Park
Population 3 and older	95.7%	96.0%	95.8%
Enrolled in school:	**29.8%**	**27.8%**	**27.3%**
Pre-K to 4th Grade	30.2%	33.9%	27.9%
No subscription or no computer	3.0%	2.0%	0.0%

5th to 8th Grade	22.5%	23.2%	27.8%
No subscription or no computer	4.2%	2.1%	0.0%
9th to 12th Grade	22.1%	20.5%	20.9%
No subscription or no computer	2.8%	1.0%	0.0%
Undergraduate or Higher	25.1%	22.3%	23.4%
No subscription or no computer	2.2%	1.7%	0.4%

Source: US Census ACS 5-Year Estimates Subject Tables, 2021

With school work increasingly being done online, students who are victims of the digital divide are falling further behind. They have difficulty completing school assignments without regular access to email and online tools. Students need convenient access to the internet and a reliable device.



There is growing concern about the dangers of children and teens being online, which creates another barrier to digital equity. A 2022 survey from Pew Research Center found that teens are almost always online using a variety of platforms.[5]

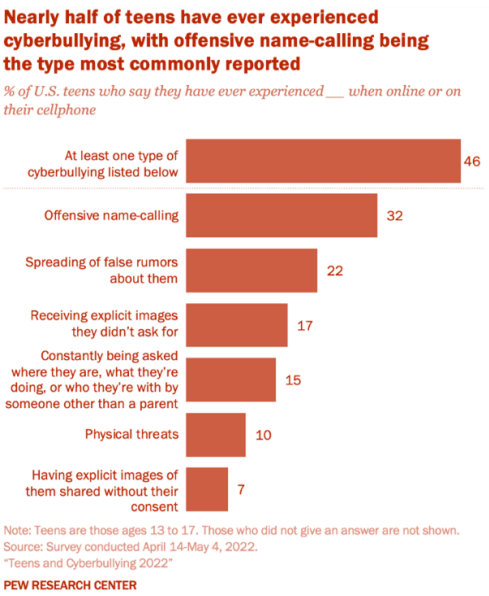
While the impact of this is still being studied, there is mounting evidence that both digital devices and social media negatively impact students. For instance, one recent study correlated eight hours or more of screen time per day with increased risk of depression in teens. "Excessive time on social media has been linked to "fear of missing out," cyberbullying, emotional insecurity, and body-image problems. The time devoted to social media also inhibits in-person socializing, exercise and sleep, all of which are crucial for adolescents' emotional well- being."[6]

[5] Gelles-Wetnick, Risa. "Teens and social media: Key findings from Pew Research Center surveys," Pew Research Center, April 24, 2023. https://www.pewresearch.org/short-reads/2023/04/24/teens-and-social-media-key-findings-from-pew-research-center-surveys/

[6] Wilcox, W. Bradford, and Riley Peterson. "It's Time to Treat Big Tech Like Big Tobacco," American Enterprise Institute, January 20, 2023. https://www.aei.org/op-eds/its-time-to-treat-big-tech-like-big-tobacco/

Even teenagers admit the negative impact of social media with the Pew survey finding that nearly half of teens have been bullied or harassed online.

With this in mind, all attempts to increase internet and device access for students must also be concerned with protecting students from the dangers that lurk on the internet. Although Virginia Standards of Learning require digital literacy training for students, the extent and quality of that training varies. More standardization and resources would help improve outcomes.

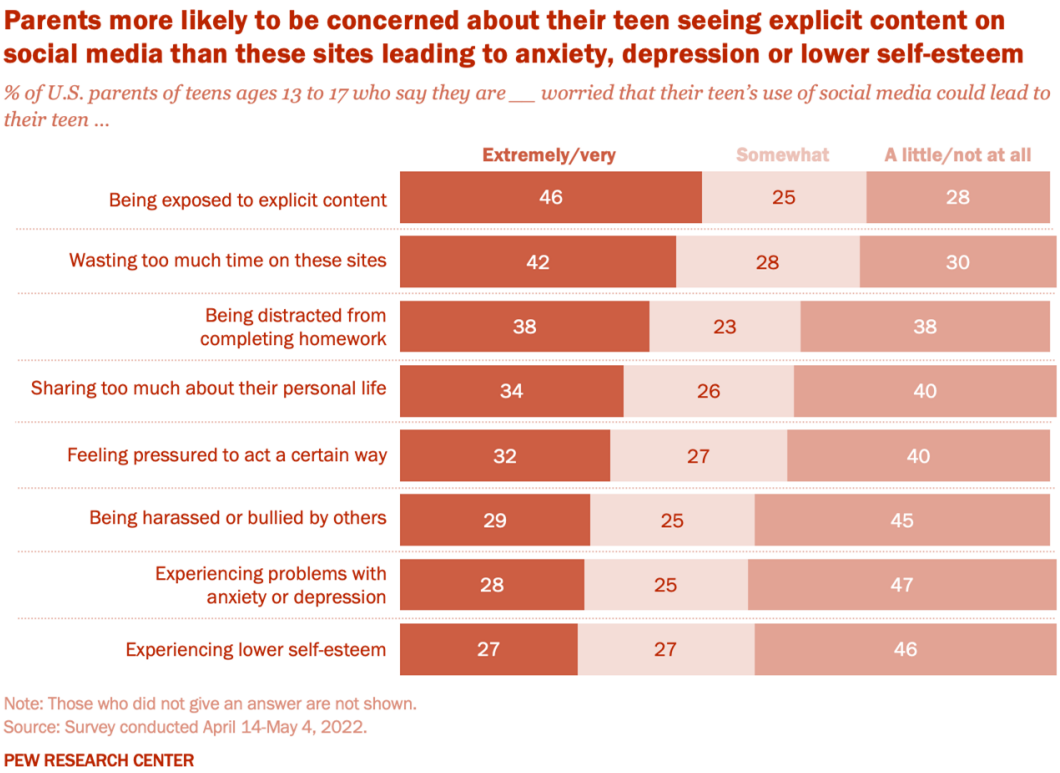


Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
18.0%	1. Broadband Access: As is the case with the rest of the region, broadband access for students is limited due to availability and/or affordability. While the large majority of students do have access to internet, those who do not are those who are already most at risk due to their economic status. 2. Cybersecurity and Privacy: While privacy is a growing concern for students who need to learn basic information about protecting their identity online, this wide-ranging topic encompasses the much larger concern of social media use and its impact on teens. This was one of the most-mentioned topics in focus groups. **SOLUTIONS TO DIGITAL EQUITY:** 1. Wi-Fi installation in low-income rental communities in Title I school districts will have the most direct impact on providing affordable access to the most vulnerable students. 2. Homework hours before and after school where students can remain and complete their homework with assistance while using school-based internet is also an option for those who have transportation available. 3. Public information campaigns related to social media and online threats to reach parents and students, particularly those outside the public schools.

PARENTS

Like children, parents have most of the same barriers as the rest of the population in the region, but they need to be addressed as a high priority concern and in a slightly different way. Their needs are interwoven with those of the students but should be considered in addition to those of students.

A report by Pew Research Center identified the following as concerns parents have about their children being online.



Parents are going to need resources to address these barriers as internet and computer access expands.[7]

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
50.8%	1. Digital Literacy: Many parents do not have the digital skills they need to manage the online systems the schools use to communicate with them and/or to help their children with their homework. 2. Cybersecurity and Privacy: Parents are concerned about the cybersecurity and privacy implications of students gaining increased access to the internet as well as the impact of social media. **SOLUTIONS TO DIGITAL EQUITY:** 1. Provide opportunities for parents to learn how to use the school student management system through school programs or in other casual environments. 2. Provide education and resources to parents to help them understand the online dangers their children face and learn how to monitor their child's activities.

[7] Gelles-Wetnick, Risa. "Explicit content, time-wasting are key social media worries for parents of U.S. teens," Pew Research Center, December 15, 2022. https://www.pewresearch.org/short-reads/2022/12/15/explicit-content-time-wasting-are-key-social-media-worries-for-parents-of-u-s-teens/

COLLABORATION AND STAKEHOLDER ENGAGEMENT

SURVEY DISTRIBUTION EFFORTS

People Incorporated worked with Northern Virginia Family Services, Prince William County Department of Information Technology, Human Services Alliance, Prince William Area Chamber of Commerce, Prince William County Public Libraries, Prince William County Senior Centers, and Manassas Park Housing Department to conduct outreach regarding the surveys. We also sent a postcard mailing to a targeted list. In addition, we made extensive efforts to market the survey via social media, which had a marked increase in the responses.

Social Media

- **All posts**
  - Twitter
    - June 12: Survey – 76 impressions
    - June 15: Survey – 100 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: Survey – 73 impressions
    - June 28: DHCD digital divide funding retweet – 80 impressions
    - July 11: Digital Opportunity Funding – 33 impressions
    - July 14: Survey – 28 impressions
  - Facebook
    - June 13: Survey
    - June 21 – July 19: Facebook/Instagram ad for survey – ad run in Clarke County, City of Bristol Virginia, **Manassas, Manassas Park**, Russell County, Shenandoah County, Rappahannock County, Frederick County, Washington County, Warren County, Dickenson County, Fauquier County, Page County, Culpeper County, **Prince William County**, and Buchanan County
      - Reach: 133,400
      - Link Clicks: 2,403
    - July 14 – July 19: Facebook/Instagram ad for survey – ad run in **Manassas and Manassas Park**
      - Reach: 37,728
      - Link Clicks: 429
  - Instagram
    - June 29: Survey reel – 48 accounts reached
  - LinkedIn
    - June 12: Survey – 191 impressions

FOCUS GROUP OUTCOMES

People Incorporated hosted a series of focus groups from May through early June 2023 to seek feedback from individuals in the region. These meetings were advertised via e-mail, social media, flyers, and direct invitation over the phone and in person. We also worked with Northern Virginia Family Services, Prince William Area Chamber of Commerce, Prince William County Department of Information Technology, Prince William County libraries, Prince William County senior Centers, and the Human Services Alliance to conduct outreach.

Marketing efforts included:

Social Media

- **Paid ads:**
  - May 18 – June 1: Boosted Facebook post advertising community forums- ad run in **Manassas Park Community Center (+1 mi), Potomac Community Library (+1 mi)**, Rappahannock County, Loudoun County, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, **Prince William County**, and Madison County
    - Reach: 15,032
    - Link Clicks: 175
- **All posts**
  - Twitter
    - April 29: community forums – 78 impressions
    - May 7: Community forums – 97 impressions
    - May 15: Manassas, Manassas Park, and Prince William County forums – 132 impressions
    - May 16: Community forums – 83 impressions
    - May 21: Community forums – 54 impressions
    - May 23: Prince William forums – 65 impressions
    - June 1: Community forums – 168 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: VaDHCD digital divide funding retweet – 80 impressions
    - July 11: Digital Opportunity funding – 33 impressions
  - Facebook
    - April 30: Community forums – 10,159 impressions
    - May 17: Manassas, Manassas Park, or Prince William County forums- 25,966 impressions
  - LinkedIn
    - May 18: Manassas, Manassas Park, or Prince William County forums – 82 impressions

Press Releases

- Bridging the Digital Divide – Broadband and Computer Access for Everyone, InsideNOVA.com, May 15
- People Inc. to Host Community Forum on Bridging the Digital Divide, Prince William Living, May 17

Web Stories

- Register for upcoming community forums – www.peopleinc.net (Web Story)
- People Inc. to host community forums on bridging the digital divide - www.peopleinc.net (Press Release)
- Help Create Digital Opportunity For All - www.peopleinc.net (Web Story)
- Bridging the Digital Divide – Broadband and Computer Access for Everyone, InsideNOVA.com, May 15

Online Advertisements

- Evvnt.com calendar listing reaching 34 publishers for community forum on June 8th.

People Inc. Digital Newsletter

- May 1 - “Help us bridge the digital divide” (1 link click)
- June 1 - “People Inc. hosts forums on bridging the digital divide across Virginia” (10 link clicks)

- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)
- July 3 - “Have you taken the digital equity survey?” (3 link clicks)

There was little interest in the digital equity forums despite extensive advertising. Some meetings had attendees register, but no one showed up. The following table shows the community meetings that were held throughout the county to provide residents and stakeholders with an opportunity for input.

Date	Location	Target Population
5/23/23	People Inc. 9324 West Street, Manassas, VA	Stakeholders
5/23/23	Woodbridge Library	General Population
6/1/23	Manassas Park Community Center Adams Street, Manassas Park, VA	General Population
6/13/23	Online	Stakeholders
6/15/23	Online	General Population
6/20/23	Online	General Population

INTERVIEWS WITH KEY INFORMANTS

This plan relies heavily on interviews with key informants in the community. People Incorporated spoke with representatives from the following organizations and departments:

- Prince William County Department of Information Technology
- Prince William County Public Schools
- City of Manassas
- City of Manassas Park
- Prince William County Libraries
- Northern Virginia Family Services

All of these organizations are considered key stakeholders that should be part of ongoing implementation efforts. Details on how the Region will coordinate the implementation of its plan with workforce agencies, labor organizations, and institutions of higher of learning can be found in the Implementation section.

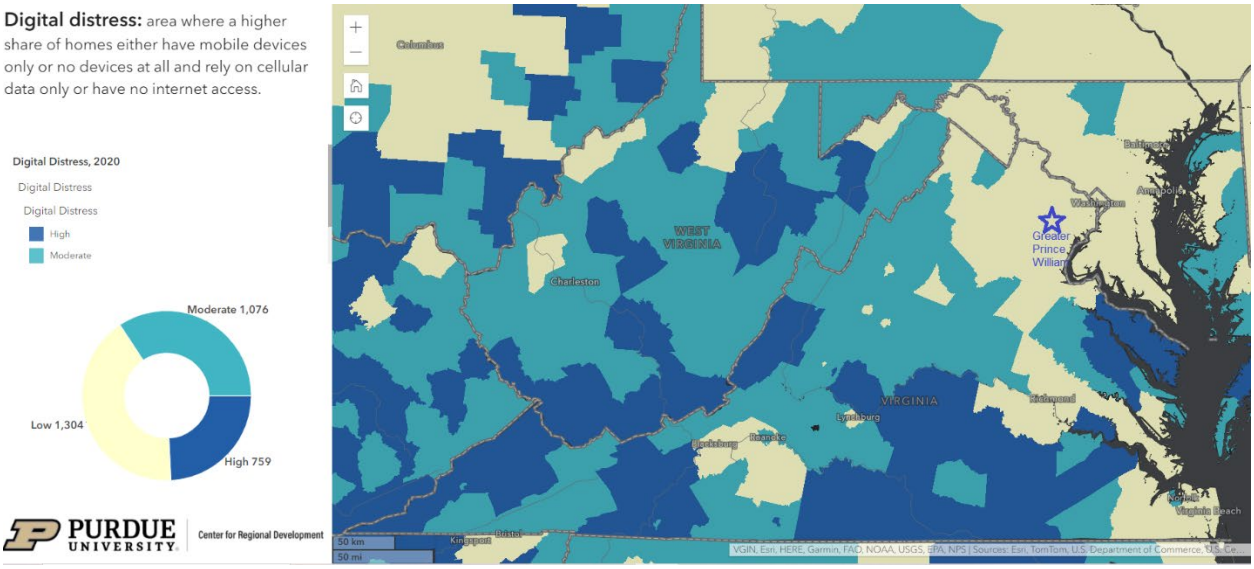
Prince William County Department of Information Technology is already engaged in Digital Opportunity work and planning efforts. We have relied heavily on their efforts in developing this report. The cities of Manassas and Manassas Park have no such efforts underway.

IMPLEMENTATION

BARRIERS TO DIGITAL OPPORTUNITY

Although the experience differs widely because of the diverse population, the Prince William Area is, in general, fortunate to not be burdened by significant digital inequities when compared to other areas of the state. This is best shown on the map of Digital Distress developed by The Center for Regional Development at Purdue University developed a Digital Distress[8] calculation based on data from the American Community Survey that considers the percent of homes with no internet access, those using cellular data only, those with mobile phones only, and those with no computing devices. They then calculate a score and identify the county as low, moderate, or high distress. Areas of digital distress (the darker areas) are those with a higher share of homes having either mobile devices only, cellular data only, or no internet access. The map shows the county in the context of the state as a whole. It shows that the Prince William Area, along with the rest of the Northern Virginia region, is in the Low level. The table shows the supporting data that is used to create the map.

	Prince William	Manassas	Manassas Park
Cellular data only	5.90%	9.60%	7%
No internet access	3.10%	5.20%	5.80%
Mobile only	8%	10.40%	14.80%
No computer device	2.10%	5.70%	3.10%



The Center for Regional Development also developed the Digital Divide Index to compare barriers to digital opportunities based on infrastructure and socioeconomic characteristics. This provides an unbiased view of the factors influencing what they characterize as Digital Distress.[9] The Digital Divide Score is further assessed by an Infrastructure and Socioeconomic Score. This helps identify where the greatest barrier to Digital Equity lies. If the infrastructure score is higher, that would indicate a need to prioritize that area to increase access while a higher Socioeconomic Score would drive attention towards affordability, device access, and digital literacy. In the Greater Prince William Area, the socioeconomic scores are far higher than the infrastructure scores as Prince William

[8] Gallardo, Robert, and Benjamin St. German. "Digital Distress: What is?" April 18, 2022, https://pcrd.purdue.edu/digital-distress-what-is-it/

9 Gallardo, R. (2023). Digital Divide Index. *Purdue Center for Regional Development*. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi

The digital divide index (DDI) consists of three scores ranging from 0 (lowest divide) to 100 (highest divide) and includes ten variables grouped in two categories: infrastructure/adoption and socioeconomic. For purposes of analysis, the overall DDI score was utilized.

County is the only jurisdiction where there is an actual lack of access. Lack of adoption is the primary factor impacting the infrastructure score.

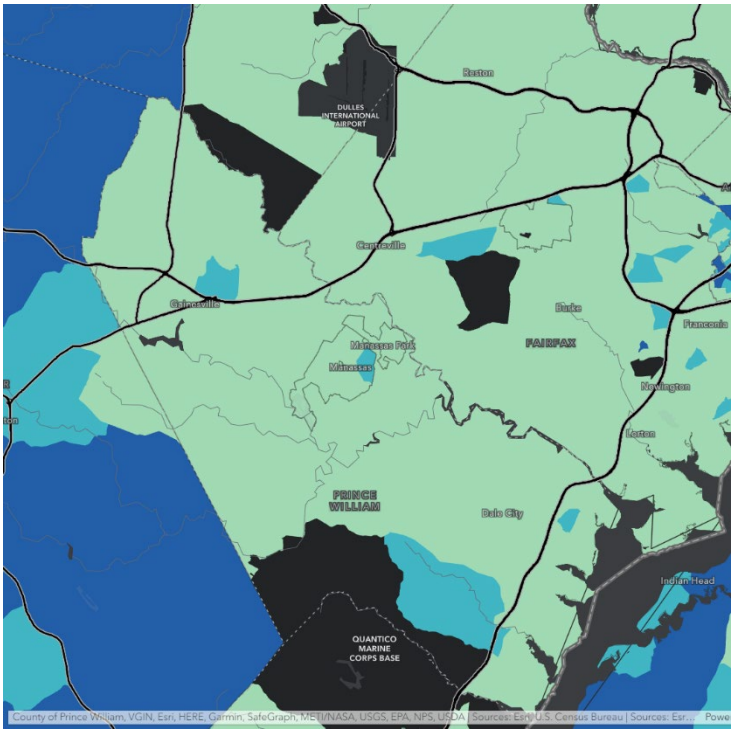
	Prince William	Manassas	Manassas Park
Digital Divide Score:	3.79	6.05	8.81
Average Download Speed (Mbps)	223.9	220.9	239.9
Average Upload Speed (Mbps)	113.5	109.4	125.3
Population with no access to 100/20 (Mbps)	2%	3.60%	0.10%
No internet access	2.60%	2.90%	4.70%
No computer device	1.90%	4%	2.70%
Less than HS degree	10.40%	14.20%	20.40%
Poverty Rate	5.80%	5.60%	4.40%
Age 65+	10%	10.40%	8.50%
Disability Rate	8%	7.90%	8.50%
Internet Income Ratio	6.13	6.54	13.42
Infrastructure Score	1.78	3.66	2.73
Socioeconomic Score	4.62	6.70	11.90

The data presented in the table is based on a national index comparing Prince William area localities to every jurisdiction in the country. A statewide index is included in the Appendix. Within Virginia, Prince William County has the third lowest Digital Divide Index Score ranking below the City of Falls Church and Loudon County.

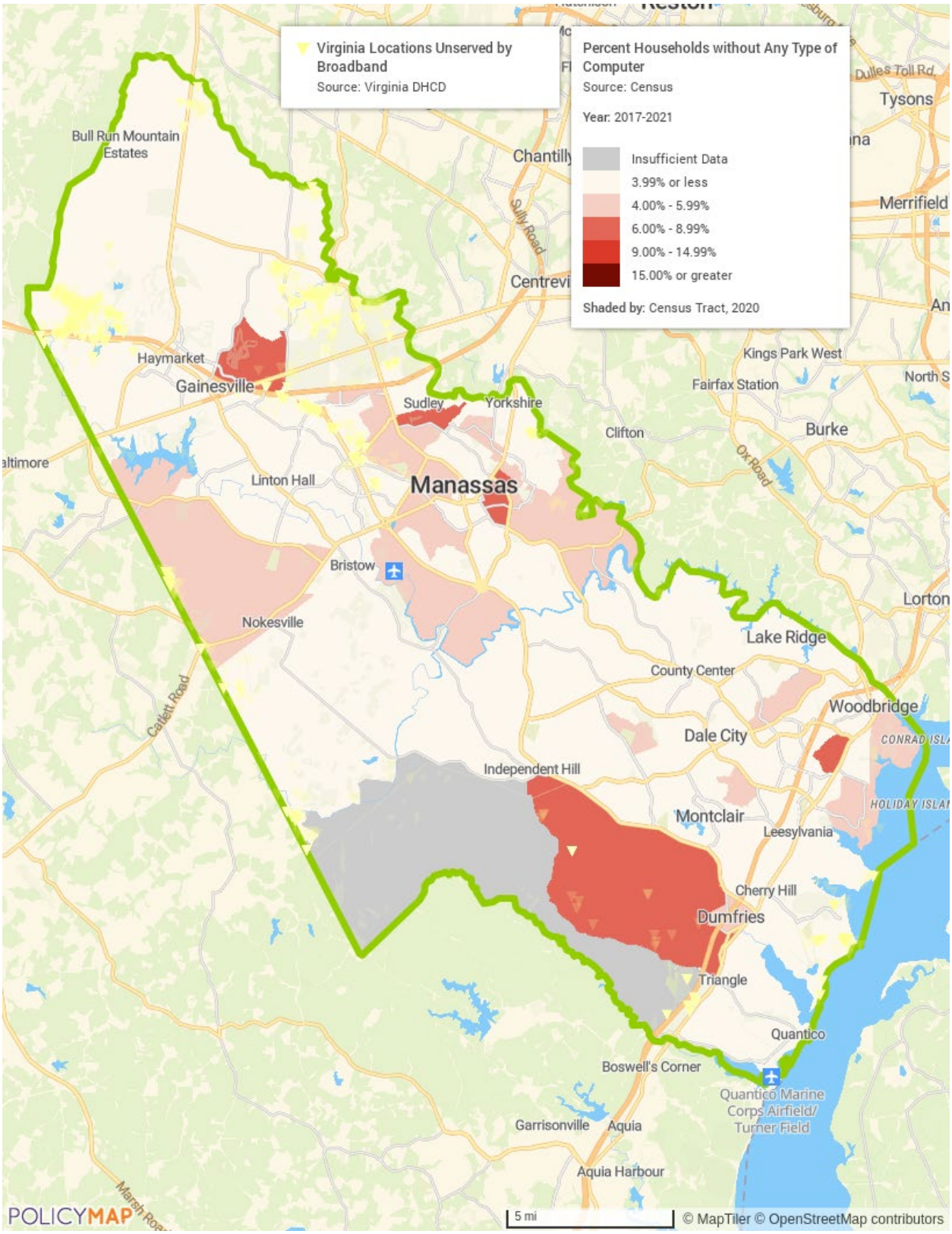
INFRASTRUCTURE SCORE[10]

The map below shows the infrastructure results the Prince William Area. The colors are divided into **Low**, **Moderate**, and **High** categories based on an index that ranges from 0 to 100 where 100 indicates the highest divide. The areas in black are parks, bodies of water, and Quantico Marine Corps Base.

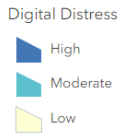
A second map on the following page shows computer access overlayed with the addresses of those who are considered unserved by broadband as reported by Virginia Department of Housing and Community Development. It provides more context for the Infrastructure Score.



