Virginia Board for People with Disabilities

Assessment of Virginia's Disability Services System:

Geographic Disparities in Healthcare Access

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2023 Assessment of Geographic Disparities in Healthcare Access

First edition

This report is also available in alternative formats by request and on the Virginia Board's website. For more information, please contact the Board at:

Virginia Board for People with Disabilities

Washington Office Building
1100 Bank Street, 7th Floor
Richmond, VA 23219

804-786-0016
804-846-4464 (Toll-free)
804-786-1118 (Fax)
e-mail: info@vbpd.virginia.gov
www.vbpd.virginia.gov

Accessibility: This document is accessible. The data-maps in Appendix A have brief Alt Text descriptions, but access to their detailed data is not possible with these types of maps at this time. If you would like to discuss the maps and analysis of findings, please email info@vbpd.virginia.gov or call 804-786-0016.

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VBPD Chair
Niki Zimmerman

VBPD Executive Director
Teri Morgan

Author
Jennifer Krajewski, Deputy Director of Public Policy and Legislative Affairs

Editing
Lorraine Blackwell, Communications Director

Design
Lorraine Blackwell, Communications Director
Brittany Hughes, Communications Assistant

Special thanks to the members of the Virginia Board for People with Disabilities Disability Assessment subcommittee

Brandon Cassady • Parthy Dinora • Thomas Leach
Susan Moon • Deanna Parker • Olivia Price
Lisa Richard • Mary Vought

COMMONWEALTH OF VIRGINIA
Virginia Board for People with Disabilities

Niki Zimmerman
Chair
Dennis Findley
Vice Chair
Phil Caldwell
Secretary
Teri Morgan
Executive Director

Washington Building, Capitol Square
1100 Bank Street, 7th Floor
Richmond, Virginia 23219

804-786-0016 (TTY/Voice)
1-800-846-4464 (TTY/ Voice)
804-786-1118 (Fax)
info@vbpd.virginia.gov
www.vaboard.org

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The Virginians with Disabilities Act § 51.5-33 directs the Virginia Board for People with Disabilities (VBPD), beginning July 1, 2017, to submit an annual report to the Governor, through the Secretary of Health and Human Resources, that provides an in-depth assessment of at least two service areas for people with disabilities in the Commonwealth. The Board, as part of its authority and responsibility as a Developmental Disabilities (DD) Council under the federal Developmental Disabilities and Bill of Rights Act (42 U.S.C.§15021-15029), is also required to complete a similar analysis as it develops and amends its federal State Plan goals and objectives.

The Board selected Geographic Disparities in Healthcare Access as a topic area to be assessed. Due to staff vacancies, Board staff were unable to complete and release this assessment in July 2023 as planned. In this Assessment, the Board seeks to determine the benefits and challenges of access to healthcare services through telehealth. The Board makes recommendations to reduce barriers and challenges and increase individual empowerment in healthcare services.

We appreciate the assistance of the state agencies and other stakeholders that provided information and clarification on the consumer-directed services and oversight responsibilities. The policy recommendations were developed by an ad hoc committee of the Board and approved by the full Board at its December 6, 2023 meeting.

Contents

Statement of Values

"Physical or mental disabilities in no way diminish a person's right to fully participate in all aspects of society, yet many people with physical or mental disabilities have been precluded from doing so because of discrimination …; historically, society has tended to isolate and segregate individuals with disabilities, and, despite some improvements, such forms of discrimination against individuals with disabilities continue to be a serious and pervasive social problem ..."

— 42 U.S. Code § 12101 – Americans with Disabilities Act – Findings and Purpose

The Virginia Board for People with Disabilities serves as Virginia's Developmental Disability Council. In this capacity, the Board advises the Governor, the Secretary of Health and Human Resources, federal and state legislators, and other constituent groups on issues important to people with disabilities in the Commonwealth. The following assessment of geographic disparities in healthcare access is intended to serve as a guide for policymakers who are interested in ensuring that people with disabilities live fully integrated lives in their communities, with the supports they need, based on their interests and lifestyle choices. The Board's work in this area is driven by its vision, values, and the following core beliefs and principles:

Inherent Dignity: All people possess inherent dignity, regardless of gender, race, religion, national origin, sexual orientation, or disability status.

Presumed Capacity: All people should be presumed capable of obtaining a level of independence and making informed decisions about their lives.

Self-determination: People with disabilities and their families are experts in their own needs and desires. They must be included in the decision-making processes that affect their lives.

Integration: People with disabilities have a civil right to receive services and supports in the most integrated setting appropriate to their needs and desires, consistent with the Supreme Court's Olmstead decision.

Diversity: Diversity is a core value. All people, including people with disabilities, should be valued for contributing to the diversity of our neighborhoods and of the Commonwealth.

Freedom from Abuse and Neglect: People with disabilities must be protected from abuse, neglect, and exploitation in all settings where services and supports are provided.

Fiscal Responsibility: Fiscally responsible policies are beneficial for the Commonwealth, and they are beneficial for people with disabilities.

Executive Summary

There are wide gaps in available services between those living in rural areas and those in urban areas of the Commonwealth. For those in rural areas there are many barriers to receiving a variety of services, including access to healthcare. It is common for those in the most rural parts of the Commonwealth to have no broadband access and no healthcare providers within reach. In addition, these individuals face barriers such as transportation, caretaker availability for appointments, social anxiety, and availability of specialists within a reasonable distance.

PURPOSE OF THE ASSESSMENT

To evaluate the geographic disparities in access to healthcare, with an emphasis on broadband access and telehealth services, and make recommendations to improve access.