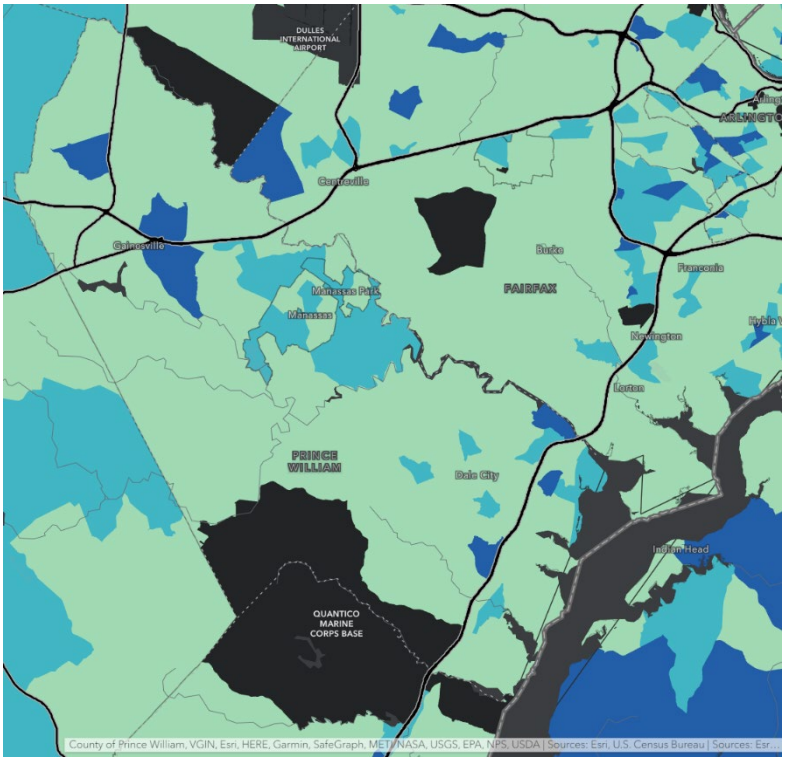
[10] The Infrastructure Score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests) (4) download and (5) upload speeds in Megabits per second (Mbps).


Virginia Locations Unserved by Broadband
Source: Virginia DHCD
Percent Households without Any Type of Computer
Source: Census
Year: 2017-2021
Insufficient Data
3.99% or less
4.00% - 5.99%
6.00% - 8.99%
9.00% - 14.99%
15.00% or greater
Shaded by: Census Tract, 2020
Bull Run Mountain Estates
Chantilly
Centrevi
Haymarket
Gainesville
Sudley
Yorkshire
Manassas
Linton Hall
Bristow
Nokesville
Clifton
Fairfax Station
Kings Park West
Burke
Tysons
Merrifield
Lorton
Lake Ridge
County Center
Woodbridge
Dale City
Independent Hill
Montclair
Leesylvania
Cherry Hill
Dumfries
Triangle
Quantico
Boswell's Corner
Quantico Marine Corps Airfield/ Turner Field
Garrisonville
Aquia
Aquia Harbour
Sully Road
Ox Road
Catlett Road
Dulles Toll Rd
POLICYMAP
5 mi
© MapTiler © OpenStreetMap contributors

Socioeconomic Score[11]



With regards to the socioeconomic score, there are a few more pockets of moderate areas within the Greater Prince William Area. These pockets are mostly concentrated in the lower-income population centers in the region.



Prince William County Department of Information Technology conducted a survey in Fall 2022 of residents that received 722 responses. In asking why they did not have internet access at home. Respondents could check all that applied. They received the following outcome:

- 43% - I use my mobile phone for Internet access
- 33% - I don't have the money for Internet access and/or equipment
- 24% - I don't own a computer
- 19% - I don't know how to use the internet
- 19% - Internet is not available to me at my home address
- 14% - I don't know how to set up my equipment
- 14% - I am worried about the privacy of my information
- 10% - Free Wi-Fi is all I need
- 5% - Other – Don't have the time

It should be noted that the sample does not accurately reflect the percentage of residents who do not have internet at home. Data from 2019 shows that less than five percent of the county is without broadband access.[12]

[11] The socioeconomic score indirectly measures the potential for adoption of technology or potential of reinforcing existing inequities by factoring five data variables that are known to reflect the likelihood of adoption of technology: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; (4) percent of noninstitutionalized civilian population with a disability: and (5) internet income ratio measure (IIR).

[12] U.S. Census Bureau's Digital Equity Act Population Viewer, 2019 Data

IMPLEMENTATION PLAN

In order to develop the established vision for Digital Opportunity within the region, the following strategies have been established.

STRATEGY 1: CREATE AN ALLIANCE OF LOCAL GOVERNMENT REPRESENTATIVES FROM PRINCE WILLIAM COUNTY, MANASSAS, AND MANASSAS PARK AS WELL AS NON-PROFITS AND PRIVATE ENTITITES TO INFORM THE INITIATIVE AND HELP CONNECT RESIDENTS AND BUSINESSES WITH THE PROGRAMS AND RESOURCES THEY NEED.

Prince William County and the cities of Manassas and Manassas Park already have an extensive network of resources to create digital opportunities for residents. Creating a tech inclusive community involves coordinating resources and targeting efforts where they are most needed and can be most effective. This is best done through an alliance within the community. Currently, Prince William County's plan is concerned only with activities within the county. To move forward on a regional level, a new organization must be established to coordinate activities across all three jurisdictions and all sectors of the community.

Activity 1: Develop the Prince William Area Digital Opportunity Alliance as the means of building and leveraging partnerships to inform the initiative.

Given the efforts already underway in Prince William County, it is recommended that the County continue to lead future efforts towards the desired tech opportunities in the region. This will involve establishing a regional alliance that will include representatives from local governments, including both information technology staff to address infrastructure, and social services staff to address the socioeconomic concerns. The Alliance should also include the following:

- Local public school systems;
- Private schools;
- Workforce organizations;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations;
- community-based 501c3 organizations, specifically including those representing target populations; and
- technology companies.

Prince William County has existing partnerships with the Area Agency on Aging, which serves all three jurisdictions, as well as the county's departments of Communications, Community Services, Economic Development, Equity and Inclusion, Housing and Community Development, Social Services, and Public Schools. This is a strong foundation from which to build.

Through this organization, all efforts in the region will be coordinated with constant reference made to the plan and an ongoing review of progress. The Alliance will be responsible for:

- ensuring activities related to the Digital Opportunity plan are carried out and reach all targeted populations and
- recommending new programs for funding and coordinating submission of applications to DHCD to ensure that services and funding are distributed throughout the region and to areas and populations of greatest need.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
• Hold regular meetings (on a monthly or quarterly basis) to share information among partners and stakeholders about resources available in the area. • Discuss financial resources available and prioritize distribution based on Digital Opportunity Plan and ongoing program evaluation. • Conduct outreach to the community at large about available resource, including recruiting new members to the Alliance. • Assist with renewal of Digital Opportunity Plan and approve final version.	• # of meetings • # of members • Completion of Digital Opportunity Plan every two years	• Local governments; • Local public school systems; • Private schools; • Workforce organizations; • institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies; • labor organizations; and • community-based 501c3 organizations, specifically including those representing target populations.

Details about the partners and stakeholders consulted during the planning process are included in the section on Collaboration and Stakeholder Engagement.

Activity 2: Finalize a regional plan with actionable steps and assigned responsibilities as the foundation for furthering infrastructure development

2.1 DEVELOP A PLAN

Once the Digital Opportunity Alliance is in place, the organization should work to develop a formalized plan for the region that evaluates needs, opportunities, and best practices and generates a plan that addresses the concerns for all three jurisdictions. Prince William County has a draft plan in place, but it does not consider Manassas or Manassas Park. This plan should be merged with the county's plan to develop priorities and programs for the region moving forward.

2.2 SCALE INFRASTRUCTURE

This time can also be used for each jurisdiction to scale their infrastructure to put the elements in place that will be necessary to proceed with future plans to address the digital divide. As part of the planning process, each location will need to evaluate their staffing needs and determine what work should be done within the government and what should be relegated to partner organizations.

2.3 INVENTORY ASSETS

A comprehensive inventory of regional assets should also be part of this planning process. This data will need to be used for the ongoing support of the program as well.

Activity 3: Expand Digital Navigator Program

Prince William County recently hired a Digital Navigator to respond to local needs. Given the diversity of the area including the variety of target populations to be served and the numerous languages spoken, a Network of Navigators is recommended. The Digital Navigator Network will consist of a small group of lead Navigators working directly for the county who train and coordinate efforts with a network of Navigators working throughout the county ways that bring them into direct contact with the target populations in a trusting, meaningful way.

These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
• Deliver in-person, individualized or small group instruction to (adults 18-65+) who need to learn essential introductory digital skills such as using computers, smart phones, software, and the internet and help those who need assistance obtain affordable internet connectivity or an affordable device. • Identify gaps in services and provide programs to meet those needs. • Develop and deliver new curricula and outreach materials based on insights gained from Northstar programming using resources that are free and available to use (such as via Creative Commons licensing) and make ongoing recommendations on other resources that could be leveraged to scale the program cost effectively. • Conduct outreach by building relationships with community partners and serving as an ambassador for digital literacy in the area.	• # of hours of services • # of clients served • # of clients connected to the internet • # of clients who obtain a device • Curricula developed • # of hours of training provided • # of clients enrolled in ACP	• Local governments • Workforce Agencies • Literacy Organizations • Libraries • Other regional non-profits

STRATEGY 2: SCALE EXISTING RESOURCES TO EFFECTIVELY REACH A BROADER AUDIENCE OF UNSERVED OR UNDERSERVED RESIDENTS AND BUSINESSES.

Prince William County Department of Information Technology is currently pursuing options to close the access gap in the county by working directly with cable internet providers. The primary concern for residents is affordability.

Step 1: Initiate a campaign to increase enrollment in the Affordable Connectivity Program.

Prince William County already has a plan in place that is to be implemented beginning in 2023 that will increase ACP enrollment. This will impact residents in Manassas and Manassas Park as well given the proximity of the communities. The Digital Navigator will be a crucial element of these efforts. The plan involves:

- hosting enrollment events across the county;

- part-time staffing at libraries to support enrollment efforts;
- efforts by Prince William County Public Schools to distribute ACP materials to eligible families;
- direct mail to SNAP participants through partnership with Department of Social Services; and
- signs and materials posted throughout county buildings.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Conduct outreach about ACP and assist residents with enrollment.	• # of people reached • # of people enrolled in ACP	• Prince William County Department of Information Technology • Libraries • Public Schools • Departments of Social Services

Activity 2: Promote existing resources to local residents to increase participation.

Prince William County is fortunate to have access to numerous resources to address barriers to digital opportunity that residents face many of which are either shared with or duplicated in Manassas and Manassas Park. Rather than the creation of new resources, the county's most pressing need is to ensure that residents are aware of what is available.

The Digital Navigator Network will be responsible for creating an inventory of existing resources and making it available to the community. Strong partnerships with both the community and clients will be necessary to help this effort flourish.

2.1 DEVELOP A LIST OF EXISTING RESOURCES TO SHARE WITH THE PUBLIC.

Resources should be available in English and Spanish as well as other languages.

2.2 DIGITAL INCLUSION WEEK

Use Digital Inclusion Week as a method of raising awareness about the resources available in the community.

STRATEGY 3: USE A DATA-DRIVEN APPROACH TO INFORM PRIORITIES, EXPENDITURES, AND TARGET SEGMENTS.

With the Digital Navigators and Digital Opportunity Network in place, meeting the third goal should occur naturally.

Activity 1: Monitor and evaluate participation in existing programs to identify where resources most need to be expanded.

Once residents are aware of the resources, it will be necessary to monitor outcomes and evaluate the effectiveness of the programs and services being offered. This will allow the Digital Opportunity Alliance to best allocate resources.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
• Develop metrics for measuring programs.	Regular reports of program outputs and outcomes	• Prince William County Department of Information Technology

• Implement program evaluation methods.		• Digital Opportunity Alliance • Program Operators

Activity 2: Create new resources to address known gaps in services.

Ongoing program evaluation, research, and surveys can help identify the gaps in services and the best means of filling those gaps.

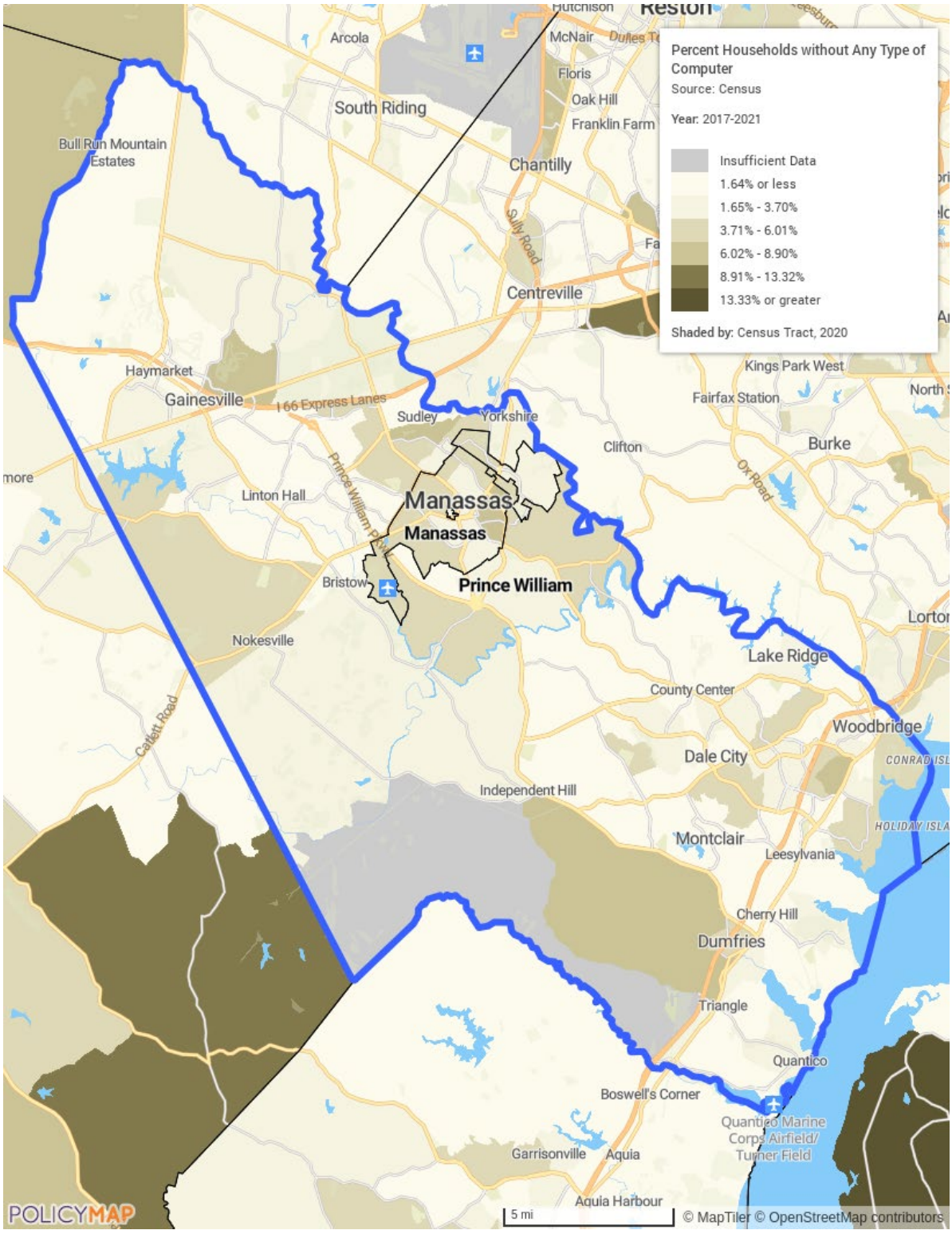
2.1 MAKE FUTURE INVESTMENTS BASED ON EVALUATION DATA.

With actionable data from program evaluations, the Council can update the Digital Opportunity Plan to reflect the activities making the biggest impact in the community.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Review outcomes from existing programs and make recommendations, as appropriate, for reallocation of resources.	Bi-annual Digital Opportunity Plan	Digital Opportunity Alliance Program Operators

2.2 INCREASE ACCESS TO DIGITAL DEVICES

One repeated need is more access to digital devices, particularly for low-income individuals. The map shows where the gaps are in access to devices.



All three counties have access to the VA STAR program, which works with local high school students to refurbish and redistribute computer equipment. This is one avenue of generating devices for distribution in the community. New programs will need to be developed in cooperation with trusted community partners.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Develop programs to distribute devices to individuals in need so they can access workforce, healthcare, and essential services online. • Offer a digital literacy/cybersecurity class after which participants may purchase a computer for a small fee. • Create a program to recycle, repair, and redistribute devices to individuals in need. • Partner with national organizations that offer refurbished devices.	• # of devices distributed • Outcomes of recipients with regards to increased access to digital opportunities	• Digital Navigator Network • Nonprofit partners

STRATEGY 4: EXAMINE NEW TECHNOLOGIES AND PROGRAMS TO ENSURE THE AREA IS BECOMING MORE TECH INCLUSIVE AND MEETING THE NEEDS OF THE MOST VULNERABLE.

As the plan is implemented and ongoing evaluation occurs, adjustments and expansions will be necessary to accommodate changes in needs, technology, and funding. Anticipated efforts include projects to close the final broadband access gap in Prince William County and increasing affordable access through Wi-Fi installation in affordable rental developments.

Activity 1: Update Cable Franchise Agreements.

Use the Cable Franchise Agreements as a tool to better align the region's broadband goals with the services provided by cable companies.

Activity 2: Identify and close broadband gaps in Prince William County

In 2021, the Prince William County Department of Information Technology (DoIT) awarded two contracts to All Points Broadband (APB), in which APB worked with DoIT to canvas the County for unserved broadband locations. The other contract was to design a solution to deliver Broadband into the unserved areas identified. The effort determined that at least forty miles of new fiber infrastructure is needed to extend service to more than 300 remaining unserved locations that support multiple residents and/or businesses.

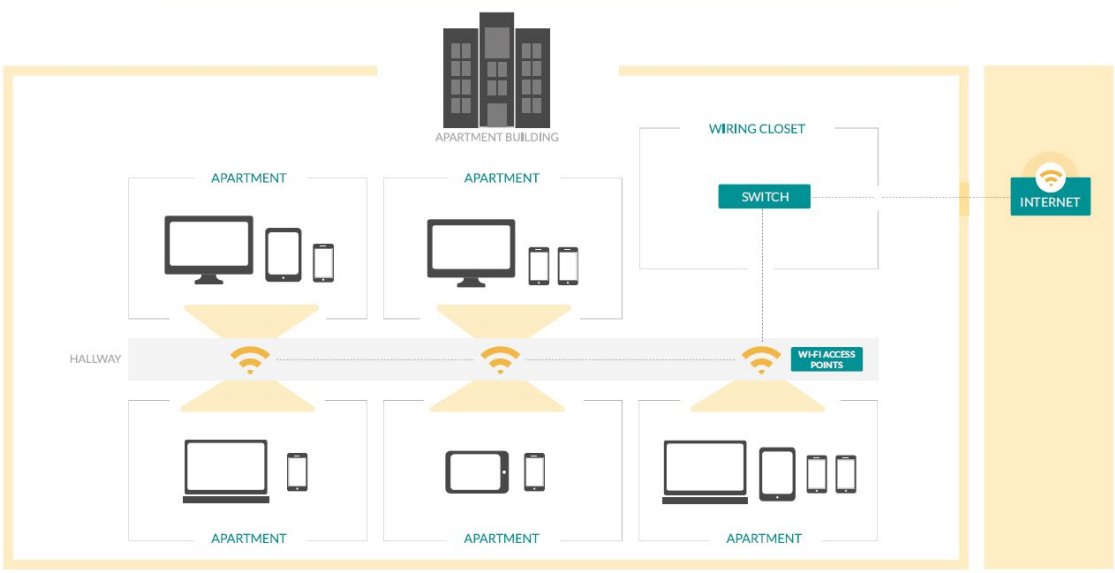
DoIT is preparing to award the "Big Access" RFP to further define requirements, deployment plans and prepare for Broadband, Equity, Access, and Deployment (BEAD) Program and other funding opportunities that can close the remaining gaps.

Activity 3: Install Wi-Fi internet systems in low-income apartment buildings

Installing internet services in affordable housing rental communities is one of the most expedient and effective means of increasing access and affordability in the short term. This method allows for expansion of service to the targeted low-income population with a sustainable method for maintaining the service after the initial investment. The map shows the locations of apartments that might be eligible for such a program.

Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as

residents can then be supplied with service for free or at a reduced cost. Methodology for this is illustrated in a graphic designed by Education Superhighway for their publication, "Closing the Digital Divide with Free Apartment Wi-Fi." They propose a structure modeled after the installation of services in hotels as illustrated in the following graphic. [13]



The guide from Education Superhighway recommends these steps:

1. Activate an Internet connection in the building. This can be purchased from a local Internet service provider, or the city can leverage the Internet access it uses to connect city facilities by extending its network to apartment buildings using a wired or wireless wide area network.
2. Install Wi-Fi infrastructure in the apartment building. This step involves simply wiring hallways and common areas for Wi-Fi access points and then configuring the network.
3. Provide residents with the SSID and password to connect to the Internet. Residents can also be given a unique username and password for enhanced security.

Depending on the availability of hardware, funding, and permits, the installation process can take as little as two months. In the end, the networks can supply symmetrical speeds far exceeding FCC guidelines making this not only an affordable option bit an expedient one as well.

Rural LISC has also developed resources to promote this path to access and affordability It includes models for financing and case studies.[14]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost. Priority should be given to properties in Title I school districts.	• # of units served • Cost savings compared to individual per-unit subsidies	• Prince William County • City of Manassas • City of Manassas Park • DHCD • VHDA • Apartment owners

[13] https://www.educationsuperhighway.org/free-apartment-wifi/
[14] https://www.lisc.org/rural/our-work/broadband-infrastructure/resources/broadband-resources-affordable-housing/

TIMELINE

The timeline for implementation of the plan will begin once the Lead Agency has been selected. After that, activities will occur based on the following timeline:

PLAN MONTH	ACTIVITY
1-2	Coordinate plans between local governments
2-5	Establish Digital Opportunity Alliance
3-6	Expand Digital Navigator program
6-12	Begin implementation of new programs and services within the area
18-20	Begin six-month review of new programs and services
20-22	Make adjustments to programs and services as necessary
22-24	Conduct update to Digital Opportunity Plan

MECHANISMS FOR PLAN UPDATE

The Digital Opportunity Alliance, under the direction of Prince William County Department of Information Technology will have primary responsibility for updating the plan on a bi-annual basis. However, this, and all other work regarding the plan's implementation and monitoring of progress will be done with the coordination of the established consortium of key partners and stakeholders in the Alliance.

The plan will be evaluated on at least a semi-annual basis to determine:

- if efforts are being made in all regions and for target populations;
- what changes might need to be made to improve the reach of activities,
- what programs and services need to be abandoned, expanded, or improved; and
- what new programs should be added next to address the most pressing barriers to Digital Opportunity.

CONCLUSION

KEY POINTS

DIGITAL OPPORTUNITY DEFINITION AND VISION

The Greater Prince William Area embraces the definition adopted by Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

Digital inequities in the Greater Prince William Area hinder job creation and economic growth, limit property values, prevent expansion of economic opportunities, and diminish the quality of life for local residents. Insufficient broadband services present telecommuting, online education, telehealth services, and the establishment and expansion of new business.

To overcome this, the Greater Prince William Area envisions a tech inclusive community where residents are able to access and use the technology they need to thrive in the 21st century. Whether that be a computer, tablet, smart phone, or other device, the region is striving towards a goal of making these resources available and usable through education and affordability initiatives. GPW seeks to create a community that thrives because of the technological advances and resources available, unhindered by fear or cost.

DIGITAL OPPORTUNITY RESOURCES

Prince William County has an extensive array of resources available to promote digital opportunities for county residents. They have been heavily engaged in planning and implementation efforts since 2000 that have resulted in a recent award from the federal government for an ACP enrollment campaign, the development of a Digital Navigator Position, creation of new digital literacy classes, and development of a draft plan, "Scaling Technology Inclusion in Prince William County."

Other highlighted activities in the region include:

- The three public school systems provide a digital device for all students. They also provide digital citizenship training in keeping with the Virginia SOLs.
    - In 2020, Prince William County schools was able to secure Wi-Fi hotspot devices for students in Title I schools where internet access is limited using money from the CARES Act.
- All public libraries offer free Wi-Fi internally and externally as well as computers for use on site, and digital literacy classes.
- In Fall 2021, Prince William's Department of Information Technology launched Digital Prince William, a program offering free technology classes. The initial pilot program used ARPA funding for classes targeted to older adults with six hours of beginner-level instruction on smartphones (both iPhones and Android).
- In 2023, the County's digital literacy initiative implemented the Northstar platform for computer literacy skills. It is available in English and Spanish with classes beginning with the most basic levels and advancing to coding and other career-focused skills. The program is now offered in all 12 of the county's libraries, the two senior centers, the Virtual Senior Center (which serves multiple jurisdictions in Northern Virginia), and the vocational services center which makes it available via a mobile classroom.

- Prince William County Senior Centers provide free computer access at both locations.

In addition to the locally provided assets, the Affordable Connectivity Program has the ability to remove the barrier to affordability many households in the Prince William area face. However, enrollment in the county has not been successful. Data from Education Superhighway shows only a 25.0% adoption rate in Prince William County, 16.0% in Manassas Park, and 17.0% in Manassas. Prince William County recently received a federal grant to conduct ACP outreach, which should increase enrollment.

PRIORITIZING SERVICES AND RESOURCES

Through Prince William County's extensive planning and evaluation process as well as an analysis of existing data and interviews with key stakeholders, we have determined that the two most urgent areas to address are digital literacy and privacy/cybersecurity. Members of the community need to know how to use their devices and that, when doing so, they will be safe.

Beyond that, the next step is to get additional people online. That involves increasing access to devices and creating affordable internet access options. The Affordable Connectivity Program is the best means at this time of increasing affordability. The County is currently engaging in outreach to increase enrollment. The success of those efforts can be used to inform future endeavors.

Broadband access and online accessibility, while addressed in this plan, are not priority concerns for the region as there are only 300 unconnected households remaining. Plans to address access are already underway. Online accessibility is a low priority in the community where their primary concern is basic usability of the internet.

IMPACT ON DIGITAL OPPORTUNITY IN THE REGION

MOVING FORWARD

Because the area is fortunate to have so many existing resources, a high rate of access to broadband, and a low Digital Divide Index score, the Greater Prince William Area can move with deliberation and care to meet the remaining needs of the population. At this point, the goal is to plug small holes rather than fill large gaps.

Coordinating efforts between the three local governments will do much to promote a tech inclusive community as the boundaries, populations, and activities are so intertwined. The establishment of the Digital Opportunity Alliance will help with that effort. Having it overseen by Prince William's Department of Information Technology, which has already invested several years in working towards these goals will allow the cities to leap over obstacles they would face should they begin these efforts on their own.

With the Alliance in place, the Digital Navigator Network will be the remaining crucial piece. These workers will implement the plan, working directly with the target populations as representatives of trusted organizations to provide resources and identify, then fill, gaps in existing resources.

With these systems in place, the Greater Prince William Area will be able to create a community where residents are able to access and use the technology they need to thrive in the 21st century

APPENDICES

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

B. ASSET INVENTORY

C. COMMUNITY ENGAGEMENT TRACKER

D. LIST OF ORGANIZATIONS

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

The Digital Divide Index was developed by the Center for Regional Development at Purdue University[15] to provide a quick overview of the factors impacting the Digital Divide in the U.S. The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. It is based on z-scores normalized to 0-100 for each geography. For the analysis presented here, the geography is the Commonwealth of Virginia. The numbers presented in the main body of the report were indexed nationally and, therefore, differ from these.

The data on the table is sorted by Socioeconomic Index as the Infrastructure Index will be greatly impacted by the VATI project currently underway. This analysis is for 2021 and does not take that into account. The Socioeconomic Index Score indirectly measures the potential for technology adopting using considers the following factors, known have an impact:

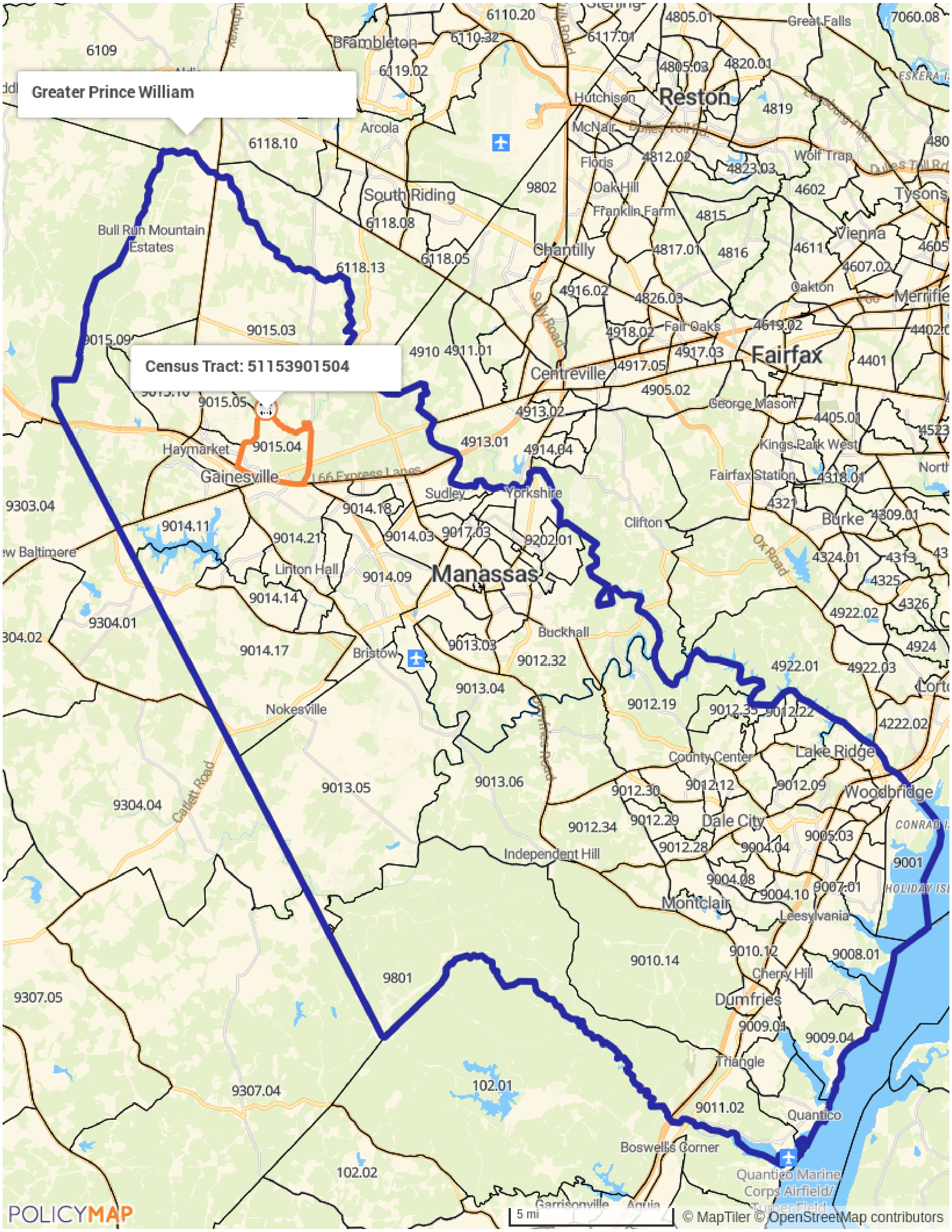
1. percent population ages 65 and over;
2. percent population 25 and over with less than high school;
3. individual poverty rate;
4. percent of noninstitutionalized civilian population with a disability: and
5. digital inequality or internet income ratio measure (IIR).

The Infrastructure Index considers the following variables related to broadband infrastructure and adoption:

1. percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset;
2. percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.);
3. percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests)
4. download and speeds in Megabits per second (Mbps)
5. (5) upload speeds in Megabits per second (Mbps)

The map on the following page shows the Census Tracts in the Greater Prince William Area and highlights the one that has a high Socioeconomic Index Score (over 50). None have an Infrastructure Score over 50.

[15] Gallardo, R. (2023). Digital Divide Index. PURDUE CENTER FOR REGIONAL DEVELOPMENT. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi


Greater Prince William
Census Tract: 51153901504
9015.04
9015.05
9015.03
6118.13
6118.10
6118.08
6118.05
6109
6119.02
6110.20
6110.32
6117.01
Brambleton
Arcola
South Riding
Bull Run Mountain Estates
Haymarket
Gainesville
Chantilly
Centreville
Reston
Fairfax
Vienna
Tysons
Oakton
Merrifield
Hutchison
McNair
Floris
Oak Hill
Franklin Farm
Wolf Trap
Great Falls
Fair Oaks
George Mason
Kings Park West
Fairfax Station
Burke
Clifton
Yorkshire
Sudley
Manassas
Linton Hall
Bristow
Buckhall
Nokesville
Lake Ridge
County Center
Woodbridge
Dale City
Independent Hill
Montclair
Leesylvania
Cherry Hill
Dumfries
Triangle
Quantico
Boswells Corner
Quantico Marine Corps Airfield/ Turner Field
Garrisonville
Aquia
Catlett Road
Ox Road
Sully Road
I 66 Express Lanes
9802
9801
9001
102.01
102.02
9303.04
9304.01
9304.04
9307.04
9307.05
9014.11
9014.21
9014.18
9014.03
9014.09
9014.14
9014.17
9017.03
9202.01
9013.03
9013.04
9013.05
9013.06
9012.32
9012.19
9012.22
9012.30
9012.12
9012.09
9012.34
9012.29
9012.28
9004.04
9004.08
9004.10
9005.03
9007.01
9010.12
9010.14
9008.01
9009.01
9009.04
9011.02
4910
4911.01
4913.01
4913.02
4914.04
4917.05
4917.03
4918.02
4916.02
4926.03
4905.02
4817.01
4816
4815
4812.02
4823.03
4805.01
4805.03
4820.01
4819
4602
4611
4607.02
4605
4619.02
4401
4402.01
4405.01
4318.01
4321
4309.01
4324.01
4313
4325
4326
4922.02
4924
4922.01
4922.03
4222.02
7060.08
PolicyMap
5 mi
© MapTiler © OpenStreetMap contributors

Census Tract	County/City	Socioeconomic Index	Infrastructure Index	Digital Divide Index
51153901504	Prince William	51.78	18.20	42.61
51153900504	Prince William	43.55	16.49	36.30
51153900301	Prince William	43.25	5.77	30.89
51153901511	Prince William	45.31	2.73	30.78
51153901208	Prince William	37.34	7.63	27.86
51153901012	Prince William	40.05	1.51	26.69
51153900100	Prince William	33.28	10.70	26.65
51153901601	Prince William	30.41	14.37	26.53
51153901419	Prince William	32.22	9.57	25.40
51153901702	Prince William	32.56	8.60	25.15
51153901211	Prince William	32.58	7.75	24.75
51153901704	Prince William	28.19	13.43	24.59
51153900601	Prince William	31.60	8.68	24.55
51153901014	Prince William	23.67	16.31	22.99
51153901403	Prince William	27.95	10.37	22.95
51153901421	Prince William	34.05	1.83	22.85
51153901407	Prince William	28.01	10.04	22.83
51153901703	Prince William	30.43	6.59	22.76
51153901229	Prince William	28.39	9.13	22.63
51153901232	Prince William	28.34	6.94	21.54
51153901231	Prince William	27.13	8.53	21.50
51153900901	Prince William	27.18	6.40	20.50
51153900409	Prince William	26.53	6.89	20.31
51153900203	Prince William	25.02	8.27	19.98
51153900407	Prince William	24.96	7.43	19.53
51153901900	Prince William	25.75	5.88	19.30
51153901418	Prince William	26.67	4.40	19.19
51153901013	Prince William	23.86	7.71	18.93
51153900404	Prince William	23.26	8.38	18.86
51153900202	Prince William	24.30	6.69	18.73
51153900403	Prince William	23.85	7.09	18.63
51153900503	Prince William	22.27	8.24	18.13
51153901305	Prince William	19.60	11.40	17.89
51153901209	Prince William	22.77	7.04	17.88
51153901203	Prince William	25.90	2.73	17.87
51153900702	Prince William	21.12	9.12	17.80
51153901417	Prince William	19.13	11.59	17.67
51153901304	Prince William	20.70	9.16	17.53
51153901227	Prince William	23.09	5.12	17.16
51153900302	Prince William	25.47	1.27	16.87
51153901212	Prince William	23.24	4.16	16.79
51153901306	Prince William	21.06	7.13	16.79
51153901225	Prince William	22.00	5.17	16.46
51153900602	Prince William	23.96	2.41	16.42
51153901503	Prince William	19.53	8.46	16.42

51153901414	Prince William	17.88	10.31	16.22
51153900803	Prince William	22.73	2.65	15.72
51153901224	Prince William	21.71	3.48	15.44
51153900201	Prince William	20.65	4.27	15.12
51153901011	Prince William	20.96	3.69	15.04
51153901228	Prince William	21.10	2.73	14.67
51153901602	Prince William	19.22	5.29	14.67
51153901223	Prince William	16.97	8.19	14.58
51153901234	Prince William	19.15	4.35	14.16
51153901016	Prince William	20.37	2.56	14.10
51153901222	Prince William	19.68	2.90	13.81
51153900905	Prince William	18.60	4.32	13.78
51153901101	Prince William	13.44	11.32	13.75
51153901507	Prince William	19.05	3.28	13.57
51153900701	Prince William	16.32	5.84	13.00
51153901226	Prince William	17.58	3.73	12.82
51153900408	Prince William	17.31	4.06	12.80
51153901015	Prince William	17.16	2.70	12.04
51153901411	Prince William	14.41	5.76	11.69
51153900801	Prince William	13.54	3.74	10.13
51153901233	Prince William	13.35	3.83	10.05
51153900804	Prince William	12.51	4.33	9.73
51153901509	Prince William	14.02	2.25	9.72
51153901230	Prince William	12.56	4.17	9.69
51153901219	Prince William	13.67	1.98	9.36
51153901005	Prince William	13.48	1.68	9.09
51153900410	Prince William	11.48	3.58	8.68
51153901009	Prince William	11.93	2.84	8.62
51153901235	Prince William	12.59	1.59	8.45
51153901237	Prince William	13.07	0.83	8.40
51153900904	Prince William	10.82	3.18	8.05
51153901409	Prince William	9.30	4.85	7.85
51153901510	Prince William	9.41	4.33	7.67
51153901508	Prince William	8.17	5.93	7.62
51153901505	Prince William	9.47	3.49	7.30
51153901303	Prince William	10.69	1.76	7.28
51153901221	Prince William	8.26	4.96	7.21
51153901010	Prince William	9.34	2.57	6.77
51153900502	Prince William	7.76	4.41	6.62
51153901236	Prince William	9.67	1.75	6.59
51153901506	Prince William	6.43	4.51	5.77
51153901415	Prince William	7.01	3.65	5.74
51153901412	Prince William	4.53	6.40	5.44
51153901413	Prince William	7.04	2.61	5.26
51153901420	Prince William	5.26	1.49	3.53
51153901416	Prince William	3.99	3.03	3.44

51153901102	Prince William	0.00	1.91	0.23
51683910301	Manassas	20.01	16.20	20.50
51683910100	Manassas	18.06	11.32	16.83
51683910402	Manassas	28.77	7.27	21.99
51683910202	Manassas	14.56	7.21	12.50
51683910201	Manassas	25.84	7.17	19.98
51683910401	Manassas	28.07	6.58	21.19
51683910302	Manassas	21.16	5.23	15.93
51685920100	Manassas Park	30.25	10.33	24.46
51685920201	Manassas Park	28.35	5.80	20.99
51685920202	Manassas Park	22.51	5.71	17.06

The following table ranks all jurisdictions within the Commonwealth. It is sorted by Digital Divide Index.

Digital Divide Scores in the Commonwealth of Virginia			
County/City	**Socioeconomic Index**	**Infrastructure Index**	**Digital Divide Index**
Falls Church city	0.00	0.00	0.00
Loudoun	5.17	4.31	5.64
Prince William	**12.58**	**3.11**	**9.53**
Fairfax	16.66	3.49	12.27
Arlington	13.50	7.16	12.41
Stafford	16.21	6.71	13.82
Manassas city	**18.16**	**6.35**	**14.82**
Chesterfield	22.01	11.38	20.06
Virginia Beach city	20.57	14.17	20.76
Chesapeake city	20.67	14.48	21.00
Spotsylvania	23.34	11.78	21.11
York	21.07	14.28	21.13
Fredericksburg city	22.11	14.30	21.78
Alexandria city	14.55	22.64	21.86
Fairfax city	32.84	2.89	21.92
Charlottesville city	25.18	15.61	24.43
Poquoson city	29.22	12.56	25.18
Manassas Park city	**36.65**	**4.79**	**25.35**
Salem city	22.17	22.20	26.31
Henrico	29.49	15.60	27.08
King George	23.05	22.89	27.25
Newport News city	28.26	17.86	27.60
Powhatan	22.67	25.35	28.42
Fluvanna	20.32	28.57	28.79
Fauquier	17.55	32.90	29.55
Albemarle	20.81	30.29	30.08
Hanover	19.05	33.47	30.80
Williamsburg city	24.32	29.58	31.84
Culpeper	25.63	29.31	32.50
King William	16.72	39.00	32.51
Hampton city	34.81	21.03	33.45
Harrisonburg city	37.53	18.21	33.53
Lexington city	33.10	23.97	34.06
Prince George	27.38	30.52	34.26
Richmond city	36.70	23.56	36.06
Lynchburg city	32.69	28.94	36.64
James City	32.89	29.68	37.18
Staunton city	34.09	28.79	37.42
New Kent	28.24	36.99	38.47
Montgomery	31.60	33.77	38.72
Botetourt	26.84	39.13	38.83
Warren	34.32	31.59	39.16
Winchester city	36.16	29.93	39.35
Roanoke	28.19	40.27	40.31
Clarke	31.25	37.36	40.55
Frederick	30.43	38.28	40.56
Greene	30.35	38.41	40.59
Caroline	31.21	37.97	40.87

Suffolk city	29.18	40.31	40.94
Portsmouth city	40.53	28.13	41.02
Norfolk city	33.35	37.54	41.94
Orange	39.49	30.95	41.98
Waynesboro city	44.09	27.64	42.94
Goochland	40.72	32.75	43.77
Rappahannock	32.02	42.51	43.95
Roanoke city	37.30	37.65	44.44
Bedford	31.05	45.38	44.98
Colonial Heights city	33.65	42.97	45.22
Augusta	33.51	43.16	45.24
Rockingham	31.19	47.05	46.02
Isle of Wight	31.16	48.84	47.01
Giles	37.30	42.32	47.10
Appomattox	37.70	42.83	47.63
Gloucester	40.00	40.33	47.63
Cumberland	36.34	47.98	49.73
Madison	40.21	45.77	50.86
Covington city	53.02	32.10	50.99
Craig	42.96	43.11	51.04
Campbell	32.39	54.78	51.16
Dinwiddie	37.38	49.62	51.30
Louisa	45.59	41.43	51.71
Radford city	45.26	45.34	53.73
Amherst	41.37	49.89	53.92
Rockbridge	48.26	44.50	55.11
Nelson	52.54	41.06	55.79
Southampton	43.82	54.27	57.92
Bristol city	55.99	41.44	58.13
Hopewell city	57.79	39.98	58.42
Washington	52.58	46.59	58.96
Martinsville city	54.76	44.99	59.40
Shenandoah	44.38	56.51	59.54
Franklin	42.95	59.27	60.23
Mathews	50.01	53.82	61.49
King and Queen	39.02	66.10	61.68
Alleghany	58.46	45.62	62.04
Sussex	46.81	59.63	62.82
Essex	50.81	55.61	63.00
Wythe	46.58	60.32	63.06
Pulaski	50.35	56.94	63.47
Buena Vista city	57.07	51.51	64.53
Norton city	64.92	43.32	64.72
Tazewell	60.01	49.99	65.48
Petersburg city	61.60	48.67	65.71
Galax city	66.18	44.73	66.30
Westmoreland	64.18	48.53	67.22
Surry	58.73	56.40	68.34
Accomack	56.76	58.79	68.48
Smyth	62.37	55.30	69.96
Prince Edward	49.87	69.91	70.56
Danville city	60.22	58.70	70.56
Richmond	58.98	60.84	71.01

Northampton	66.88	52.26	71.01
Charles City	59.67	60.58	71.30
Northumberland	71.16	49.30	71.98
Page	54.16	67.81	72.01
Buckingham	51.29	71.14	72.13
Middlesex	55.91	66.22	72.19
Pittsylvania	57.77	64.75	72.49
Carroll	57.84	65.52	72.98
Patrick	54.94	69.21	73.28
Franklin city	67.33	56.19	73.53
Bland	39.93	85.95	73.55
Grayson	61.55	62.72	73.67
Bath	62.05	63.06	74.18
Highland	58.78	66.82	74.30
Henry	60.21	65.38	74.36
Amelia	64.06	61.56	74.57
Wise	71.22	56.81	76.28
Floyd	76.37	51.83	76.63
Lancaster	62.17	71.90	79.28
Nottoway	53.47	81.48	79.36
Mecklenburg	62.15	76.76	82.03
Charlotte	62.34	78.30	83.02
Brunswick	75.69	64.01	83.13
Greensville	80.08	60.45	83.82
Lee	79.80	63.74	85.52
Halifax	60.66	86.10	86.42
Scott	77.08	73.09	89.16
Russell	74.58	77.56	90.15
Emporia city	96.30	57.05	91.90
Dickenson	85.80	68.71	92.05
Lunenburg	57.32	100.00	92.26
Buchanan	100.00	67.27	100.00

B. ASSET INVENTORY

Organization Name	Website	Contact	Description
Manassas Park Public Library	manassasparkcitylibrary.org/		The library offers free Wi-Fi and computers for public use
Prince William County Public Schools	www.pwcs.edu/	AJ Phillips PHILLIAS@pwcs.edu	Prince William County Publix Schools has implemented a student 1:1 laptop program for all students in PWCS (90,000+ students). PWCSSUPT also provides internet access through hotspots for families with no or poor internet access. There are 2,000 hotspots available in the Division to provide to students at any time. We provide devices for students PreK-12 grade. Prek-2 will have iPads this year, and 3-12 will have laptops.
Prince William County Senior Centers	www.pwcva.gov/department/area-agency-aging/senior-centers	pwaaa@pwcgov.org	The Senior Centers in Woodbridge and Manassas each offer a Digital Device workshop once a week. They also offer computer access.
Prince William Public Libraries	www.pwcva.gov/department/library	Deborah L. Wright dlwright@pwcgov.org	The library offers free Wi-Fi and computers for public use Wi-Fi hotspots and laptop checkouts, and computer classes. They are also advocates for broadband and digital opportunities in the region. They serve Prince William County and Manassas.
Northern Virginia Family Services	www.nvfs.org/our-services/workforce-development/training-futures/	Italo Romero tftrainee@nvfs.org	Workforce preparation course including basic computer training skills.
PWCPS Adult Education	www.pwcs.edu/academics___programs/adult_education/index	AdultEd@pwcs.edu	Career-focused computer classes with the potential to earn a Microsoft Office Specialist credential.
Manassas City Public Schools	www.mcpsva.org/domain/1102	Andrew Huynh Ahuynh@mcpsva.org	Their CTE programs include Information Technology at the Governor's School and Osburn High School, both of which involve work experience.
Manassas City Public Schools	www.mcpsva.org/	Bobby Barrett bbarrett@mcpsva.org	All students within Manassas City Public Schools are issued a dedicated laptop to use for instructional purposes. Students in Grades 7 through 12 are permitted to bring their laptops home, while students in Grade Pre-K through 6 use them while in school.
Manassas Park City Public Schools	www.mpark.net/home	Matthew McCormack Matthew.McCormack@mpark.net	Students in K-5 are issued a Chromebook that remains at school. Students in grades 6-12 receive a Chromebook that they can take home during the school year.
Manassas Park City Public Schools	www.mpark.net/programs/career_and_technical_education	Lisa Wolf lisa.wolf@mpark.net	The MPCPS CTE program includes a track for Information Technology.

C. COMMUNITY ENGAGEMENT TRACKER

Regional Digital Opportunity Plan: Stakeholder Engagement Tracker

Engagment Title/Description	Engagement Date	Engagement Type	Engagement Location	Target Audience	Target Audience Location	Target Audience County	# Engaged	Covered Populations Reached								Notes
								Which covered populations did you engage?								
Include a brief title of the engagement *(Example: Community Outreach Listening Session #1)*	*Enter the date as MM/DD/YYYY*	*Include the type of stakeholder engagement that occurred, using the dropdown list*	*If applicable, please include the physical address of where the engagement took place*	*Who was the engagement for?* *(Example: Covered Populations, Regional Listening Session, etc.)*	*Is this local, regional, or statewide engagement?*	*If available, indicate which counties will be represented by this engagement*	*How many people were engaged?* *(Example: # of people who attended the event, completed the survey, etc.)*	Individuals who live in covered households	Aging Individuals	Incarcerated Individuals	Veterans	Individuals with disabilities	Individuals with a language barrier	Individuals who are members of a racial or ethnic minority group	Individuals who primarily reside in a rural area	*Add notes of what was discussed and any key themes or feedback (optional)*
Bridging the Community Divide Forum - Louisa County	5/2/2023	Listening Session (In-person)	Louisa County Library, Davis Higl	Local Community	Local	Louisa	1							X	
Bridging the Community Divide Forum - Fauquier County	5/3/2023	Listening Session (In-person)	Bealeton Library, Willow Drive, I	Local Community	Local	Fauquier	2						X	X	
Bridging the Community Divide Forum - Loudoun County	5/4/2023	Listening Session (In-person)	Middleburg Library, Reed Street	Local Community	Local	Loudoun	0							X	
Piedmont Region Work Group	5/5/2023	Other	Online	Key Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	9								This is a core group of stakeholders primarily representing community colleges, wo
Bridging the Community Divide Forum - Greene County	5/6/2023	Listening Session (In-person)	Greene County Public Library 22	Local Community	Local	Greene	1							X	
Bridging the Community Divide Forum - Culpeper County	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Local Community	Local	Culpeper	4	X						X	
Planning to Advance Digital Equity - Piedmont Region	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	3							X	
Bridging the Community Divide Forum - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Local Community	Local	Warren	2							X	
Planning to Advance Digital Equity - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Stakeholders	Regional	Warren	1	X						X	
Bridging the Community Divide Forum - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Local Community	Local	Frederick, Winchester	6						X	X	
Planning to Advance Digital Equity - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Key Stakeholders	Local	Frederick, Winchester	0								
Bridging the Community Divide Forum - Winchester	5/18/2023	Listening Session (In-person)	Shenandoah County Library, Edi	Local Community	Local	Shenandoah	1								
Bridging the Community Divide Forum - Online	5/22/2023	Listening Session (Virtual)		Local Community	Regional	Clarke, Frederick, Page, Shenando	3								
Bridging the Community Divide Forum - Woodbridge	5/23/2023	Listening Session (In-person)	Woodbridge Library	Local Community	Local	Prince William	0								
Planning to Advance Digital Equity	5/23/2023	Listening Session (In-person)	9324 West Street, Manassas, VA	Key Stakeholders	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Rappahannock	5/24/2023	Listening Session (In-person)	Rappahannock County Library, V	Local Community	Local	Rappahannock	6								
Madison County Meeting	5/25/2023	Listening Session (In-person)	American Legion Post 157, Thrift	Key Stakeholders	Local	Madison	14	X	X		X			X	X	
Regional Digital Equity Planning Coalition	5/25/2023	Listening Session (Virtual)		Key Stakeholders	Regional	Greene, Louisa, Charlottesville, Albemarle									
Bridging the Community Divide Forum - Manassas Park	6/1/2023	Listening Session (In-person)	Manassas Park Community Cent	Local Community	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Orange	6/6/2023	Listening Session (In-person)	Orange County Public Library, 14	Local Community	Local	Orange	1	X	X					X	X	
Bridging the Community Divide Forum - Leesburg	6/8/2023	Listening Session (In-person)	Rust Library, Leesburg	Local Community	Local	Loudoun	2								
Hero's Bridge Social Hour	6/12/2023	Listening Session (In-person)	98 Alexandria Pike, Warrenton, '	Covered Populations	Regional	Fauquier, Culpeper, Madison	12	X	X		X	X		X	X	Group of veterans and volunteers
Bridging the Community Divide Forum - Online	6/13/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
PATH Foundation Meeting	6/14/2023	Listening Session (In-person)	PATH Foundation, Walker Drive,	Key Stakeholders	Regional	Fauquier, Culpeper, Rappahannoc	10	X	X			X	X	X	X	
Bridging the Community Divide Forum - Online	6/15/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Life Online: Staying Safe, Creating Opportunities	6/15/2023	Listening Session (In-person)	Reynolds Memorial Baptist Chur	Local Community	Local	Rappahannock	3							X	
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Regional	Culpeper, Fauquier, Madison, Ora	0								
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Blue Ridge Networking Group	6/24/2023	Listening Session (In-person)		Local Community	Local	Greene, Madison, Albemarle	6							X	
Bridging the Community Divide Forum - Online	6/24/2023	Listening Session (Virtual)		Local Community	Local	Loudoun	0								
Piedmont Region Work Group	6/26/2023	Listening Session (In-person)	Germanna Community College, '	Key Stakeholders	Local	Culpeper, Fauquier, Madison, Ora	6	X	X			X	X	X	X	
Discussion with Prince William County Department of Inf	6/28/2023	Other		Local Community	Local	Prince William									
Discussion with Loudoun Hunger Relief	7/20/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Department of Informat	7/24/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Family Services	7/25/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Public Schools	7/28/2023	Other		Local Community	Local	Loudoun									
Discussion with ARC of Loudoun County	8/4/2023	Other		Local Community	Local	Loudoun									

D. LIST OF ORGANIZATIONS

List of Organizations with which you have collaborated in developing the regional plan				
Organization Name	Type of organization	Engagement Purpose (Select the purpose that best matches). If you select "Other",	Notes	Link to the organization's website (if available)
ACTS, Johnte Davis	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Community Needs	
ACTS, Troy Hatcher	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Community Needs	
Brain Injury Services, Sara Aly <saly@braininjurysvcs.org	Other	Community Outreach	PWC CoC, Brain Injury Help	
Caldwell-Lynch, Shaunee	County or Municipal Government	Community Outreach	PWC CoC	
Carried To Full Term, Ashley Cuppett	Other	Community Outreach	PWC CoC, Pregnancy	
Carried to Full Term, Lynn Biddle	Other	Community Outreach	PWC CoC, Pregnancy	
Catalyst Recovery and Wellness, Judy Jacob	Other	Community Outreach	PWC CoC, Substance Abuse/ Behavioral Health	
Catholic Charities Diocese of Arlington, Alexandra Luevano	Health or Telehealth Organization (Direct Service and Policy focus)	Community Outreach	PWC CoC, Healthcare	
Catholic Charities Diocese of Arlington, Fadumo Ahmed	Health or Telehealth Organization (Direct Service and Policy focus)	Community Outreach	PWC CoC, Healthcare	
Catholic Charities of the Diocese of Arlington, Veronica Roth	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Central Library in PWC, Branch Manager, Natalie				
Cheyl Reid		Community Outreach	PWC CoC	
City of Manassas Park Housing Department - Ivette Monney	County or Municipal Government	Plan Development		https://www.manassasparkva.gov/
Darlene Ingram		Community Outreach	PWC CoC	
David Carr		Community Outreach	PWC CoC	
David Farajollahi		Community Outreach	PWC CoC	
Easer Seals, Lewis Arnette	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Community Needs	
Easter Seals, Tiesa Johnson	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Community Needs	
Friendship Place, Athena Lemus	Community Anchor Institution	Community Outreach	PWC CoC, Homeless	
Friendship Place, Lauren Havoc	Community Anchor Institution	Community Outreach	PWC CoC, Homeless	
Good Shepherd Housing Foundation, Patricia Johansor	Foundation	Community Outreach	PWC CoC, Housing	
Good Shepherd Housing, Elizabeth Funes	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Homeless	
Goodmote, Laly <lgoodmote@pwcgov.org	County or Municipal Government	Community Outreach	PWC CoC	
Idris O'Connor <ccom.chair@gmail.com		Community Outreach	PWC CoC	
Independence Empowerment Center, Mary Lopez	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Disabilities	
Independence Empowerment Center, Roberta McEachern	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Disabilities	
Jessica Todd Jessica@ncicmin.org	Other	Community Outreach	PWC CoC, Housing	
Joyce Entremonnt joyentremont@gmail.com		Community Outreach	PWC CoC	
Karen DeVito (karensd1@outlook.com		Community Outreach	PWC CoC	
Kathy Talman Kathy@homebuddies.info		Community Outreach	PWC CoC	
Kevin Rychlik kcrychlik@aol.com		Community Outreach	PWC CoC	
Kobie Beal kbealsr@gmail.com		Community Outreach	PWC CoC	
Kyla Payne Kyla.payne@va.gov	County or Municipal Government	Community Outreach	PWC CoC	
La Patra, Alicia <ALaPatra@pwcgov.org	County or Municipal Government	Community Outreach	PWC CoC	
Latanya Buckhalter <latanya.buckhalter@dss.virginia.gov	County or Municipal Government	Community Outreach	PWC CoC	
Leon, Marjorie N. <mleon@pwcgov.org	County or Municipal Government	Community Outreach	PWC CoC	
Lewis, Hayley <hlewis@pwcgov.org	County or Municipal Government	Community Outreach	PWC CoC	
Lotoya Eddie <leddie@eseal.org		Community Outreach	PWC CoC	
Ludwig, Kym <kludwig@pwcgov.org	County or Municipal Government	Community Outreach	PWC CoC	
Madlin Edmonds		Community Outreach	PWC CoC	
Manassas Church of the Brethren, Tina Fisher	Other	Community Outreach	PWC CoC	
Manassas City, City Manager, William Patrick Pate	County or Municipal Government	Data Collection	Community Needs	
Manassas City, Director of Economic Development - Patrick Small	County or Municipal Government	Data Collection	Community Needs	
Manassas City, Director of Planning & Community Development - Matt Arcieri	County or Municipal Government	Data Collection	Community Needs	
Manassas Department of Social Services, Randi Knights	County or Municipal Government	Community Outreach	PWC CoC	
Manassas Park Director of Information Technology - David Spady	County or Municipal Government	Data Collection	Community Needs	
Manassas Park Government - Francis Rath	County or Municipal Government	Community Outreach	PWC CoC	
Manassas Park, City Manager - Laszio Palko	County or Municipal Government	Data Collection	Community Needs	
Manassas Park, Director of Community Development - Calvin O'Dell	County or Municipal Government	Data Collection	Community Needs	
Maria Wells <themastersgarden.pwc@gmail.com		Community Outreach	PWC CoC	
Nancy Espinal <Nancy.Espinal@va.gov	County or Municipal Government	Community Outreach	PWC CoC	
Nicole Kirven <nicole.l.kirven@dss.virginia.gov	County or Municipal Government	Community Outreach	PWC CoC	
Northern Virginia Family Services, Andrea Eck	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Caitlin O'Connel	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Crystal Pitt <cpitt@nvfs.org	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Devin Heilmeier	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Glenda Blake	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Julie Mullen	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Mychal Tamillow	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Tontee Verba	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services,, Renate Canfield	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
NOVA Health, M. Suzuki	Health or Telehealth Organization (Direct Service and Policy focus)	Community Outreach	PWC CoC	
Operation Renewed Hope Foundation, April Ballard	Foundation	Community Outreach	PWC CoC, Veterans	
Pathway Homes, Michelle Halcombe	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Housing	
Pathway Homes, Sherry Meyers	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Housing	
Pathways, James Davis <jdavis@pathwaysdc.org	Other	Community Outreach	PWC CoC, Behavioral Heath	
Patricia Profit (electladieshome@gmail.com		Community Outreach	PWC CoC	
Potomac Library - Woodbridge	Community Anchor Institution	Community Outreach		

Prince William Area Chamber of Commerce - Denise Carey & Margeaux Clark	Industry Representative or Association (501c6)	Community Outreach		https://pwchamber.org/
Prince William Area Continuum of Care	Organization that Represents Covered Populations	Community Outreach		https://www.pwcva.gov/department/social-services/about-continuum-care
Prince William County Chamber of Commerce Veterans Counci	Organization that Represents Covered Populations	Community Outreach	Veterans council	https://pwchamber.org/the-chamber/committees-and-councils/
Prince William County Department of Social Services Kofi Djanphie	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Department of Social Services, Tierney, Courtney S	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Dept. of Information Technology	County or Municipal Government	Plan Development		https://www.pwcva.gov/department/information-technology
Prince William County Government	County or Municipal Government	Community Outreach	Local Government	https://www.pwcva.gov/department/library
Prince William County Government - Fritts, Lynn		Community Outreach	PWC CoC	
Prince William County Government - Giovia, Jacob	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government Jennings, Phyllis	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Ansher, Alison	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Bassette, Angela	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Beander, Chandra	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Bell, Yolanda	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Bresier, Berley	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Burgos, Maria	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Cayetano, Duanchy	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Elijah Johnson	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Golden, Tonya	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Gravette, Jeanine	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Taylor, Luke	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Government, Turnage, Tony D.	County or Municipal Government	Community Outreach	PWC CoC, Community Needs	
Prince William County Housing Department - Duckett, Joan S.	County or Municipal Government	Community Outreach	PWC CoC	
Prince William County Public Library	Community Anchor Institution	Community Outreach		https://www.pwcva.gov/department/library
Professionals By Design, Jinnae Monroe	Workforce Development Organization	Community Outreach	PWC CoC, Career Development	
PWC Chamber Veterans Council	Industry Representative or Association (501c6)	Community Outreach		
PWC CoC	Industry Representative or Association (501c6)	Community Outreach		
PWC Service CoC Committee	Industry Representative or Association (501c6)	Community Outreach		
Robin Robinson		Community Outreach	PWC CoC	
Sacred Heart Catholic Church, Dianne Anderson	Other	Community Outreach	PWC CoC, Homeless	
Saved Hand, Inc. savedhandsinc.2008@yahoo.com	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Homeless, Suicide, Workforce Dev.	
Sentara Health, Wendy Atkinson	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Healthcare	
Sentara Healthcare, Deja Mapp	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Healthcare Needs	
Sentara Healthcare, Erica Wickline	Other	Community Outreach	PWC CoC, Healthcare Needs	
Sentara Healthcare, Tracy J. Hollis	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Healthcare Needs	
Stephanie Edwards <edwardsj@pwcs.edu	Local Education Agency	Community Outreach	PWC CoC	
Tamara F. Eppolite <EppoliTF@PWCS.EDU	Local Education Agency	Community Outreach	PWC CoC	
The Friendship Place, Vanessa Merriweather	Community Anchor Institution	Community Outreach	PWC CoC, Homeless	
The Greater Prince William Alliance, Peggy Kimmey		Community Outreach	PWC CoC, Community Needs	
The Litaker Foundation, Norman Beal	Foundation	Community Outreach	PWC CoC, Veterans / Homeless	
The Streetlight, Gabriele Tibbs	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Homeless	
The Streetlight, Rose Powers	Nonprofit Organization (501c3)	Community Outreach	PWC CoC, Homeless	
Top Of Virginia Realtors, Ann Rychlik		Community Outreach	PWC CoC	
Top Of Virginia Realtors, Tom Smith <tsmithm@comcast.net	Other	Community Outreach	PWC CoC	
Tracey Thomas <tthomas@cardinalresources.org		Community Outreach	PWC CoC	
UVA Health, Rozlyn Giddens <rab2uu@uvahealth.org	Health or Telehealth Organization (Direct Service and Policy focus)	Community Outreach	PWC CoC, Healthcare Needs	
Veronica Pinckney <infinitecommunityhousing@gmail.com		Community Outreach	PWC CoC	
Virginia Defenders, kmcduffie <kmcduffie@vadefenders.org	Other	Community Outreach	PWC CoC, Indigent Defense Commission	
Virginia Employment Commission, Edward R. Williams	County or Municipal Government	Community Outreach	PWC CoC	
Virginia Employment Commission, Serena Bermudez	County or Municipal Government	Community Outreach	PWC CoC	
Virginia Premier, Carol Wilson	Other	Community Outreach	PWC CoC, Healthcare Needs	
Watkins, David C. <dwatkins@pwcgov.or	County or Municipal Government	Community Outreach	PWC CoC	

Regional Digital Opportunity Plan

Loudoun County

People inc.
Building Futures, Realizing Dreams™

August 2023

TABLE OF CONTENTS

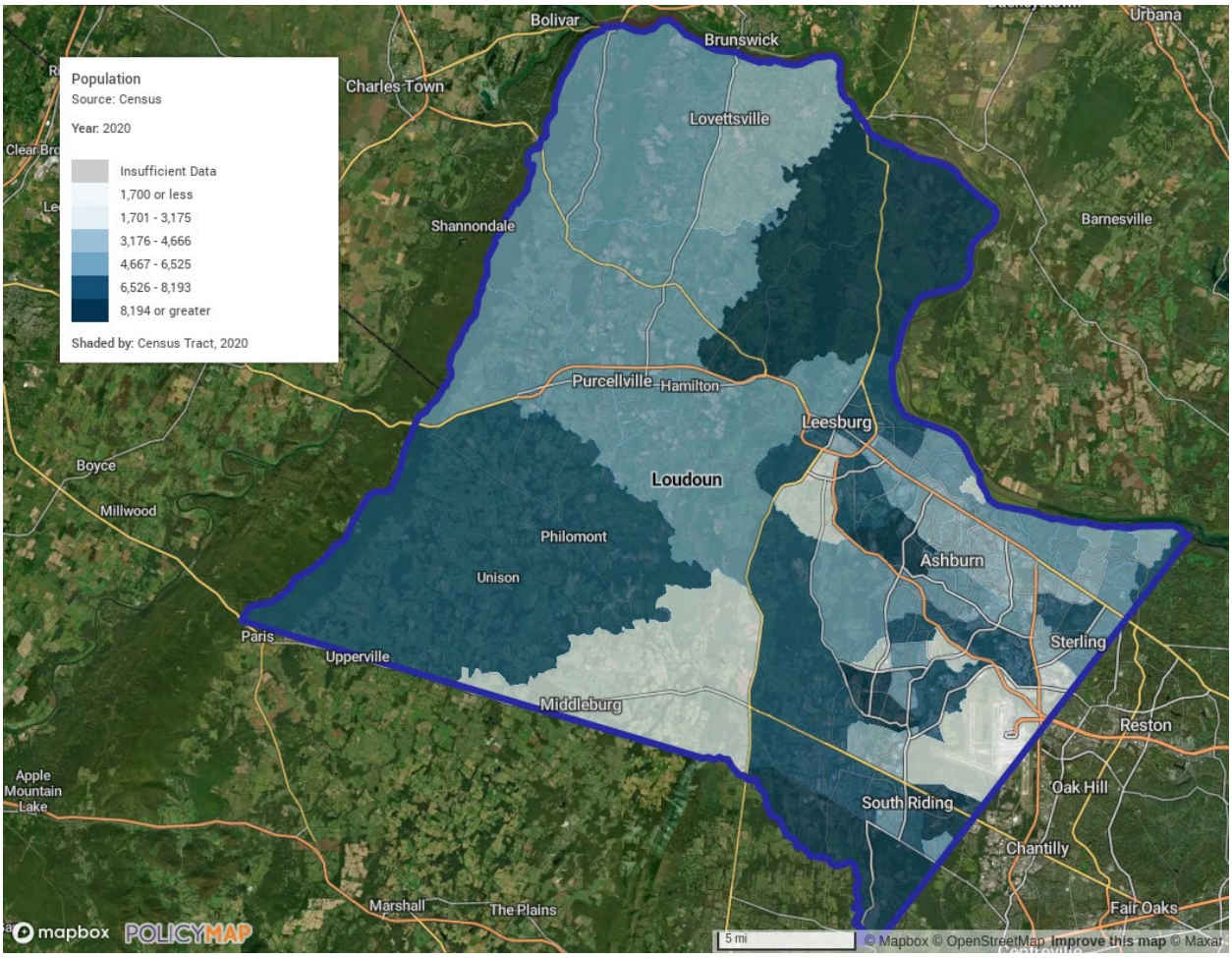
Executive Summary 5
Introduction and Vision for Digital Opportunity 11
Defining Digital Equity 11
Digital Equity in Loudoun County 11
Current State of Digital Opportunity: Barriers and Assets 12
Existing Resources, Programs and Strategies Working to Address Digital Equity 12
Regional Demographics 13
Barriers to Digital Equity 13
Individuals who Primarily Reside in a Rural Area 13
Covered Households (150% of Poverty or less) 15
Population with Language Barriers 15
Aging Individuals (60+) 17
Individuals with Disabilities 19
Individuals who are Incarcerated ..... **Error! Bookmark not defined.**
Other Primary Target Populations 20
Additional Target Populations for Loudoun County 20
Collaboration and Stakeholder Engagement 25
Survey Distribution Efforts 25
Focus Group Outcomes 25
Identified Needs to Promote Digital Equity ..... **Error! Bookmark not defined.**
Interviews with Key Informants 27
Implementation 28
Barriers to Digital Opportunity 28
Target Populations ..... **Error! Bookmark not defined.**
Implementation Strategy 33
Coordination with Key Partners and Stakeholders ..... **Error! Bookmark not defined.**
Priorities for Implementation ..... **Error! Bookmark not defined.**
Timeline 41
Mechanisms for Plan Update 42
Statewide Activities ..... **Error! Bookmark not defined.**
Conclusion 43
Key Points 43
Impact on Digital Opportunity in the Region 44
Appendices 3

EXECUTIVE SUMMARY

ORIGIN OF PROJECT

In 2023, People Incorporated began an extensive community input and data collection effort in order to create a Regional Digital Opportunity Plan as part of a statewide effort overseen by the Virginia Department of Housing and Community Development (DHCD). This goal of the project was to identify the barriers to effective and meaningful use of broadband for selected populations, identify key factors in the service area that define unique service challenges, and develop a preliminary plan to address them for implementation by both public and private sectors.

Loudoun County is home to over 411,000 individuals according to the 2021 American Community Survey covering 515 square miles. It is a diverse community in Northern Virginia. The eastern portion of the county consists of high-density suburban development with large portions of low-income households and a diverse population of native and foreign-born population. The western portion of the county is low-density rural development occupied primarily by higher-income households.



FRAMEWORK OF ASSESSMENT

The National Digital Equity Alliance states the "Digital Divide is the issue, Digital Equity is the goal, and Digital Inclusion is the work." The framework for this report supports this belief by first defining the specific obstacles creating the digital divide, developing a plan to achieve digital equity, and recommending implementation methods with inclusivity as a guiding principle.

A comprehensive assessment process, including evaluation of existing data, facilitation of focus groups and community listening sessions, coordination of key informant interviews, cataloguing existing resources, and distribution of a statewide digital survey provided a broad data set from which to draw conclusions and recommendations. Participants in this process included schools and educational services, municipal representatives from departments such as management, library services, social services, corrections, and economic development, employment services, Community Action Agency program participants, non-profit staff, government programs, community members, internet service providers, regional thought leaders and subject matter experts. The resulting plan identifies both the barriers to digital equity and an implementation plan to eliminate them. These efforts focused on the region at large and the Target Populations identified by the Digital Equity Act of 2021, including:

DIGITAL DIVIDE IS THE ISSUE, DIGITAL EQUITY IS THE GOAL, AND DIGITAL INCLUSION IS THE WORK.

- Individuals living in households below 150% of the federal poverty level;
- Aging individuals;
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility;
- Veterans;
- Individuals with disabilities;
- Individuals with a language barrier, including individuals who—
    - Are English learners; and
    - Have low levels of literacy
- Individuals who are members of a racial or ethnic minority group; and
- Individuals who primarily reside in a rural area

Barriers exist throughout the region, along with inequities mirroring those found in society at large. Those digital-equity-barriers magnify social inequalities which further highlight the disproportionate impact on those with low incomes, persons with disabilities, the incarcerated, aging individuals, veterans, those with language barriers, members of racial or ethnic minority groups, and those who live in rural locations. Many of the recommendations included can be implemented across the entire region with modifications reflecting local conditions. Population-specific challenges faced by across the region are also included.

Despite the large and diverse area included in this assessment there are overarching commonalities in the obstacles faced. Proposed solutions provide realistic goals that address the needs of communities within the coalition service area, and for those subsets that have distinctly unique concerns. Consequently, funding to implement regional Digital Opportunity Plan activities will have the highest impact where it is attuned to the shifting dynamics within the region. Funding will need to be extremely flexible and responsive to the particular obstacles of numerous target populations across the region to best overcome the barriers to digital equity faced by those living and working there.

The planning team assessed our region on the activities needed to ensure digital inclusion as identified by the Digital Equity Act of 2021 which include:

- **Broadband Availability & Affordability:** Is high-quality broadband available at a price residents are willing to pay?
- **Online Accessibility & Inclusivity:** Are websites accessible, readable, and functional for the general public, those with disabilities, and those with language barriers?
- **Digital Literacy:** Do individuals know enough about using a computer and the internet to take full advantage of it?
- **Online Privacy & Cybersecurity:** Are individuals able to protect themselves on the internet from identity theft, online predators, and other threats?
- **Device Availability & Affordability:** Can individuals get access to a computer or afford to buy one?

FINDINGS

The overarching need in the county is a network of Digital Navigators that can develop a personal relationship with individuals and help them access the resources available to them. Developing such a network will help overcome many of the barriers to digital equity. On a broader scale, the impact of the barriers varies by population and solutions must generally be tailored to meet the needs of that population.

1. Broadband/Internet Affordability
    - Target Populations:
        - Individuals with incomes under 150% of Poverty
        - Immigrants (including those speaking English as a Second Language and Minorities)
    - Priority Solutions
        - Expanded outreach for Affordable Connectivity Program performed by non-profits within the county who have established relationships with the target populations.
        - Installation of Wi-Fi networks in low-income rental communities (specifically those in Title I school districts) so that free access to the internet does not require any additional registration.
2. Privacy and Cybersecurity
    - Target Populations
        - Individuals with Disabilities
        - Aging Individuals
        - Students
    - Primary Solutions
        - Marketing/informational campaigns regarding cybersecurity and active scams
        - Marketing/informational campaigns regarding social media risks targeted to students and parents
        - Classes targeted to individuals with disabilities and aging individuals to be presented in a comfortable environment and address their specific needs.
3. Digital Literacy
    - Target Populations:
        - Aging Individuals
        - Individuals with a Language Barrier
        - Individuals with Disabilities
    - Primary Solutions:

        - Digital literacy classes in a variety of settings targeted to the identified population and offered at different skill levels and to meet specific needs.
4. Online Accessibility
    - Target Populations:
        - Individuals with a Language Barrier
        - Individuals with Disabilities
    - Primary Solutions:
        - Expand website accessibility efforts throughout the county by offering education and technical assistance
5. Device Access and Affordability
    - Target Populations:
        - Individuals with incomes under 150% of Poverty
    - Primary Solutions
        - Program to offer the opportunity to purchase a computer at a reduced cost upon completion of a digital literacy/cybersecurity training class.
        - Local recycle/repair/redistribution program for devices.
        - Partner with national refurbishment organizations to secure devices for redistribution.
6. Broadband/Internet Access
    - Target Populations:
        - Residents in Primarily Rural Areas
    - Primary Solutions:
        - Complete existing VATI project and planned effort to infill access to remaining unserved addresses

ACTION STEPS

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. DEVELOP PARTNERSHIPS BETWEEN GOVERNMENT, NON-PROFITS, AND PRIVATE ENTITITES TO COORDINATE RESOURCES AND MAXIMIZE THE SHARING OF INFORMATION IN ORDER TO CONNECT THOSE MOST IN NEED TO AVAILABLE SERVICES.

Loudoun County already has an extensive network of resources to create digital opportunities for residents. Any attempt to further goals towards digital equity is to coordinate those efforts. This will involve a three-pronged approach.

STEP 1: LOUDOUN COUNTY DIGITAL OPPORTUNITY DIVISION

One or more positions need to be established within Loudoun County government tasked with coordinating these efforts. Ideally, a small office would include staff with expertise in both the infrastructure and socioeconomic aspects of addressing digital equity.

STEP 2: LOUDOUN COUNTY DIGITAL OPPORTUNITY COUNCIL

The Council, to be led by the County government, will also include representatives from multiple areas of the county government in order to inform both the technical/infrastructure and socioeconomic aspects of digital opportunities. Recommended participants include:

- Department of Information Technology;
- Department of Family Services;
- Department of Housing and Community Development;
- Loudoun County Public Schools;
- Private schools;
- Workforce organizations;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations, specifically including those representing target populations.

STEP 3: ESTABLISH A DIGITAL NAVIGATOR NETWORK

To be overseen by the county's Digital Opportunity Office or another organization selected by RFP, the Digital Navigator Network will consist of a small group of lead Navigators working directly for the county who train and coordinate efforts with a network of Navigators working throughout the county ways that bring them into direct contact with the target populations in a trusting, meaningful way. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights, immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

2. EXPAND ACCESS TO THE INTERNET AND DEVICES IN A WAY THAT IS AFFORDABLE TO THE CONSUMER

With one large VATI project underway and another small infrastructure project planned that will bring access in the county above 95% in the next one to three years, the primary concern for the county is affordability and access to devices.

STEP 1: INITIATE A CAMPAIGN TO INCREASE ENROLLMENT IN THE AFFORDABLE CONNECTIVITY PROGRAM.

This will be greatly facilitated by a Digital Navigator Network. The biggest barrier to ACP enrollment is the difficulty of the enrollment process itself. The second barrier is a distrust of government resources, specifically among the immigrant community. Digital Navigators, with the aid of a local marketing campaign, can help overcome this.

STEP 2: EXPAND WI-FI HOTSPOT AVAILABILITY IN LOCATIONS THROUGHOUT THE COUNTY.

This need is greater in the western portion of the county where internet access is still being expanded. Efforts to do this are hampered by the lack of cell phone service in the region as well. Investing in public spaces with open-access wi-fi that have adequate lighting and seating will help alleviate the short-term access problems and affordability problems for individuals long-term. Installation on public transportation is also a way to reach lower income households.

STEP 3: INSTALL WI-FI INTERNET SYSTEMS IN LOW-INCOME APARTMENT BUILDINGS

Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as residents can then be supplied with service for free or at a reduced cost.

3. EXPAND ACCESS TO AND AVAILABILITY OF EXISTING RESOURCES IN THE COMMUNITY

With the Digital Navigators and Digital Opportunity Network in place, meeting the third goal should occur naturally.

STEP 1: PROMOTE EXISTING RESOURCES TO LOCAL RESIDENTS TO INCREASE PARTICIPATION.

STEP 2: CREATE NEW RESOURCES TO ADDRESS KNOWN GAPS IN SERVICES.

STEP 2: MONITOR AND EVALUATE PARTICIPATION IN EXISTING PROGRAMS TO IDENTIFY WHERE RESOURCES MOST NEED TO BE EXPANDED.

STEP 3: MAKE FUTURE INVESTMENTS BASED ON EVALUATION DATA.

INTRODUCTION AND VISION FOR DIGITAL OPPORTUNITY

DEFINING DIGITAL OPPORTUNITY

Loudoun County embraces the definition adopted by Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

DIGITAL OPPORTUNITY IN LOUDOUN COUNTY

Digital Opportunity in Loudoun County should be available to all residents regardless of their income, residence, immigration status, language skills, education level, age, or level of disability. This means that all residents should have access to internet that they can afford and a device appropriate to meet their needs. They should also have the skills they need to productively use the internet and remain safe. The county is obligated to provide information to residents on websites that are accessible to the population at large.

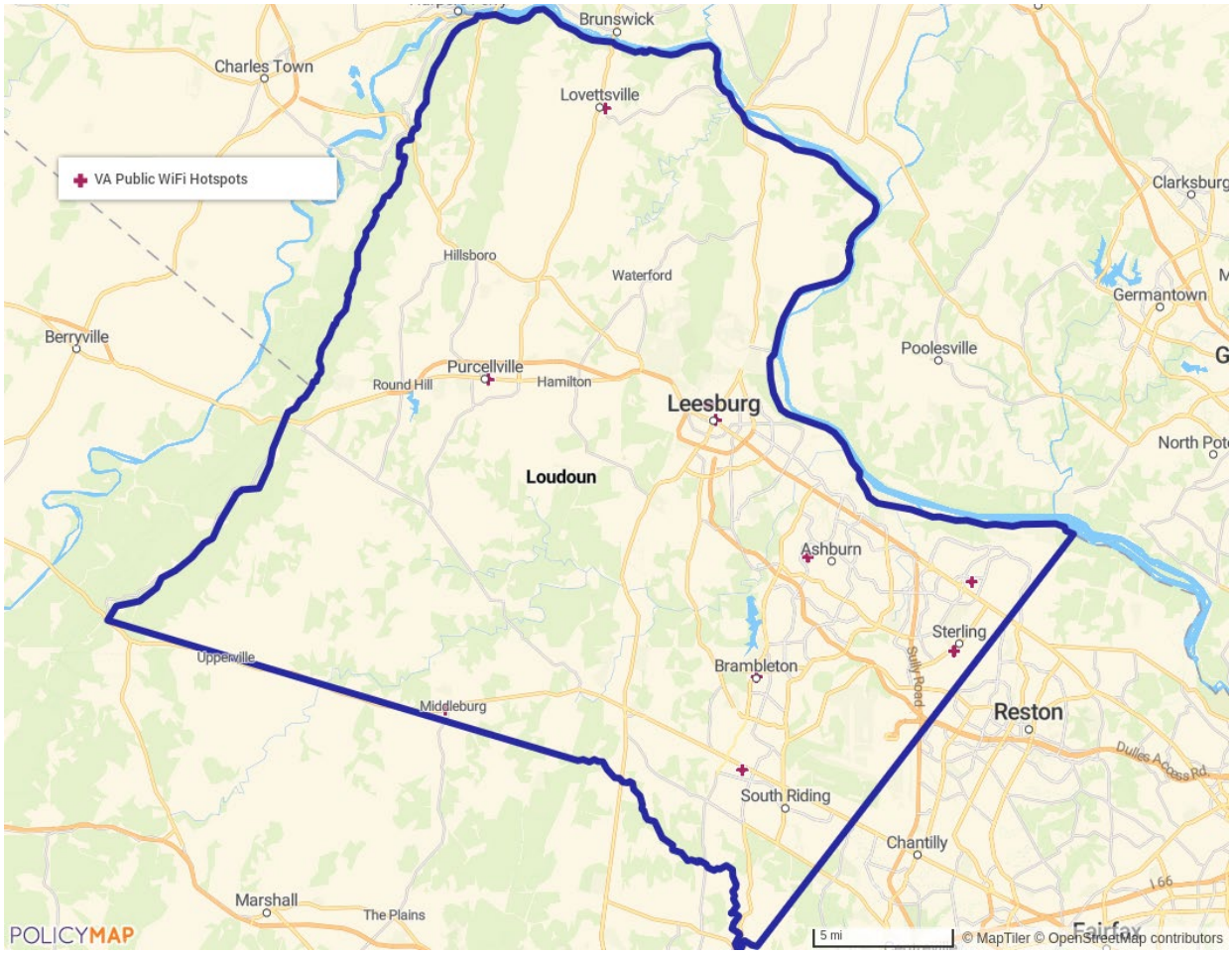
CURRENT STATE OF DIGITAL OPPORTUNITY: BARRIERS AND ASSETS

EXISTING RESOURCES, PROGRAMS AND STRATEGIES WORKING TO ADDRESS DIGITAL EQUITY

Loudoun County has an extensive array of resources available to promote digital opportunities for county residents. Highlights include:

- Loudoun County Public Schools (LCPS) provide a digital device for all students PK3-12.
- LCPS provides digital citizenship training for students beginning in second grade.
- Both county and school websites are regularly audited for accessibility and upgrades made accordingly.
- All public libraries offer free wi-fi internally and externally, computers and other digital devices for use on site, and digital literacy classes.

The attached Asset Inventory provides a more detailed assessment of the resources already in place to address barriers to Digital Equity. The map below shows the public Wi-Fi hotspots available in Loudoun County. The data is provided by Commonwealth Connect.



In addition to the locally provided assets, the Affordable Connectivity Program has the ability to remove the barrier to affordability many households in Loudoun County face. However, enrollment in the county has not been successful. Data from Education Superhighway shows only a 14% adoption rate in Loudoun County.[1]

REGIONAL DEMOGRAPHICS

The data on the table below is from the U.S. Census Bureau's Digital Equity Act Population Viewer.[2] The Census Bureau partnered with National Telecommunications and Information Administration to calculate the population qualified for Digital Equity Act services based on the targeted populations identified in the legislation.

Loudoun County Covered Population Data		
Rural Status	Not rural	
	Total	**Percent**
Total Population (2019)	413,538	
Covered Population	305,827	74%
Pop <150% of Poverty	26,100	6.7%
Aging Population	52,490	13.3%
Incarcerated Population	448	0.1%
Veteran Population	21,956	5.6%
Population w/ Disabilities	23,220	5.9%
Population w/ Language Barriers	61,910	15.7%
ESL Population	36,011	9.8%
Population w/ Low Literacy Skills	46,730	11.3%
Minority Population	173,426	43.9%
Rural Population	81,210	20.6%
% of HHs w/ No Fixed Broadband	535	0.4%
Households w/ no broadband or computer	15,652	4.0%
Source: U.S. Census Bureau's Digital Equity Act Population Viewer, 2019 Data		

BARRIERS TO DIGITAL EQUITY

The barriers to digital equity are similar for all target populations in the Loudoun County region. The primary difference is the significance of the barrier and the solution to it. Overall, the priority for addressing the barriers to digital equity in the region are:

1. Broadband/Internet Affordability
2. Privacy and Cybersecurity
3. Digital Literacy
4. Online Accessibility
5. Device Access and Affordability
6. Broadband/Internet Access

[1] This calculation is based on data provided in the ACP Enrollment Dashboard for locations in Loudoun County. Adoption rates in the region vary widely from 8% to 68%. https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard
[2] https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html

COVERED HOUSEHOLDS (150% OF POVERTY OR LESS)

Although not the largest population subgroup in the county, those living in poverty do have some of the most difficult barriers to digital opportunity.

Percent of Households:	**BARRIERS TO DIGITAL EQUITY:**
6.7%	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. 3. 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. **SOLUTIONS TO DIGITAL EQUITY:** 1. Expansion of outreach efforts and assistance in enrolling households in the Affordable Connectivity Program and/or other subsidy programs as they become available. 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. 4. Programs that provide digital literacy and cybersecurity training followed by an opportunity to purchase a computer. 5. Digital Navigator services to help clients identify the resources available to them and "navigate" through the enrollment process. 6. Digital Literacy courses available in a variety of settings and for all levels of knowledge, including online, to help individuals grow their skills in order to engage in the online world.

POPULATION WITH LANGUAGE BARRIERS

In identifying the percentage of the population with language barriers, the U.S. Census Bureau's Digital Equity Act Population Viewer considers both those who speak English less than "very well" and those who have low levels of literacy.[3] There is some overlap in these two populations.

POPULATION SPEAKING ENGLISH AS A SECOND LANGUAGE

The county has a large and diverse population of non-English speakers with the Public Schools reporting 93 different languages accommodated among their students. In Loudoun County, only 9.8% of the population is

[3] The estimate of those with Language Barriers is derived from 2015-2019 ACS 5-Year file (for speaks English less than "very well") and 2017 Program for the International Assessment of Adult Competencies (PIAAC) Household file and 2012/2014/2017 PIAAC State and County Small Area Estimates of Adult Skills on Literacy and Numeracy (for low literacy) from the National Center for Education Statistics.

identified by the Digital Equity Act Population Viewer as speaking English less than “very well.” Data from the 2021 American Community Survey shows that 31.7% of the population speaks a language other than English including 10.6% who speak Spanish, the most prevalent among them.

Loudoun County Non-English Speakers	
Total - Speak a Language Other Than English	126,797
Percent - Speak a Language Other Than English	31.7%
Percent Who Speak English Less Than "Very Well" by Primary Language*	
Spanish:	41.6%
French (incl. Cajun):	9.8%
Haitian:	0.0%
Italian:	70.2%
Portuguese:	0.0%
German:	12.3%
Yiddish, Pennsylvania Dutch or other West Germanic languages:	0.0%
Greek:	0.0%
Russian:	50.9%
Polish:	0.0%
Serbo-Croatian:	50.3%
Ukrainian or other Slavic languages:	0.0%
Persian (incl. Farsi, Dari):	38.2%
Gujarati:	19.9%
Hindi:	9.5%
Urdu:	31.7%
Punjabi:	30.8%
Bengali:	35.2%
Nepali, Marathi, or other Indic languages:	26.7%
Other Indo-European languages:	25.5%
Telugu:	18.8%
Tamil:	4.9%
Malayalam, Kannada, or other Dravidian languages:	0.0%
Chinese (incl. Mandarin, Cantonese):	42.4%
Japanese:	24.1%
Korean:	44.3%
Vietnamese:	65.5%
Khmer:	4.9%
Thai, Lao, or other Tai-Kadai languages:	38.8%
Other languages of Asia:	38.6%
Tagalog (incl. Filipino):	9.8%
Ilocano, Samoan, Hawaiian, or other Austronesian languages:	57.5%
Arabic:	27.3%
Amharic, Somali, or other Afro-Asiatic languages:	37.5%
Yoruba, Twi, Igbo, or other languages of Western Africa:	0.0%
Other and unspecified languages:	32.3%
* Information is presented as a percent of the individuals speaking the primary language rather than as a percent of the total county population. Only languages spoken in the county are represented.	
Source: US Census ACS 1-Year Estimates Detailed Tables, 2021	

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
9.8%	1. Digital Literacy: While this is an issue for the county at large, it is exacerbated for this population by low literacy skills and the immigration concerns that often come with the ESL population. 2. Online Accessibility: Language options are an important part of the accessibility of websites. Spanish is the second most prevalent language in the county. LCPS also takes steps to accommodate Farsi, Korean, French, and German whenever possible. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable. 3. With so many different languages spoken by county residents, it is important the county websites be easily translatable through Google translate or other similar online services.

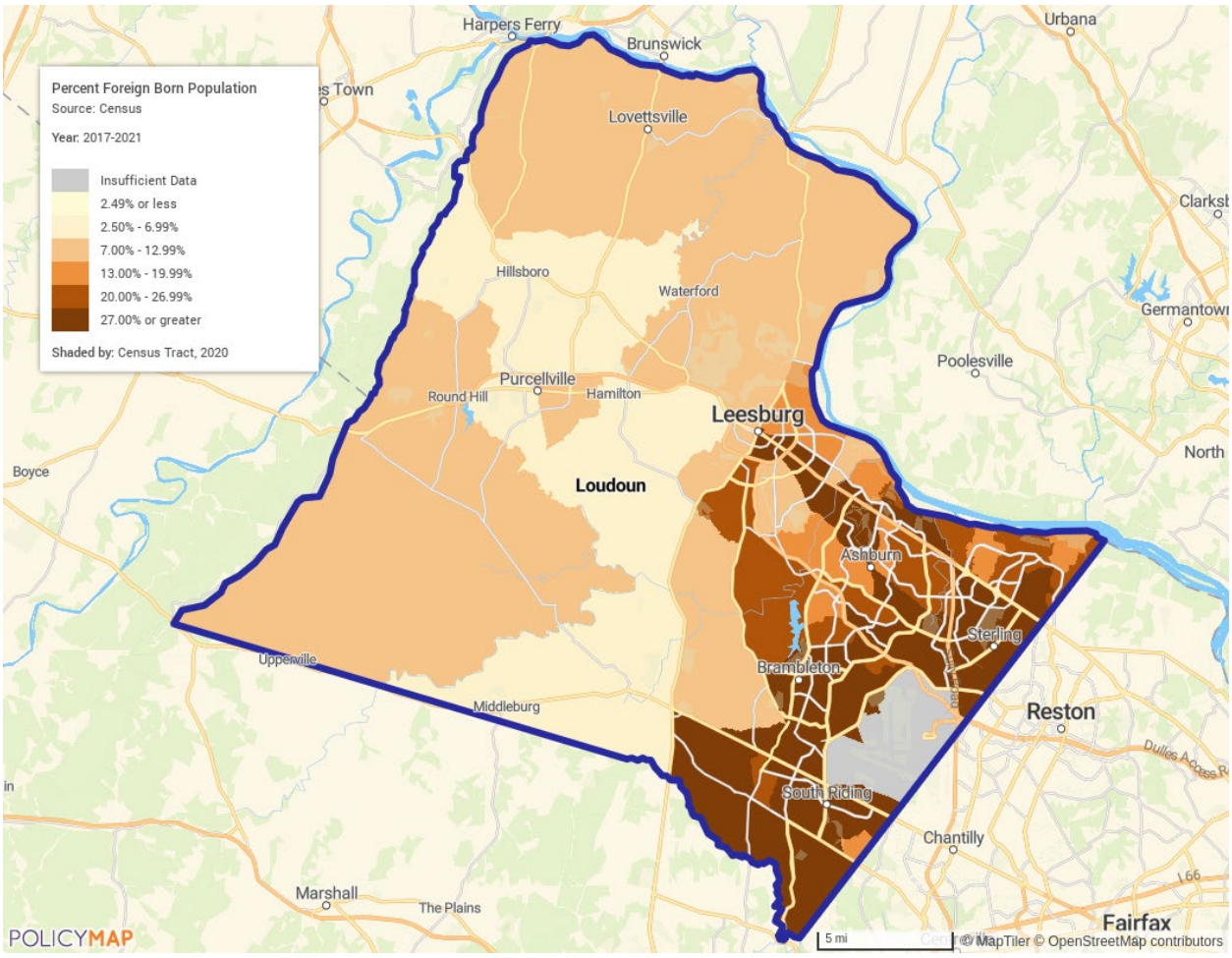
POPULATION WITH LOW-LITERACY SKILLS

Closely tied to those who have difficulty speaking English is those with low levels of literacy. Both these populations are most likely to receive assistance from Loudoun Literacy Council.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
11.3%	1. Digital Literacy: For those with basic language literacy issues, learning digital literacy will require a dedicated, slow approach. To address the intertwined issues of literacy, digital skills, and poverty, specific classes for those with low literacy skills will need to be developed. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge beginning with the most basic. Ideal settings include Adult Education/GED programs which are already working with this population as well as libraries, churches, and other locations where they will feel comfortable.

POPULATION IDENTIFYING AS MINORITY

More relevant than an individual's minority status is their immigration status. In Loudoun County, data from the U. S. Census Bureau's American Community Survey shows that 27.2% of the population is foreign-born and 10.9% is not a U.S. citizen. The map shows the distribution of the foreign-born population in the county.



Percent of Population identifying as Minority: 11.3% *Percent of Population Foreign-Born:* 27.2% *Percent of Population Not a U.S. Citizen:* 10.9%	**BARRIERS TO DIGITAL EQUITY:** 1. Internet Affordability: Census data shows that, while 3.32% of Loudoun County lives in poverty, 5.1% of non-citizens who do not speak English are in poverty. Therefore, affordability is more of an issue for aspects of their daily life. 2. Device Affordability: As with internet affordability, device affordability becomes more of an issue for households more likely to live in poverty. **SOLUTIONS TO DIGITAL EQUITY:** 1. Digital Navigator Network services to provide individuals with assistance from trusted resources to help them identify the resources available to them and provide services one-on-one both in person and over the phone.

AGING INDIVIDUALS (60+)

Aging Individuals are a relatively small portion of the population in Loudoun County compared to the more rural areas to the west, comprising only 13.3% of the population. For the most part, their barriers are the same as the population at large, including affordability and access. The biggest difference is in how they would need to be approached.

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
13.3%	1. Digital Literacy: Although better educated and generally more tech-savvy than the average older adult, there are still many in Loudoun County who are resistant to embracing technology and hesitant to learn the digital skills required for today's world. 2. Cybersecurity and Privacy: Linked with digital literacy skills, older adults are more likely to be targeted for cybercrimes and require more dedicated education about how to protect themselves. **SOLUTIONS TO DIGITAL EQUITY:** 1. 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. 2. Digital Literacy courses available in a variety of settings and for all levels of knowledge to help individuals grow their skills in order to engage in the online world. Ideal settings include libraries, senior centers, and churches as well as one-on-one in the person's home. 3. Library of videos about how to identify scams, protect your information online, and other cybersecurity/privacy issues that can be viewed as needed. 4. E-mail alerts about active scams sent from trusted sources such as the library, law enforcement agencies, or a Digital Navigator.

INDIVIDUALS WITH DISABILITIES

A relatively small portion of the county's population has a disability. Among them, the types vary widely and, therefore, the responses to meeting their digital needs will vary as well. The table below shows the county's population by type of disability according to the U.S. Census Bureau's 2021 American Community Survey Five-Year Estimates.

Percent of Civilian Noninstitutionalized Population with a Disability	
Total civilian noninstitutionalized population	411,218
Total population with a disability	**25,585**
Percent with a Disability	**6.2%**
hearing difficulty	1.9%
vision difficulty	1.1%
cognitive difficulty	2.1%
ambulatory difficulty	2.7%
self-care difficulty	1.0%
independent living difficulty	2.8%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021	

Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
6.2%[4]	1. Online Accessibility: The only barrier augmented for those with disabilities is online accessibility, primarily related to those with vision and hearing difficulties.

[4] This number from the 2021 ACS Five-Year Estimates of the U.S. Census is a slight variation from the U.S. Census Bureau's Digital Equity Act Population Viewer, which shows 24.4% of the population with a disability based on 2019 data.

	2. Digital Literacy: Digital literacy has two areas of concern. One is teaching individuals with disabilities, many of whom have cognitive difficulties, how to use basic digital devices. The second is providing access and training to assistive digital devices for those with disabilities designed to improve their quality of life. 3. Cybersecurity and Privacy: More intimately tied with digital literacy, privacy standards and cyber-etiquette is a significant concern for those with certain cognitive disabilities who need to be protected from the dangers and inappropriate content to be found online while learning what is and is not appropriate online behavior. **SOLUTIONS TO DIGITAL EQUITY:** 1. Education about and improvements to local websites with regards to online accessibility in keeping with ADA standards and the Web Accessibility Initiative. This can be facilitated through the county government, which already audits its own websites for accessibility. 2. Digital literacy classes hosted in conjunction with The ARC or other organizations specifically serving individuals with disabilities so that they are in a safe, comfortable atmosphere as they learn to navigate life online and address the issues that are specific to their needs. 3. Training on how to use assistive digital devices to improve their quality of life.

INDIVIDUALS WHO PRIMARILY RESIDE IN A RURAL AREA

Data from the U.S. Census Bureau's Digital Equity Act Population Viewer shows that 20.6% of the population in the Loudoun County Region resides in a rural area. This is the western portion of the county, which has been protected from development. In this area, internet access is currently the primary concern, but a VATI project is currently underway that will address this problem. What addresses are left unserved after this will be addressed through a county-funded project currently underway.

Percent of Population: 20.6%	**BARRIERS TO DIGITAL EQUITY:** 1. Access: The mountainous terrain and low-density development have made infrastructure deployment in the area slow and difficult. **SOLUTIONS TO DIGITAL EQUITY:** 1. Ongoing infrastructure development. 2. Expanded community-based wi-fi hotspots to create free access points.

OTHER PRIMARY TARGET POPULATIONS

The other target populations in the county represent a minimal portion of the whole and do not have barriers different than those already discussed. Therefore, there is no need to create any specific programs or services targeted to them.

	Southwest Region
% of Population who are Veterans	5.6%
% of Population who are Incarcerated	0.1%

ADDITIONAL TARGET POPULATIONS FOR LOUDOUN COUNTY

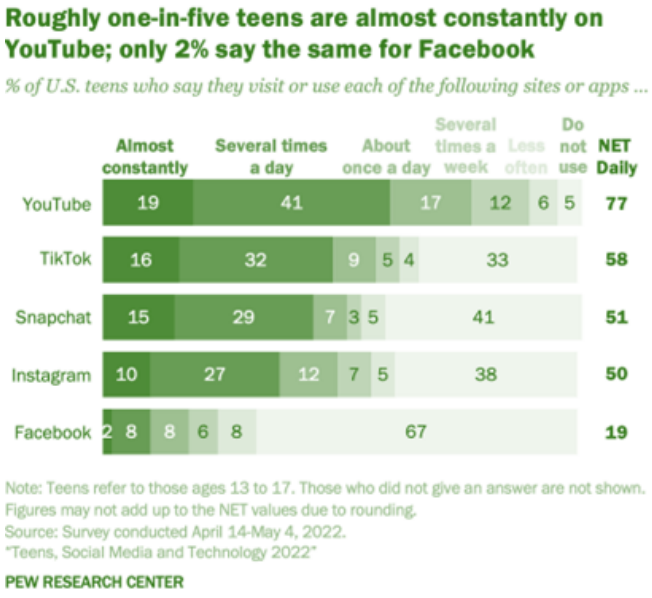
In addition to the target populations identified in the Digital Equity Act of 2021, Loudoun County has two other specific target populations that need to be prioritized. Although they also fall within the other categories, students and parents have specific, high-priority needs.

STUDENTS

The following table shows internet and computer access data for students three and over enrolled in school within Loudoun County according to the U.S. Census Bureau's ACS Five-Year Estimates for 2021.

Student Population without a Computer and/or Internet Subscription	
Population 3 and older (as a percent of total population)	96.0%
Percent of Population 3+ Enrolled in school:	**30.6%**
Pre-K to 4th Grade	33.1%
Has a computer and internet subscription	98.0%
No subscription or no computer	2.0%
5th to 8th Grade	22.7%
Has a computer and internet subscription	98.0%
No subscription or no computer	2.0%
9th to 12th Grade	22.7%
Has a computer and internet subscription	98.1%
No subscription or no computer	1.9%
Undergraduate or Higher	21.5%
Has a computer and internet subscription	98.1%
No subscription or no computer	1.9%
Source: US Census ACS 5-Year Estimates Subject Tables, 2021	

With school work increasingly being done online, students who are victims of the digital divide are falling further behind. They have difficulty completing school assignments without regular access to email and online tools. Students need convenient access to the internet and a reliable device.



There is growing concern about the dangers of children and teens being online, which creates another barrier to digital equity. A 2022 survey

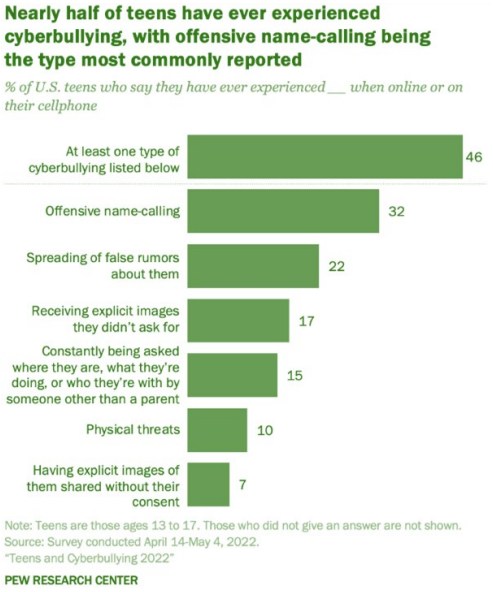
from Pew Research Center found that teens are almost always online using a variety of platforms.[5]

While the impact of this is still being studied, there is mounting evidence that both digital devices and social media negatively impact students. For instance, one recent study correlated eight hours or more of screen time per day with increased risk of depression in teens. "Excessive time on social media has been linked to "fear of missing out," cyberbullying, emotional insecurity and body-image problems. The time devoted to social media also inhibits in-person socializing, exercise and sleep, all of which are crucial for adolescents' emotional well-being."[6] Students will need resources to help navigate this barrier if internet expansion is to have more of a positive impact than negative.

Even teenagers admit the negative impact of social media with the Pew survey finding that nearly half of teens have been bullied or harassed online.

With this in mind, all attempts to increase internet and device access for students must also be concerned with protecting students from the dangers that lurk on the internet. Although Virginia Standards of Learning require digital literacy training for students, the extent and quality of that training varies. More standardization and resources would help improve outcomes.

Loudoun County Public Schools offers Digital Citizenship training beginning in second grade. It is Common Sense Media Certified and has a Trusted Learning Environment Seal. However, 13.9% of students in the county are not enrolled in school or are enrolled in a private school. They need additional resources.



Percent of Population:	**BARRIERS TO DIGITAL EQUITY:**
18.0%	1. Broadband Access: As is the case with the rest of the region, broadband access for students is limited due to availability and/or affordability. While the large majority of students do have access to internet, those who do not are those who are already most at risk due to their economic status. 2. Cybersecurity and Privacy: While privacy is a growing concern for students who need to learn basic information about protecting their identity online, this wide-ranging topic encompasses the much larger concern of social media use and its impact on teens. This was one of the most-mentioned topics in focus groups. **SOLUTIONS TO DIGITAL EQUITY:** 1. Wi-Fi installation in low-income rental communities in Title I school districts will have the most direct impact on providing affordable access to the most vulnerable students.

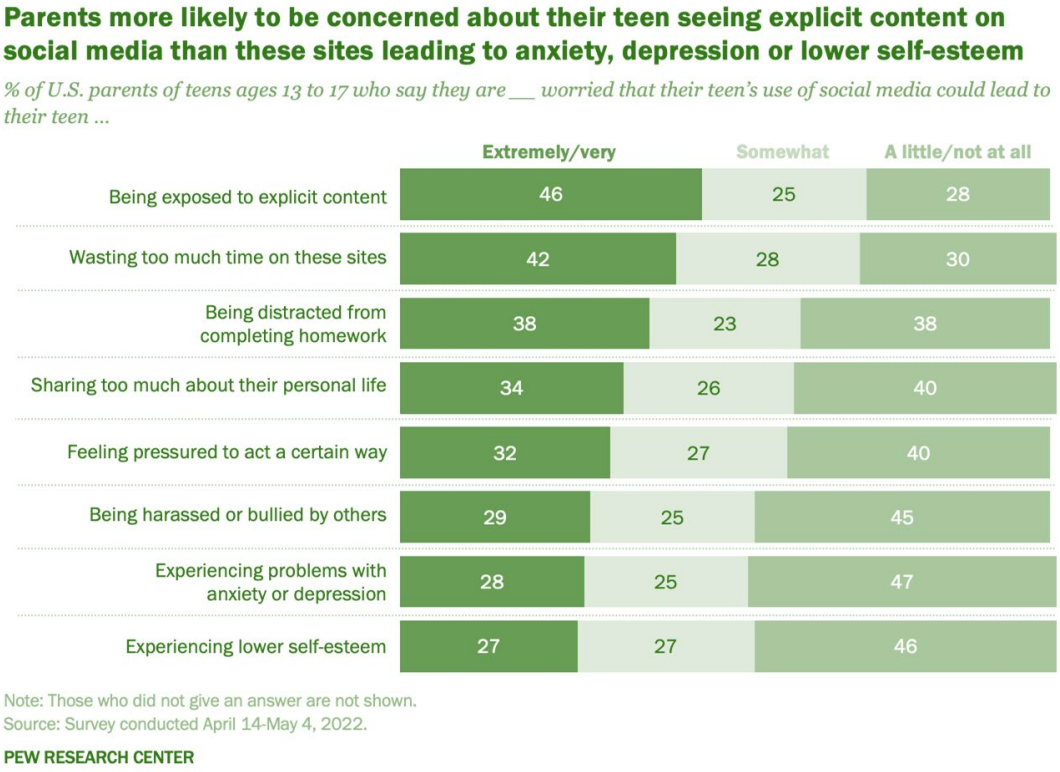
[5] Gelles-Wetnick, Risa. "Teens and social media: Key findings from Pew Research Center surveys," Pew Research Center, April 24, 2023. https://www.pewresearch.org/short-reads/2023/04/24/teens-and-social-media-key-findings-from-pew-research-center-surveys/
[6] Wilcox, W. Bradford and Riley Peterson. "It's Time to Treat Big Tech Like Big Tobacco," American Enterprise Institute, January 20, 2023. https://www.aei.org/op-eds/its-time-to-treat-big-tech-like-big-tobacco/

	2. Homework hours before and after school where students can remain and complete their homework with assistance while using school-based internet is also an option for those who have transportation available. Some schools already offer a "School and Fuel" program, but these are not widespread. 3. Public information campaigns related to social media and online threats to reach parents and students, particularly those outside the public schools.

PARENTS

Like children, parents have most of the same barriers as the rest of the population in the region, but they need to be addressed as a high priority concern and in a slightly different way. Their needs are interwoven with those of the students, but should be considered in addition to those of students.

A report by Pew Research Center identified the following as concerns parents have about their children being online.



Parents are going to need resources to address these barriers as internet and computer access expands.[7]

Percent of Households: 38.4%	**BARRIERS TO DIGITAL EQUITY:** 1. Digital Literacy: Many parents do not have the digital skills they need to manage the online systems the schools use to communicate with them and/or to help their children with their homework.

[7] Gelles-Wetnick, Risa. "Explicit content, time-wasting are key social media worries for parents of U.S. teens," Pew Research Center, December 15, 2022. https://www.pewresearch.org/short-reads/2022/12/15/explicit-content-time-wasting-are-key-social-media-worries-for-parents-of-u-s-teens/

	2. Cybersecurity and Privacy: Parents are concerned about the cybersecurity and privacy implications of students gaining increased access to the internet as well as the impact of social media. **SOLUTIONS TO DIGITAL EQUITY:** 1. Provide opportunities for parents to learn how to use the school student management system through school programs or in other casual environments. While the schools do provide some opportunities for education, it is limited to only the most basic needs. Partnering with other organizations can help parents feel more comfortable receiving assistance. 2. Provide education and resources to parents to help them understand the online dangers their children face and learn how to monitor their child's activities.

COLLABORATION AND STAKEHOLDER ENGAGEMENT

SURVEY DISTRIBUTION EFFORTS

People Incorporated worked with Northern Virginia Family Services, the Loudoun Broadband Association, the Loudoun Human Services Network, and the Rust Library in Leesburg to conduct outreach regarding the surveys. We also sent a postcard mailing to a targeted list. In addition, we made extensive efforts to market the survey via social media, which had a marked increase in the responses.

Social Media

- **All posts**
  - Twitter
    - June 12: Survey – 76 impressions
    - June 15: Survey – 100 impressions
    - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
    - June 28: Survey – 73 impressions
    - June 28: DHCD digital divide funding retweet – 80 impressions
    - July 11: Digital opp funding – 33 impressions
    - July 14: Survey – 28 impressions
  - Facebook
    - April 30: Community forums – 10,159 impressions
    - June 13: Survey
  - Instagram
    - June 29: Survey reel – 48 accounts reached
  - LinkedIn
    - June 12: Survey – 191 impressions

FOCUS GROUP OUTCOMES

The Community Action Agency partners hosted a series of focus groups from May through early June 2023 to seek feedback from individuals in the region. These meetings were advertised via e-mail, social media, flyers, and direct invitation over the phone and in person. We also worked with Northern Virginia Family Services, the Loudoun Broadband Association and the Loudoun Human Services Network to conduct outreach.

Marketing efforts included:

Social Media

- **Paid ads:**
  - May 1 – May 8: Boosted Facebook post advertising community forums- ad run in Rappahannock County, **Loudoun County**, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
    - Reach: 6,484
    - Link Clicks: 64

    - May 2 – May 22: Boosted Facebook posts advertising community forums- ad run in Rappahannock County, **Loudoun County**, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, and Madison County
        - Reach: 1,684
        - Link Clicks: 6
    - May 18 – June 1: Boosted Facebook post advertising community forums- ad run in Manassas Park Community Center (+1 mi), Potomac Community Library (+1 mi), Rappahannock County, **Loudoun County**, Greene County, Louisa County, Fauquier County, Orange County, Culpeper County, Prince William County, and Madison County
        - Reach: 15,032
        - Link Clicks: 175
- **All posts**
    - Twitter
        - April 29: community forums – 78 impressions
        - April 30: Loudon County forum – 72 impressions
        - May 1: Loudon County forum – 29 impressions
        - May 7: Community forums – 97 impressions
        - May 16: Community forums – 83 impressions
        - May 21: Community forums – 54 impressions
        - June 1: Community forums – 168 impressions
        - June 8: Loudon County forum – 88 impressions
        - June 27: Retweet from Richmond.com about broadband funding – 32 impressions
        - June 28: VaDHCD digital divide funding retweet – 80 impressions
        - July 11: Digital opp funding – 33 impressions
    - Facebook
        - April 30: Community forums – 10,159 impressions

Web Stories

- Register for upcoming community forums – www.peopleinc.net (Web Story)
- People Inc. to host community forums on bridging the digital divide - www.peopleinc.net (Press Release)
- Help Create Digital Opportunity For All - www.peopleinc.net (Web Story)
- Bridging the Digital Divide – Broadband and Computer Access for Everyone, InsideNOVA.com, May 15

Online Advertisements

- Evvnt.com calendar listing reaching 34 publishers for community forum on June 8th.

People Inc. Digital Newsletter

- May 1 - “Help us bridge the digital divide” (1 link click)
- June 1 - “People Inc. hosts forums on bridging the digital divide across Virginia” (10 link clicks)
- June 27 – Partner email focused on survey (50 Total Clicks)
- June 27 – Client email focused on survey (139 Total Clicks)
- July 3 - “Have you taken the digital equity survey?” (3 link clicks)

There was little interest in the digital equity forums despite extensive advertising. One meeting had two attendees. The following table shows the community meetings that were held throughout the county.

Date	Location	Target Audience	Attendance
5/4/2023	Middleburg Library	General Population	0
6/8/2023	Rust Library, Leesburg	Stakeholders and General Population	2
6/13/2023	Online	General Population	0
6/24/2023	Online	General Population	0

INTERVIEWS WITH KEY INFORMANTS

This plan relies heavily on interviews with key informants in the community. People Incorporated spoke with representatives from the following organizations and departments:

- Loudoun Broadband Association
- Loudoun Hunger Relief
- Loudoun County Department of Information Technology
- Loudoun County Department of Family Services
- Loudoun County Public Schools
- The ARC of Loudoun County

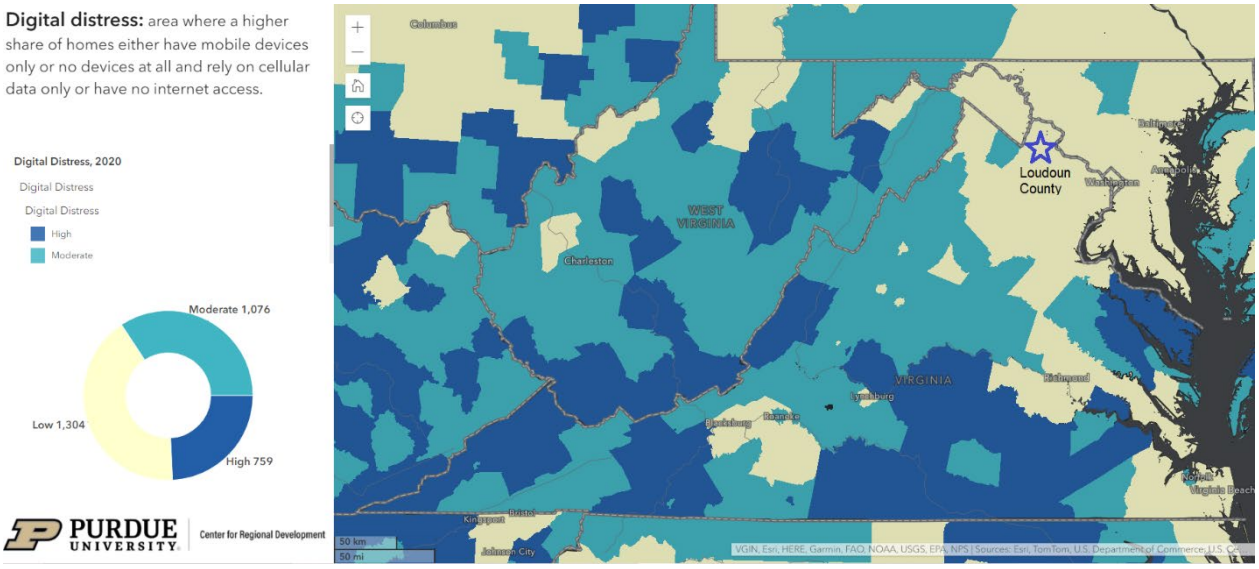
All of these organizations are considered key stakeholders that should be part of ongoing implementation efforts. Details on how the Region will coordinate the implementation of its plan with workforce agencies, labor organizations, and institutions of higher of learning can be found in Section 5, Implementation.

IMPLEMENTATION

BARRIERS TO DIGITAL OPPORTUNITY

Although the experience differs widely because of the diverse population, Loudoun County is, in general, fortunate to not be burdened by significant digital inequities when compared to other areas of the state. This is best shown on the map of Digital Distress developed by The Center for Regional Development at Purdue University developed a Digital Distress[8] calculation based on data from the American Community Survey that considers the percent of homes with no internet access, those using cellular data only, those with mobile phones only, and those with no computing devices. They then calculate a score and identify the county as low, moderate, or high distress. Areas of digital distress (the darker areas) are those with a higher share of homes having either mobile devices only, cellular data only, or no internet access. The map shows the county in the context of the state as a whole. It shows that Loudoun County, along with the rest of the Northern Virginia region, is in the Low level. The table shows the supporting data that is used to create the map.

	Loudoun
Cellular data only	5.70%
No internet access	2.90%
Mobile only	4.30%
No computer device	2.10%



The Center for Regional Development also developed the Digital Divide Index to compare barriers to digital opportunities based on infrastructure and socioeconomic characteristics. This provides an unbiased view of the factors influencing what they characterize as Digital Distress.[9] The Digital Divide Score is further assessed by an Infrastructure and Socioeconomic Score. This helps identify where the greatest barrier to Digital Equity lies. If the infrastructure score is higher, that would indicate a need to prioritize that area to increase access while a higher Socioeconomic Score would drive attention towards affordability, device access, and digital literacy. In Loudoun

[8] Gallardo, Robert and Benjamin St. German. :Digital Distress: What is?" April 18, 2022 https://pcrd.purdue.edu/digital-distress-what-is-it/

9 Gallardo, R. (2023). Digital Divide Index. *Purdue Center for Regional Development*. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi

The digital divide index (DDI) consists of three scores ranging from 0 (lowest divide) to 100 (highest divide) and includes ten variables grouped in two categories: infrastructure/adoption and socioeconomic. For purposes of analysis, the overall DDI score was utilized.

County, the infrastructure score is far higher than the socioeconomic score. Most of this barrier will be alleviated by the VATI project currently underway.

	Loudoun
Digital Divide Score:	1.8
Average Download Speed (Mbps)	204.6
Average Upload Speed (Mbps)	120
Population with no access to 100/20 (Mbps)	7.40%
No internet access	2.40%
No computer device	1.80%
Less than HS degree	6.10%
Poverty Rate	3.40%
Age 65+	9.60%
Disability Rate	6.10%
Internet Income Ratio	7.82
Infrastructure Score	2.51
Socioeconomic Score	0.82

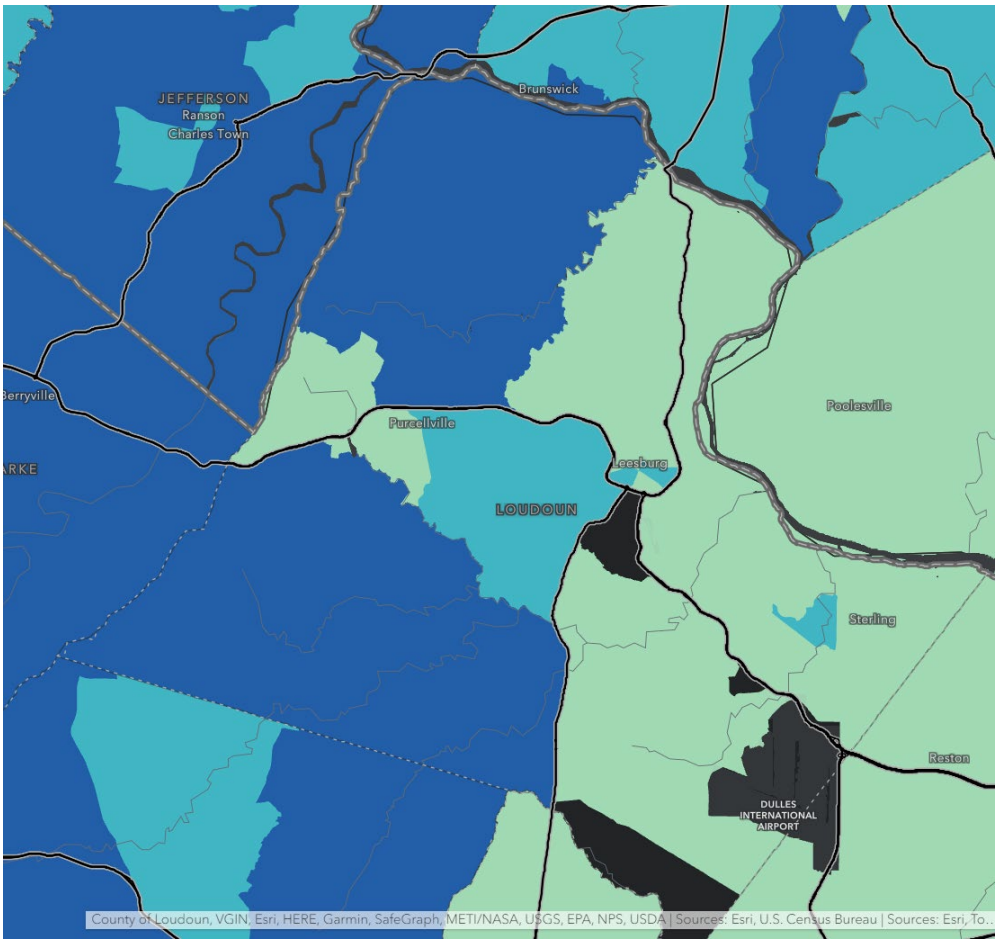
are divided into **Low**, **Moderate**, and **High** categories based on an 100 where 100 indicates the highest divide.

The data presented in the table is based on a national index comparing Loudoun County to every jurisdiction in the country. A statewide index is included in the Appendix. Within Virginia, Loudoun has the second lowest Digital Divide Index Score ranking below the City of Falls Church Its only weakness is in infrastructure.

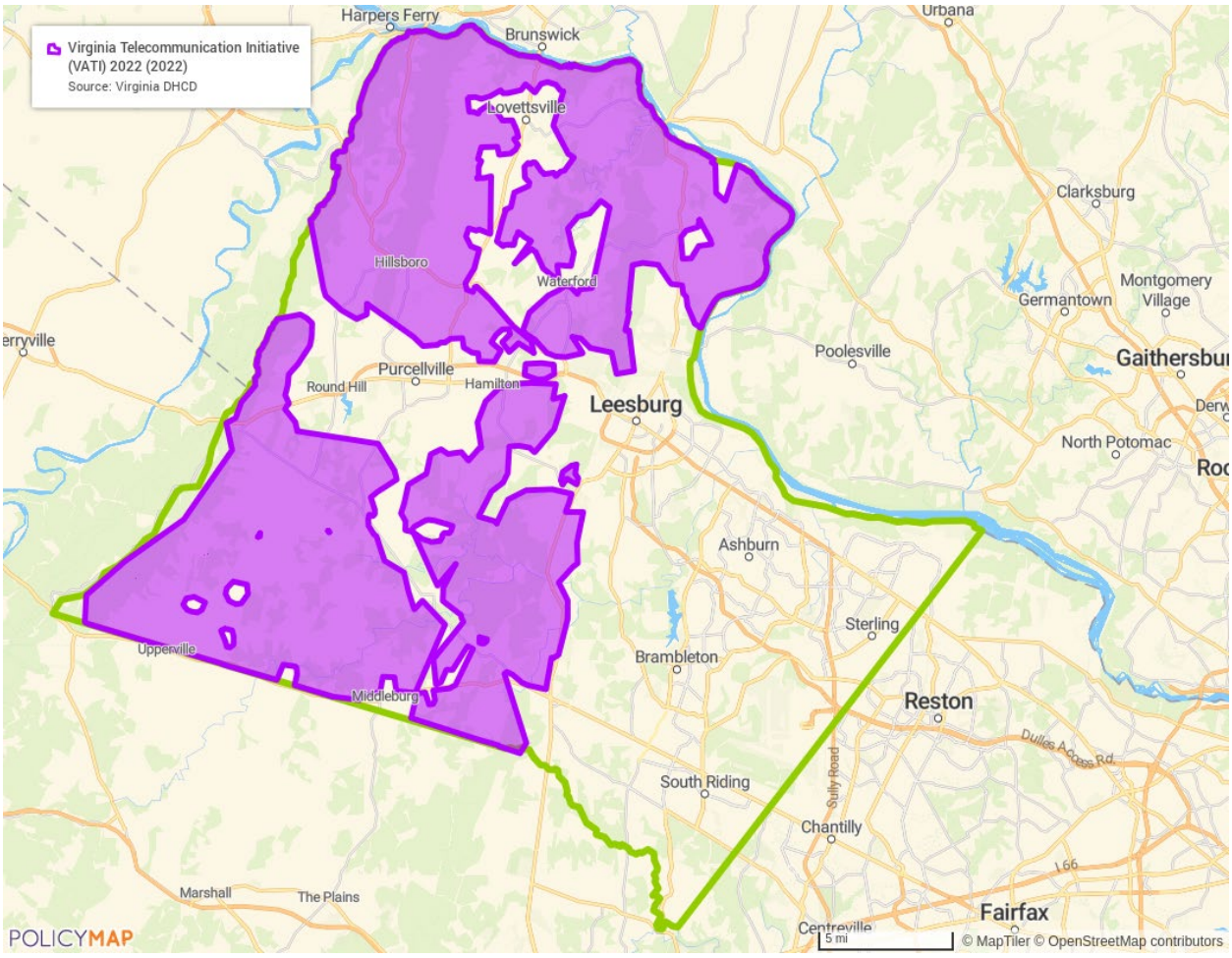
INFRASTRUCTURE SCORE[10]

The map below shows the infrastructure results for Loudoun County. The colors index that ranges from 0 to

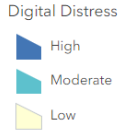
[10] The Infrastructure Score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests) (4) download and (5) upload speeds in Megabits per second (Mbps).



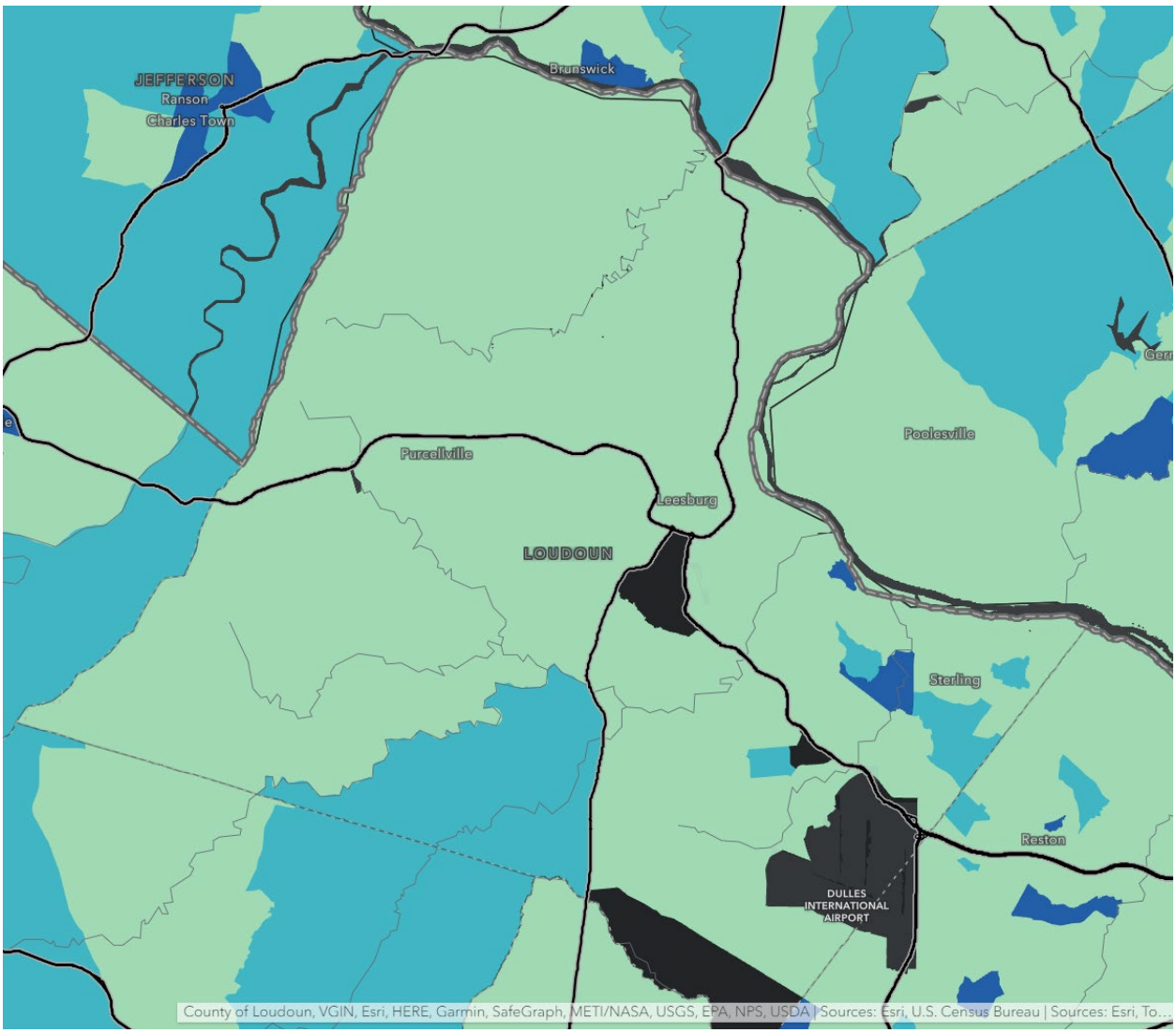
The map clearly shows that Loudoun County's infrastructure burden is in the western portion. This is where a large VATI project is currently underway as outlined on the following map.


Virginia Telecommunication Initiative (VATI) 2022 (2022)
Source: Virginia DHCD
Harpers Ferry
Brunswick
Urbana
Lovettsville
Clarksburg
Hillsboro
Waterford
Montgomery Village
Germantown
Poolesville
Gaithersbu
Purcellville
Round Hill
Hamilton
Leesburg
North Potomac
Ashburn
Sterling
Upperville
Brambleton
Middleburg
Reston
Dulles Access Rd
South Riding
Sully Road
Chantilly
Marshall
The Plains
Centreville
Fairfax
POLICYMAP
5 mi
© MapTiler © OpenStreetMap contributors

Socioeconomic Score[11]



With regards to the socioeconomic score, there are a few more pockets of moderate areas within the Loudoun County region. A comparison to places slightly further east of Virginia's panhandle near Roanoke shows a stark contrast with regards to the socioeconomic risks of the region.



[11] The socioeconomic score indirectly measures the potential for adoption of technology or potential of reinforcing existing inequities by factoring five data variables that are known to reflect the likelihood of adoption of technology: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; (4) percent of noninstitutionalized civilian population with a disability: and (5) internet income ratio measure (IIR).

IMPLEMENTATION PLAN

In order to develop the established vision for Digital Opportunity within the region, the following goals have been established.

1. DEVELOP PARTNERSHIPS BETWEEN GOVERNMENT, NON-PROFITS, AND PRIVATE ENTITITES TO COORDINATE RESOURCES AND MAXIMIZE THE SHARING OF INFORMATION IN ORDER TO CONNECT THOSE MOST IN NEED TO AVAILABLE SERVICES.

Loudoun County already has an extensive network of resources to create digital opportunities for residents. Any attempt to further goals towards digital equity is to coordinate those efforts. This will involve a three-pronged approach.

Step 1: Loudoun County Digital Opportunity Division

One or more positions need to be established within Loudoun County government tasked with coordinating these efforts. Ideally, a small office would include staff with expertise in both the infrastructure and socioeconomic aspects of addressing digital equity. The office will be responsible for:

- directing the bi-annual update of the Digital Opportunity plan; and
- serving as a resource for best practices and technical assistance to other organizations working to address Digital Opportunities in the Community.

Future Digital Equity plans will coordinate with local Consolidated Plans to occur on the same schedule and coordinate resources whenever possible. This will help meet the requirements established in 81 FR 90997 in December 2016 requiring that Consolidated Plans for jurisdictions "address the need for broadband access for low- and moderate-income residents in the communities they serve."[12]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
• Coordinate meetings and activities of Digital Opportunity Council. • Oversee Digital Navigator Network. • Serve as fiscal agent as necessary for distribution of Digital Opportunity funds from local, state, federal, and private sources. • Oversee completion of bi-annual Digital Opportunity Plan update.	• # of staff • # of meetings held • Outcomes of fiscal and program audits • Completion of Digital Opportunity Plan every two years	• Loudoun County Digital Opportunity Division

Step 2: Develop the Loudoun County Digital Opportunity Council to Coordinate with Key Partners and Stakeholders

The Council, to be led by the County government, will also include representatives from multiple areas of the county government in order to inform both the technical/infrastructure and socioeconomic aspects of digital opportunities. Recommended participants include:

[12] https://www.federalregister.gov/documents/2016/12/16/2016-30421/modernizing-huds-consolidated-planning-process-to-narrow-the-digital-divide-and-increase-resilience

- Department of Information Technology;
- Department of Family Services;
- Department of Housing and Community Development;
- Loudoun County Public Schools;
- Private schools;
- Workforce organizations;
- institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies;
- labor organizations; and
- community-based 501c3 organizations, specifically including those representing target populations.

Through this organization, all efforts in the region will be coordinated with constant reference made to the plan and an ongoing review of progress. The Council will be responsible for:

- ensuring activities related to the Digital Opportunity plan are carried out and reach all targeted populations and
- recommending new programs for funding and coordinating submission of applications to DHCD to ensure that services and funding are distributed throughout the region and to areas and populations of greatest need.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
• Hold regular meetings (on a monthly or quarterly basis) to share information among partners and stakeholders about resources available in the county. • Discuss financial resources available and prioritize distribution based on Digital Opportunity Plan and ongoing program evaluation. • Conduct outreach to the community at large about available resource, including recruiting new members to the Council. • Assist with renewal of Digital Opportunity Plan and approve final version.	• # of meetings • # of members • Completion of Digital Opportunity Plan every two years	• Loudoun County Digital Opportunity Division; • Loudoun County Public Schools; • Private schools; • Workforce organizations; • institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies; • labor organizations; and • community-based 501c3 organizations, specifically including those representing target populations.

Details about the partners and stakeholders consulted during the planning process are included in Section 4.

STEP 3: ESTABLISH A DIGITAL NAVIGATOR NETWORK

To be overseen by the county's Digital Opportunity Office or another organization selected by RFP, the Digital Navigator Network will consist of a small group of lead Navigators working directly for the county who train and coordinate efforts with a network of Navigators working throughout the county ways that bring them into direct contact with the target populations in a trusting, meaningful way. These organizations may include the libraries, workforce agencies, public schools, and organizations working to address literacy, poverty, civil rights,

immigration concerns, and the needs of persons with disabilities. Each organization with a trained Navigator would receive a contract and funds to cover costs and account for necessary reporting to monitor the program.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES

• Provide one-on-one technical assistance to clients related to:
  • Selection of technology and internet services
  • Instruction on how to use individual devices
  • Selection of necessary software
• Coordinate training programs in the community.
• Provide technical assistance over the phone.
• Coordinate a marketing campaign related to privacy and cyber-security issues.
• Maintain a list of available resources in the community and make referrals as necessary.
• Assist in enrollment for Affordable Connectivity Program or other programs available to assist with increasing affordability
	• # of hours of services
	• # of clients served
	• # of clients connected to the internet
	• # of clients who obtain a device
		Eligible Parties include:
		• Loudoun County Digital Opportunity Division
		• Workforce Agencies
		• Literacy Organizations
		• Libraries
		• Other regional non-profits

2. EXPAND ACCESS TO THE INTERNET AND DEVICES IN A WAY THAT IS AFFORDABLE TO THE CONSUMER

With one large VATI project underway and another small infrastructure project planned that will bring access in the county above 95% in the next one to three years, the primary concern for the county is affordability and access to devices.

Step 1: Initiate a campaign to increase enrollment in the Affordable Connectivity Program.

This will be greatly facilitated by a Digital Navigator Network. The biggest barrier to ACP enrollment is the difficulty of the enrollment process itself. The second barrier is a distrust of government resources, specifically among the immigrant community. Digital Navigators, with the aid of a local marketing campaign, can help overcome this.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Conduct outreach about ACP and other resources available to assist with affordability of internet access	• # of people reached • # of people enrolled in ACP	• Digital Navigator Network • Digital Opportunity Council

Step 2: Expand Wi-Fi hotspot availability in locations throughout the county.

This need is greater in the western portion of the county where internet access is still being expanded. Efforts to do this are hampered by the lack of cell phone service in the region as well. Investing in public spaces

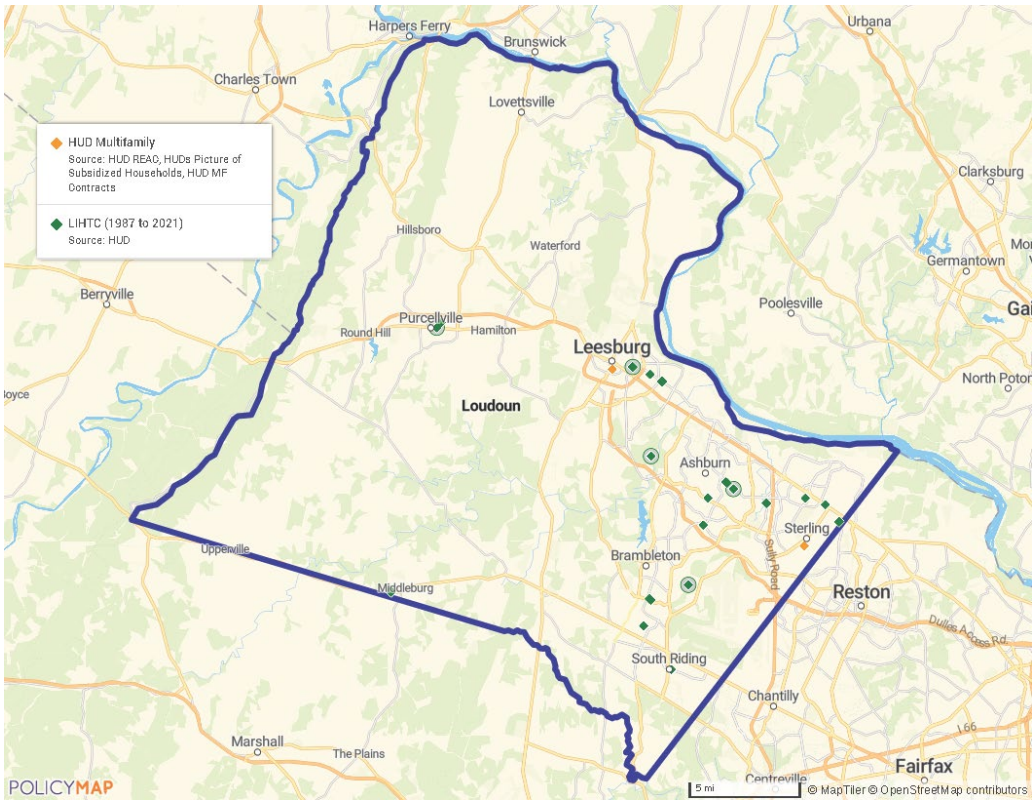
with open-access wi-fi that have adequate lighting and seating will help alleviate the short-term access problems and affordability problems for individuals long-term. Installation on public transportation is also a way to reach lower income households.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Create more opportunities to access free public Wi-Fi in community centers and public gathering space. • Create seating and add lighting to public Wi-Fi hotspots to make it safer and more convenient to access existing Wi-Fi hotspots. • Install internet on public transportation buses. Although this might be one of the most low-impact solutions offered because of relatively low ridership, it has the benefit of impacting the targeted populations of low-income, rural, and aging populations. It also helps overcome an oft-cited immediate barrier, which is individuals running out of data on their cellphones.[13]	• # of locations served • # of individuals accessing internet per month	• Local governments • Locations where internet is currently provided • Public transit agencies • Internet service providers

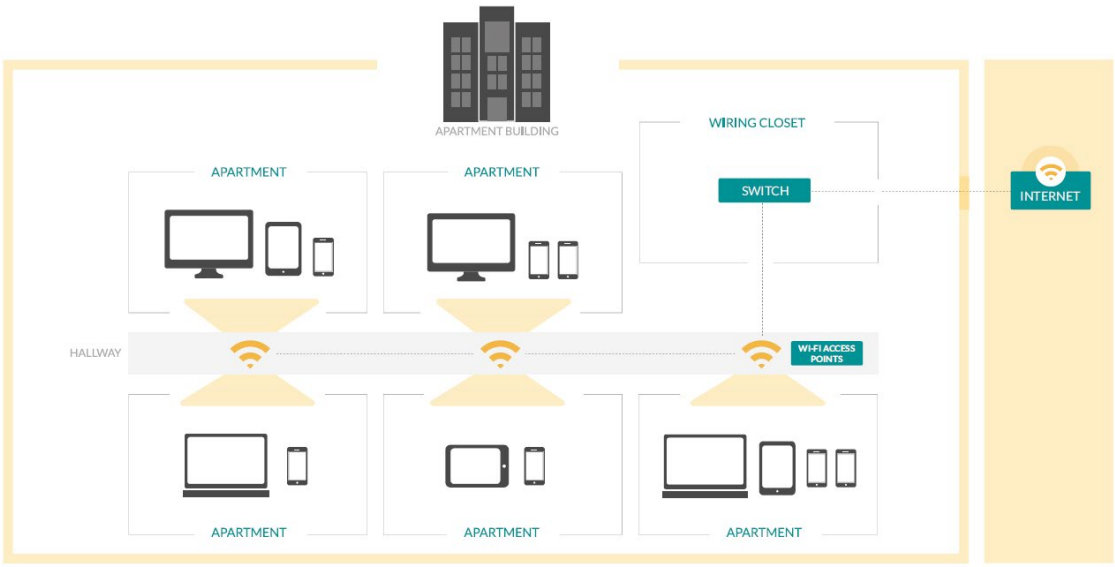
Step 3: Install Wi-Fi internet systems in low-income apartment buildings

Given the instability of the ACP, and the high cost in both federal and family dollars invested, a more direct route to install dree internet services in low-income apartment buildings will provide a significant cost savings over time. The map below shows the locations of affordable housing properties in the county. It is recommended that properties in Title I school districts be prioritized.

[13] https://www.kajeet.com/industries/transportation



Multiple methods have been developed to install wireless internet in apartment buildings. Financial support for these efforts is a one-time investment that increases access and promotes long-term affordability as residents can then be supplied with service for free or at a reduced cost. Methodology for this is illustrated in a graphic designed by Education Superhighway for their publication, "Closing the Digital Divide with Free Apartment Wi-Fi." They propose a structure modeled after the installation of services in hotels as illustrated in the following graphic. [14]



[14] https://www.educationsuperhighway.org/free-apartment-wifi/

The guide from Education Superhighway recommends these steps:

1. Activate an Internet connection in the building. This can be purchased from a local Internet service provider, or the city can leverage the Internet access it uses to connect city facilities by extending its network to apartment buildings using a wired or wireless wide area network.
2. Install Wi-Fi infrastructure in the apartment building. This step involves simply wiring hallways and common areas for Wi-Fi access points and then configuring the network.
3. Provide residents with the SSID and password to connect to the Internet. Residents can also be given a unique username and password for enhanced security.

Depending on the availability of hardware, funding, and permits, the installation process can take as little as two months. In the end, the networks can supply symmetrical speeds far exceeding FCC guidelines making this not only an affordable option bit an expedient one as well.

Rural LISC has also developed resources to promote this path to access and affordability It includes models for financing and case studies.[15]

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Install mesh wireless internet systems in apartment buildings to provide internet access to residents free of charge or at a low cost. Priority should be given to properties in Title I school districts.	• # of units served • Cost savings compared to individual per-unit subsidies	• Loudoun County • DHCD • VHDA • Apartment owners

3. EXPAND ACCESS TO AND AVAILABILITY OF EXISTING RESOURCES IN THE COMMUNITY

With the Digital Navigators and Digital Opportunity Network in place, meeting the third goal should occur naturally.

Step 1: Increase access to existing resources for local residents to increase participation.

Loudoun County is fortunate to have access to numerous resources to address barriers to digital opportunity that residents face. Rather than the creation of new resources, the county's most pressing need is to ensure that residents are aware of what is available.

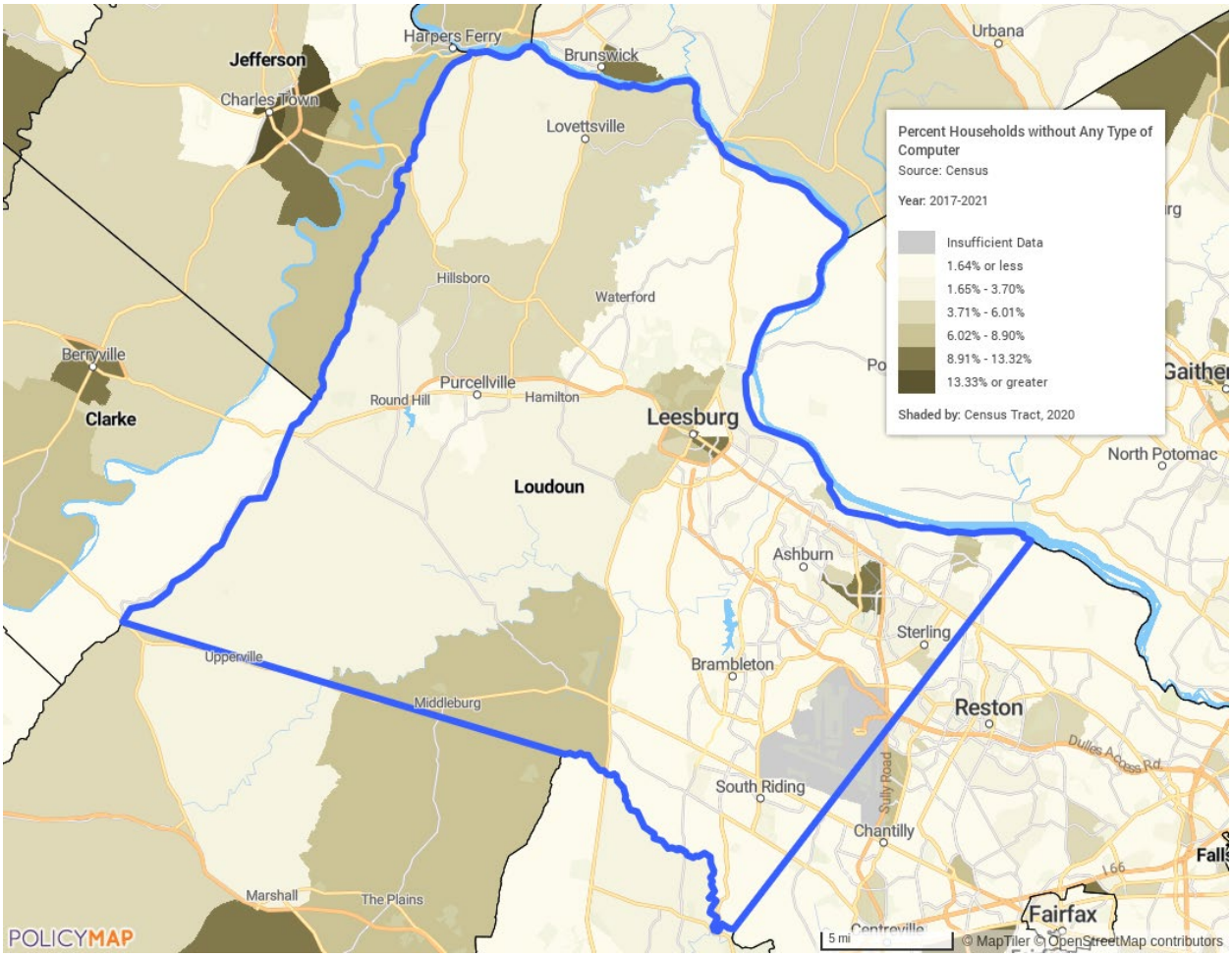
CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Develop a list of available computer resource centers in the community for referral.	# of referrals made	Digital Navigator Network
Promote online accessibility as a means of assisting residents in accessing available resources. • Promote the use of online accessibility audits for local businesses. • Assist non-profits in auditing and upgrading their websites.	• Resources created to promote online accessibility. • # of businesses and/or non-profits assisted in increasing their accessibility.	Digital Opportunity Division

[15] https://www.lisc.org/rural/our-work/broadband-infrastructure/resources/broadband-resources-affordable-housing/

Educate the community about cybersecurity issues so users are safer and more confident about using the internet.
• Implement a regional marketing campaign to educate teenagers and parents about the dangers of social media.
• Implement a regional marketing campaign to raise awareness of cybersecurity issues.
• Create a system to notify residents of active cybersecurity threats/scams.
	• # of individuals reached through marketing efforts
	• Development of campaigns to meet identified needs
	  • Students
	  • Parents
	  • Seniors
	  • Ongoing threats
		Digital Opportunity Division

Step 2: Create new resources to address known gaps in services.

One repeated need is more access to digital devices, particularly for low-income individuals. The map shows where the gaps are in access to devices.



CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Develop programs to distribute devices to individuals in need so they can access workforce, healthcare, and essential services online. • Offer a digital literacy/cybersecurity class after which participants may purchase a computer for a small fee. • Create a program to recycle, repair, and redistribute devices to individuals in need. • Partner with national organizations that offer refurbished devices.	• # of devices distributed • Outcomes of recipients with regards to increased access to digital opportunities	• Digital Navigator Network • Nonprofit partners

Step 3: Monitor and evaluate participation in existing programs to identify where resources most need to be expanded.

Once residents are aware of the resources, it will be necessary to monitor outcomes and evaluate the effectiveness of the programs and services being offered. This will allow the Digital Opportunity Council to best allocate resources.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Evaluate programs for effectiveness	Regular reports of program outputs and outcomes	Digital Opportunity Council Program Operators

Step 4: Make future investments based on evaluation data.

With actionable data from program evaluations, the Council can update the Digital Opportunity Plan to reflect the activities making the biggest impact in the community.

CORE ACTIVITIES	MEASURABLE GOALS	RESPONSIBLE PARTIES
Review outcomes from existing programs and make recommendations, as appropriate, for reallocation of resources.	Bi-annual Digital Opportunity Plan	Digital Opportunity Council Program Operators

TIMELINE

The timeline for implementation of the plan will begin once the Lead Agency has been selected. After that, activities will occur based on the following timeline:

PLAN MONTH	ACTIVITY
1-3	Establish Digital Opportunity Division within Loudoun County Government
2-5	Establish Digital Opportunity Council
6-8	Begin Digital Navigator program
8-18	Expand Digital Navigator Network within the county
10-12	Begin implementation of new programs and services within the county
16-18	Begin six-month review of new programs and services
18-20	Make adjustments to programs and services as necessary
20-22	Conduct update to Digital Opportunity Plan
24-26	Begin annual review of digital access and broadband access activities

MECHANISMS FOR PLAN UPDATE

The Loudoun County Digital Opportunity Division will have primary responsibility for updating the plan on a bi-annual basis. However, this, and all other work regarding the plan's implementation and monitoring of progress will be done with the coordination of the established consortium of key partners and stakeholders through the Digital Opportunity Council.

The plan will be evaluated on at least a semi-annual basis to determine:

- if efforts are being made in all regions and for target populations;
- what changes might need to be made to improve the reach of activities,
- what programs and services need to be abandoned, expanded, or improved; and
- what new programs should be added next to address the most pressing barriers to Digital Opportunity.

CONCLUSION

KEY POINTS

DIGITAL OPPORTUNITY DEFINITION AND VISION

Loudoun County embraces the definition adopted by Virginia Department of Housing and Community Development as originated by the National Digital Inclusion Alliance:

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

TARGET POPULATION

Based on conversations with stakeholders as well as an analysis of the data, the priority for addressing the needs of target populations is as follows:

Population	Percent of Total Population
Population <150% of Poverty	6.7%*
Minorities/People of Color	43.9%*
Immigrants/Foreign-Born Population (not a U.S. Citizen)	10.9%**
% of Population with Language Barriers	15.7%*
Population speaking English as a Second Language	9.8%*
Population with Low Literacy Skills	11.3%*
% of Population with Disabilities	6.2%**
Aging Individuals	13.3%*
Students	22.3%**
Parent	57.1%**
Live Primarily in a Rural Area	20.6%*
Veterans	5.6%*
Population Incarcerated	0.1%*
***Source: U.S. Census Bureau Digital Equity Population Viewer, 2019 data **Source: U.S. Census Bureau American Community Survey 2021 Detailed Table**	

DIGITAL OPPORTUNITY RESOURCES

Loudoun County has an extensive array of resources available to promote digital opportunities for county residents. Highlights include:

- Loudoun County Public Schools (LCPS) provide a digital device for all students PK3-12.
- LCPS provides digital citizenship training for students beginning in second grade.
- Both county and school websites are regularly audited for accessibility and upgrades made accordingly.
- All public libraries offer free wi-fi internally and externally, computers and other digital devices for use on site, and digital literacy classes.

In addition to the locally provided assets, the Affordable Connectivity Program has the ability to remove the barrier to affordability many households in Loudoun County face. However, enrollment in the county has not been successful. Data from Education Superhighway shows only a 14% adoption rate in Loudoun County.

IMPACT ON DIGITAL OPPORTUNITY IN THE REGION

MOVING FORWARD

Because the county is fortunate to have so many existing resources, a high rate of access to broadband, and a low Digital Divide Index score, Loudoun County can move with deliberation and care to meet the remaining needs of the population. At this point, the goal is to plug small holes rather than fill large gaps.

Establishing an office within the county government as well as a Council to work cooperatively with stakeholders outside the government will effectively coordinate resources to fill those remaining gaps to meet the needs of the target populations. The lack of coordination is the biggest obstacle for the county to overcome. The network of Digital Navigators will also be crucial in doing that.

With these systems in place, Loudoun County will be able to achieve its vision of digital opportunity for all residents regardless of their income, residence, immigration status, language skills, education level, age, or level of disability.

APPENDICES

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

B. ASSET INVENTORY

C. COMMUNITY ENGAGEMENT TRACKER

D. LIST OF ORGANIZATIONS

A. VIRGINIA DIGITAL DIVIDE INDEX SCORES

The Digital Divide Index was developed by the Center for Regional Development at Purdue University[16] to provide a quick overview of the factors impacting the Digital Divide in the U.S. The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. It is based on z-scores normalized to 0-100 for each geography. For the analysis presented here, the geography is the Commonwealth of Virginia. The numbers presented in the main body of the report were indexed nationally and, therefore, differ from these.

The data on the table is sorted by Socioeconomic Index as the Infrastructure Index will be greatly impacted by the VATI project currently underway. This analysis is for 2021 and does not take that into account. The Socioeconomic Index Score indirectly measures the potential for technology adopting using considers the following factors, known have an impact:

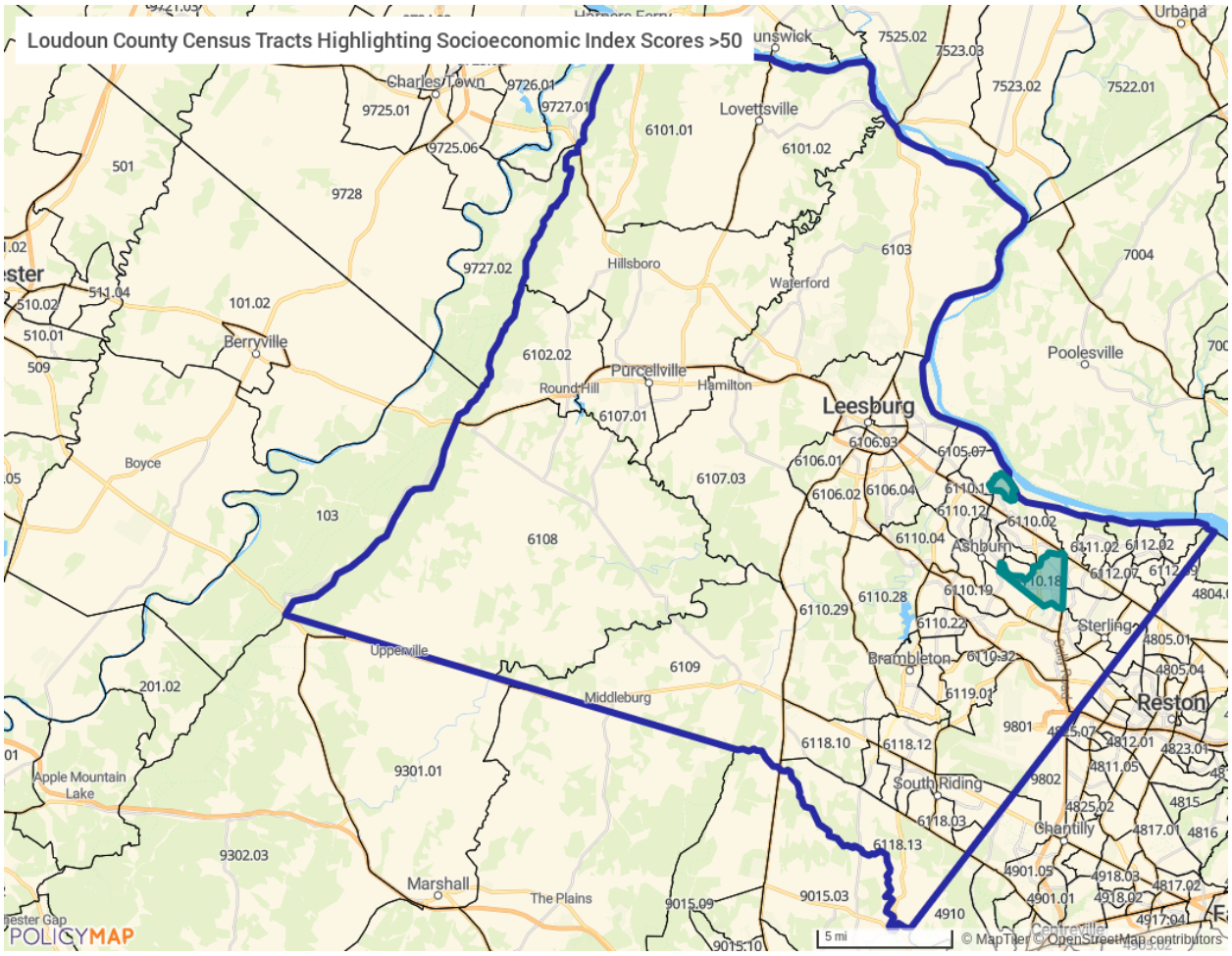
1. percent population ages 65 and over;
2. percent population 25 and over with less than high school;
3. individual poverty rate;
4. percent of noninstitutionalized civilian population with a disability: and
5. digital inequality or internet income ratio measure (IIR).

The Infrastructure Index considers the following variables related to broadband infrastructure and adoption:

1. percentage of total 2021 population not using the internet at 100/20 as of 2021 based on Ookla Speedtest® open dataset;
2. percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.);
3. percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); weighted (by speed tests)
4. download and speeds in Megabits per second (Mbps)
5. (5) upload speeds in Megabits per second (Mbps)

The map on the following page shows the Census Tracts in Loudoun County and highlights the two that have a high Socioeconomic Index Score (over 50). There are only two such tracts in the county. None have an Infrastructure Score over 50.

[16] Gallardo, R. (2023). Digital Divide Index. PURDUE CENTER FOR REGIONAL DEVELOPMENT. Retrieved from Digital Divide Index (DDI): http://pcrd.purdue.edu/ddi



Loudoun County Census Tracts

FIPS	Socioeconomic Index	Infrastructure Index	Digital Divide Index
51107611010	62.43	7.80	44.64
51107611018	58.39	19.18	47.49
51107611602	33.40	9.23	26.02
51107611701	31.06	13.33	26.46
51107611016	30.67	3.55	21.44
51107611502	29.57	6.89	22.33
51107611017	29.44	10.71	24.10
51107611030	27.35	2.64	18.79
51107610900	27.28	29.40	31.76
51107611204	26.92	1.87	18.13
51107611400	26.90	3.66	18.98
51107610603	22.86	10.85	19.79
51107611601	20.94	9.69	17.95
51107611206	20.74	2.20	14.17
51107610505	20.69	18.72	22.18
51107610703	20.69	21.32	23.44
51107611205	20.53	5.57	15.67
51107610702	20.34	20.52	22.82
51107610102	19.82	26.68	25.47
51107610400	19.75	14.32	19.41

51107610101	18.92	24.98	24.04
51107610601	18.76	15.72	19.44
51107611202	18.64	11.41	17.26
51107611015	18.15	6.65	14.62
51107611501	18.02	4.26	13.37
51107611002	17.54	3.00	12.44
51107611101	17.36	7.71	14.61
51107611300	17.21	3.78	12.59
51107611803	16.67	4.04	12.36
51107610201	15.94	24.80	21.97
51107611209	15.72	2.32	10.89
51107610701	15.25	8.74	13.70
51107611810	14.79	1.36	9.81
51107610800	14.17	27.91	22.31
51107610504	12.80	3.28	9.42
51107611804	12.56	2.32	8.79
51107610507	11.88	1.98	8.17
51107611809	11.77	4.66	9.40
51107610604	11.42	3.33	8.52
51107611207	11.21	2.94	8.19
51107610506	10.72	2.99	7.89
51107611102	10.33	2.43	7.36
51107611013	10.30	3.58	7.90
51107611019	10.28	3.15	7.68
51107610300	9.85	11.88	11.64
51107611027	9.73	0.57	6.06
51107611812	9.71	1.61	6.55
51107611811	9.44	3.77	7.42
51107611022	9.14	2.00	6.35
51107611005	8.97	2.75	6.61
51107611004	8.09	3.13	6.21
51107611807	7.75	1.56	5.22
51107611006	7.48	4.71	6.57
51107611009	7.25	4.21	6.18
51107611901	7.18	2.13	5.12
51107611020	7.02	3.77	5.81
51107611014	7.01	4.55	6.18
51107611029	6.91	1.74	4.75
51107610202	6.89	9.26	8.39
51107610503	6.79	7.09	7.27
51107611011	6.73	6.46	6.92
51107611012	6.38	3.78	5.39
51107611808	6.32	1.95	4.46
51107611032	5.64	2.64	4.34
51107611026	4.39	0.97	2.69
51107611208	4.29	1.40	2.84
51107611702	4.23	3.12	3.64
51107611028	3.01	3.12	2.82
51107611023	2.93	2.21	2.33
51107611805	2.27	1.80	1.69
51107611902	1.34	1.12	0.74

The following table ranks all jurisdictions within the Commonwealth. It is sorted by Digital Divide Index.

Digital Divide Scores in the Commonwealth of Virginia			
County/City	**Socioeconomic Index**	**Infrastructure Index**	**Digital Divide Index**
Falls Church city	0.00	0.00	0.00
Loudoun	**5.17**	**4.31**	**5.64**
Prince William	12.58	3.11	9.53
Fairfax	16.66	3.49	12.27
Arlington	13.50	7.16	12.41
Stafford	16.21	6.71	13.82
Manassas city	18.16	6.35	14.82
Chesterfield	22.01	11.38	20.06
Virginia Beach city	20.57	14.17	20.76
Chesapeake city	20.67	14.48	21.00
Spotsylvania	23.34	11.78	21.11
York	21.07	14.28	21.13
Fredericksburg city	22.11	14.30	21.78
Alexandria city	14.55	22.64	21.86
Fairfax city	32.84	2.89	21.92
Charlottesville city	25.18	15.61	24.43
Poquoson city	29.22	12.56	25.18
Manassas Park city	36.65	4.79	25.35
Salem city	22.17	22.20	26.31
Henrico	29.49	15.60	27.08
King George	23.05	22.89	27.25
Newport News city	28.26	17.86	27.60
Powhatan	22.67	25.35	28.42
Fluvanna	20.32	28.57	28.79
Fauquier	17.55	32.90	29.55
Albemarle	20.81	30.29	30.08
Hanover	19.05	33.47	30.80
Williamsburg city	24.32	29.58	31.84
Culpeper	25.63	29.31	32.50
King William	16.72	39.00	32.51
Hampton city	34.81	21.03	33.45
Harrisonburg city	37.53	18.21	33.53
Lexington city	33.10	23.97	34.06
Prince George	27.38	30.52	34.26
Richmond city	36.70	23.56	36.06
Lynchburg city	32.69	28.94	36.64
James City	32.89	29.68	37.18
Staunton city	34.09	28.79	37.42
New Kent	28.24	36.99	38.47
Montgomery	31.60	33.77	38.72
Botetourt	26.84	39.13	38.83
Warren	34.32	31.59	39.16
Winchester city	36.16	29.93	39.35
Roanoke	28.19	40.27	40.31
Clarke	31.25	37.36	40.55
Frederick	30.43	38.28	40.56

Greene	30.35	38.41	40.59
Caroline	31.21	37.97	40.87
Suffolk city	29.18	40.31	40.94
Portsmouth city	40.53	28.13	41.02
Norfolk city	33.35	37.54	41.94
Orange	39.49	30.95	41.98
Waynesboro city	44.09	27.64	42.94
Goochland	40.72	32.75	43.77
Rappahannock	32.02	42.51	43.95
Roanoke city	37.30	37.65	44.44
Bedford	31.05	45.38	44.98
Colonial Heights city	33.65	42.97	45.22
Augusta	33.51	43.16	45.24
Rockingham	31.19	47.05	46.02
Isle of Wight	31.16	48.84	47.01
Giles	37.30	42.32	47.10
Appomattox	37.70	42.83	47.63
Gloucester	40.00	40.33	47.63
Cumberland	36.34	47.98	49.73
Madison	40.21	45.77	50.86
Covington city	53.02	32.10	50.99
Craig	42.96	43.11	51.04
Campbell	32.39	54.78	51.16
Dinwiddie	37.38	49.62	51.30
Louisa	45.59	41.43	51.71
Radford city	45.26	45.34	53.73
Amherst	41.37	49.89	53.92
Rockbridge	48.26	44.50	55.11
Nelson	52.54	41.06	55.79
Southampton	43.82	54.27	57.92
Bristol city	55.99	41.44	58.13
Hopewell city	57.79	39.98	58.42
Washington	52.58	46.59	58.96
Martinsville city	54.76	44.99	59.40
Shenandoah	44.38	56.51	59.54
Franklin	42.95	59.27	60.23
Mathews	50.01	53.82	61.49
King and Queen	39.02	66.10	61.68
Alleghany	58.46	45.62	62.04
Sussex	46.81	59.63	62.82
Essex	50.81	55.61	63.00
Wythe	46.58	60.32	63.06
Pulaski	50.35	56.94	63.47
Buena Vista city	57.07	51.51	64.53
Norton city	64.92	43.32	64.72
Tazewell	60.01	49.99	65.48
Petersburg city	61.60	48.67	65.71
Galax city	66.18	44.73	66.30
Westmoreland	64.18	48.53	67.22
Surry	58.73	56.40	68.34
Accomack	56.76	58.79	68.48
Smyth	62.37	55.30	69.96
Prince Edward	49.87	69.91	70.56

Danville city	60.22	58.70	70.56
Richmond	58.98	60.84	71.01
Northampton	66.88	52.26	71.01
Charles City	59.67	60.58	71.30
Northumberland	71.16	49.30	71.98
Page	54.16	67.81	72.01
Buckingham	51.29	71.14	72.13
Middlesex	55.91	66.22	72.19
Pittsylvania	57.77	64.75	72.49
Carroll	57.84	65.52	72.98
Patrick	54.94	69.21	73.28
Franklin city	67.33	56.19	73.53
Bland	39.93	85.95	73.55
Grayson	61.55	62.72	73.67
Bath	62.05	63.06	74.18
Highland	58.78	66.82	74.30
Henry	60.21	65.38	74.36
Amelia	64.06	61.56	74.57
Wise	71.22	56.81	76.28
Floyd	76.37	51.83	76.63
Lancaster	62.17	71.90	79.28
Nottoway	53.47	81.48	79.36
Mecklenburg	62.15	76.76	82.03
Charlotte	62.34	78.30	83.02
Brunswick	75.69	64.01	83.13
Greensville	80.08	60.45	83.82
Lee	79.80	63.74	85.52
Halifax	60.66	86.10	86.42
Scott	77.08	73.09	89.16
Russell	74.58	77.56	90.15
Emporia city	96.30	57.05	91.90
Dickenson	85.80	68.71	92.05
Lunenburg	57.32	100.00	92.26
Buchanan	100.00	67.27	100.00

B. ASSET INVENTORY

Organization	Website	Contact	Description
Loudoun County Public Schools	https://www.lcps.org	Aaron Smith aaron.smith@lcps.org	LCPS provides 1:1 devices to all LCPS students grades pre k through 12.
Loudoun County Public Library	https://library.loudoun.gov/		Loudoun County libraries offer wi-fi access and computer stations. One-on-one tech support is available at specific days and times at some county libraries. Details are available on the library calendar. Classes include learning how to access the library's e-resources (online books, music, and movies). The libraries also offer a variety of tech-related programs for children and teens.
LCPS Adult Education	https://www.lcps.org/adulted	Carolyn Solares adult.education@lcps.org	Adult Ed offers programs in person and online. They offer computer classes each semester including basic classes as well as business and career-focused classes.
LCPS Career and Technical Education	https://www.lcps.org/CTE	Dr. Lhe Smith lhe.smith@lcps.org	The LCPS CTE program offers courses in business and information technology as well as technology and engineering.
Virginia Career Works-Loudoun Workforce Resource	https://biz.loudoun.gov/business-services/workforce-training-development/	Nancy Evanko Nancy.Evanko@loudoun.gov	The VCW Center in Loudoun County offers computer access for clients needing assistance searching for or applying for jobs. They also offer computer skills training.
Northern Virginia Community College	https://www.nvcc.edu/workforce	Keila Louzada klouzada@nvcc.edu	FastForward is a short-term workforce credential program to train Virginians for top, in-demand jobs across the Commonwealth. Financial assistance is available to subsidize the cost of select pre-approved training programs. NOVA offers programs in CompTIA, AWS, IT Specialist, and Certified Ethical Hacker.
Northern Virginia Family Services	https://www.nvfs.org/our-services/workforce-development/training-futures/	Italo Romero tftrainee@nvfs.org	Training Futures: Workforce preparation course including basic computer training skills.

C. COMMUNITY ENGAGEMENT TRACKER

Regional Digital Opportunity Plan: Stakeholder Engagement Tracker

Engagment Title/Description	Engagement Date	Engagement Type	Engagement Location	Target Audience	Target Audience Location	Target Audience County	# Engaged	Covered Populations Reached								Notes
								Which covered populations did you engage?								
Include a brief title of the engagement *(Example: Community Outreach Listening Session #1)*	*Enter the date as MM/DD/YYYY*	*Include the type of stakeholder engagement that occurred, using the dropdown list*	*If applicable, please include the physical address of where the engagement took place*	*Who was the engagement for?* *(Example: Covered Populations, Regional Listening Session, etc.)*	*Is this local, regional, or statewide engagement?*	*If available, indicate which counties will be represented by this engagement*	*How many people were engaged?* *(Example: # of people who attended the event, completed the survey, etc.)*	Individuals who live in covered households	Aging Individuals	Incarcerated Individuals	Veterans	Individuals with disabilities	Individuals with a language barrier	Individuals who are members of a racial or ethnic minority group	Individuals who primarily reside in a rural area	*Add notes of what was discussed and any key themes or feedback (optional)*
Bridging the Community Divide Forum - Louisa County	5/2/2023	Listening Session (In-person)	Louisa County Library, Davis Higl	Local Community	Local	Louisa	1							X	
Bridging the Community Divide Forum - Fauquier County	5/3/2023	Listening Session (In-person)	Bealeton Library, Willow Drive, I	Local Community	Local	Fauquier	2						X	X	
Bridging the Community Divide Forum - Loudoun County	5/4/2023	Listening Session (In-person)	Middleburg Library, Reed Street	Local Community	Local	Loudoun	0							X	
Piedmont Region Work Group	5/5/2023	Other	Online	Key Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	9								This is a core group of stakeholders primarily representing community colleges, wo
Bridging the Community Divide Forum - Greene County	5/6/2023	Listening Session (In-person)	Greene County Public Library 22	Local Community	Local	Greene	1							X	
Bridging the Community Divide Forum - Culpeper County	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Local Community	Local	Culpeper	4	X						X	
Planning to Advance Digital Equity - Piedmont Region	5/9/2023	Listening Session (In-person)	Culpeper County Library, South	Stakeholders	Regional	Culpeper, Greene, Fauquier, Louis	3							X	
Bridging the Community Divide Forum - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Local Community	Local	Warren	2							X	
Planning to Advance Digital Equity - Warren County	5/16/2023	Listening Session (In-person)	Samuels Public Library, East Cris	Stakeholders	Regional	Warren	1	X						X	
Bridging the Community Divide Forum - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Local Community	Local	Frederick, Winchester	6						X	X	
Planning to Advance Digital Equity - Winchester	5/17/2023	Listening Session (In-person)	Winchester Airport	Key Stakeholders	Local	Frederick, Winchester	0								
Bridging the Community Divide Forum - Winchester	5/18/2023	Listening Session (In-person)	Shenandoah County Library, Edi	Local Community	Local	Shenandoah	1								
Bridging the Community Divide Forum - Online	5/22/2023	Listening Session (Virtual)		Local Community	Regional	Clarke, Frederick, Page, Shenando	3								
Bridging the Community Divide Forum - Woodbridge	5/23/2023	Listening Session (In-person)	Woodbridge Library	Local Community	Local	Prince William	0								
Planning to Advance Digital Equity	5/23/2023	Listening Session (In-person)	9324 West Street, Manassas, VA	Key Stakeholders	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Rappahannock	5/24/2023	Listening Session (In-person)	Rappahannock County Library, V	Local Community	Local	Rappahannock	6								
Madison County Meeting	5/25/2023	Listening Session (In-person)	American Legion Post 157, Thrift	Key Stakeholders	Local	Madison	14	X	X		X			X	X	
Regional Digital Equity Planning Coalition	5/25/2023	Listening Session (Virtual)		Key Stakeholders	Regional	Greene, Louisa, Charlottesville, Albemarle									
Bridging the Community Divide Forum - Manassas Park	6/1/2023	Listening Session (In-person)	Manassas Park Community Cent	Local Community	Local	Manassas, Manassas Park, Prince	0								
Bridging the Community Divide Forum - Orange	6/6/2023	Listening Session (In-person)	Orange County Public Library, 14	Local Community	Local	Orange	1	X	X					X	X	
Bridging the Community Divide Forum - Leesburg	6/8/2023	Listening Session (In-person)	Rust Library, Leesburg	Local Community	Local	Loudoun	2								
Hero's Bridge Social Hour	6/12/2023	Listening Session (In-person)	98 Alexandria Pike, Warrenton, '	Covered Populations	Regional	Fauquier, Culpeper, Madison	12	X	X		X	X		X	X	Group of veterans and volunteers
Bridging the Community Divide Forum - Online	6/13/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
PATH Foundation Meeting	6/14/2023	Listening Session (In-person)	PATH Foundation, Walker Drive,	Key Stakeholders	Regional	Fauquier, Culpeper, Rappahannoc	10	X	X			X	X	X	X	
Bridging the Community Divide Forum - Online	6/15/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Life Online: Staying Safe, Creating Opportunities	6/15/2023	Listening Session (In-person)	Reynolds Memorial Baptist Chur	Local Community	Local	Rappahannock	3							X	
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Regional	Culpeper, Fauquier, Madison, Ora	0								
Bridging the Community Divide Forum - Online	6/20/2023	Listening Session (Virtual)		Local Community	Local	Manassas, Manassas Park, Prince	0								
Blue Ridge Networking Group	6/24/2023	Listening Session (In-person)		Local Community	Local	Greene, Madison, Albemarle	6							X	
Bridging the Community Divide Forum - Online	6/24/2023	Listening Session (Virtual)		Local Community	Local	Loudoun	0								
Piedmont Region Work Group	6/26/2023	Listening Session (In-person)	Germanna Community College, '	Key Stakeholders	Local	Culpeper, Fauquier, Madison, Ora	6	X	X			X	X	X	X	
Discussion with Prince William County Department of Inf	6/28/2023	Other		Local Community	Local	Prince William									
Discussion with Loudoun Hunger Relief	7/20/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Department of Informat	7/24/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Family Services	7/25/2023	Other		Local Community	Local	Loudoun									
Discussion with Loudoun County Public Schools	7/28/2023	Other		Local Community	Local	Loudoun									
Discussion with ARC of Loudoun County	8/4/2023	Other		Local Community	Local	Loudoun									

D. LIST OF ORGANIZATIONS

List of Organizations with which you have collaborated in developing the regional plan				
Organization Name	Type of organization	Engagement Purpose (Select the purpose that best matches). If you select "Other", please	Notes	Link to the organization's website (if available)
ARC of Loudoun County	Organization that Represents Covered Populations	Plan Development		
Loudoun Broadband Alliance	Organization that Represents Covered Populations	Community Outreach		https://loudounbroadbandalliance.org/
Loudoun Cares	Other	Community Outreach	Volunteer Network	loudouncares.org
Loudoun County Department of Family Services	County or Municipal Government	Plan Development		
Loudoun County Department of Information Technology	County or Municipal Government	Plan Development		
Loudoun County Library	Community Anchor Institution	Community Outreach		https://library.loudoun.gov/Middleburg
Loudoun County Public Schools	Local Education Agency	Plan Development		
Loudoun Human Services Network	Other	Community Outreach	Human Services Network	www.loudounhumanservicesnetwork.org
Loudoun Hunger Relief	Organization that Represents Covered Populations	Data Collection		https://www.loudounhunger.org/
Northern Virginia Family Services	Organization that Represents Covered Populations	Plan Development		https://www.nvfs.org/
Northern Virginia Family Services, Andrea Eck	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Caitlin O'Connell	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Crystal Pitt	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Devin Heilmeier	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Glenda Blake	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Julie Mullen	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Mychal Tamillow	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Tontee Verbal	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Northern Virginia Family Services, Renate Canfield	Community Anchor Institution	Community Outreach	PWC CoC, Community Needs	
Windy Hill Foundation	Organization that Represents Covered Populations	Community Outreach	Housing	www.windyhillfoundation.com
Women Giving Back	Organization that Represents Covered Populations	Community Outreach	Workforce/ Employment	womengivingback.org