The expansion of telehealth throughout the country during the pandemic brought to light the possibilities of telehealth to break down barriers to healthcare access for individuals in rural areas and individuals with disabilities. To properly access telehealth services, broadband access is a must. Virginia has been making great strides toward providing broadband access to all. Currently, approximately 160,000 locations across the Commonwealth are without broadband access. As Virginia continues to work towards universal broadband access, it is also important to look at other options for individuals needing access to telehealth services. Community connections are the key to providing options.

Across the country, communities are working to develop options for individuals to access the healthcare that they need. Communities that have had success in creating options can serve as models for Virginia in creating its options for access to healthcare. Community anchor institutions can help to provide these services for their constituents. Community anchor institutions include schools, libraries, medical and healthcare providers, public safety entities, community colleges, community support organizations, and others. These community anchor institutions are uniquely positioned to provide information and assistance regarding access to broadband, telehealth, and other related services.

The recommendations proposed below address possible solutions to the barriers to telehealth. Implementing these recommendations would help the Commonwealth continue to move forward with telehealth and assist individuals with disabilities in accessing appropriate healthcare services.

Recommendations related to Broadband Access

1. The Department of Housing and Community Development (DHCD) should work with local communities to implement community-based options, such as use of community anchor institutions, to fill gaps in access in the near term and to provide options for

access for all. DHCD should target those areas with higher percentages of individuals with disabilities and low levels of broadband access.

Recommendations related to Broadband Affordability

2. To boost enrollment in the FCC Affordable Connectivity Program, the Department of Housing and Community Development (DHCD) should partner with local Community Services Boards and disability services and advocacy organizations to effectively disseminate DHCD-prepared information to specific areas targeted by the Outreach Grant and provide assistance through the application process.
3. The Governor and General Assembly should engage Virginia's Congressional Delegation to advocate for sustained funding of the Affordable Connectivity Program.

Recommendations related to Telehealth Accessibility

4. The Virginia Board of Health should create and implement a plan to educate telehealth service providers on current laws and standards for accommodating individuals with disabilities consistent with the Board's authority under Section 32.1-122.03:1 of the *Code of Virginia*. This plan should encompass various aspects, such as allowing extra time for appointments, ensuring the availability of suitable platforms that accommodate interpreters or other necessary support, and enabling remote login from a third location.
5. The Virginia General Assembly should direct the Virginia Department of Health Professions to establish and implement a continuing education requirement for healthcare professionals on best practices for providing telehealth services, including specific information on telehealth and individuals with disabilities.
6. The Virginia Broadband Advisory Council should study the innovative partnerships being developed in other states and use them to develop recommendations to the Governor's Office for consideration for the SFY 2026 budget on how Virginia can expand broadband access through community partnerships.

Recommendations related to Digital Health Literacy

7. When updating the state telehealth plan, the Virginia Telehealth Network and the Virginia Department of Health should incorporate strategies and a plan for collaborating with community partners to offer digital literacy services to individuals who require them.
8. The Office of Broadband should include a plan for collaboration with community-based organizations and community-anchor institutions in the 2024 Digital Opportunity Plan. In addition, the Office of Broadband should collaborate with those organizations and stakeholders on implementation.

Recommendations related to Resource Requirements

9. The General Assembly should establish a workgroup to identify suitable sources of new funding or additional funding for programs that supply essential technology equipment and training in its use to support access to telehealth.
10. When updating the state telehealth plan, the Virginia Telehealth Network and the Virginia Department of Health should include strategies to increase access to resources, including using the Virginia Assistive Technology System and the Assistive Technology Loan Fund Authority.

Background:

Geographic Disparities

The Commonwealth of Virginia has it all, geographically. There are coastal areas, mountains, big cities, rural areas, and everything in between. These large geographic differences exacerbate access issues for individuals with disabilities in many areas. As of 2020, of the nearly 9 million Virginians, over 75% lived in urban areas. For the 25% of Virginians living in rural areas, the barriers to services can be daunting (American Community Survey, 2023). In this assessment, healthcare access takes center stage.

Healthcare Barriers and Telehealth

For individuals living in rural areas, the barriers to healthcare are many. For individuals with disabilities who live in rural areas, these barriers can be amplified. There are over 1 million individuals with disabilities in the Commonwealth. In general, individuals with disabilities are older, poorer, and have significantly higher rates of obesity, diabetes, heart disease and smoking prevalence. At the same time, they are less likely to have a regular healthcare provider. In addition, individuals with disabilities meet with many unique barriers to healthcare access (Thiru M. Annaswamy, 2020). Common barriers include transportation issues, caretaker availability to assist with visits, social anxiety, and availability of specialists within a reasonable distance.

Telehealth can help to alleviate some of these barriers. While telehealth has some issues of its own, there are ways to improve its use to provide high-quality healthcare to everyone in need. As noted in an article in the Disability and Health Journal, in this post-COVID world, telehealth should not be looked at as a "'complement' to in person care" but an "'alternative' to in-person health care" (Thiru M. Annaswamy, 2020). In fact, the benefits of telehealth for individuals with disabilities include lower cost of care, lower transportation costs, less exposure to communicable diseases, and a decreased need for paid personal assistance services.

The United States Department of Health and Human Services, Health Resources & Services Administration defines telehealth as "the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care,

patient and professional health-related education, and public health and health administration". There are four general modalities of telehealth used by healthcare providers. Each is defined in Table 1 below.

Live Video	Patient-initiated video virtual visits with clinicians in another location using devices such as smartphones, tablets, and computers.
Store & Forward	Collecting clinical information and sending it electronically to another site for asynchronous evaluation.
Remote Patient Monitoring	A patient at home being monitored by a clinician from a remote location using two-way video or an electronic device.
Audio-only	Phone call only visits, usually used due to lack of dependable broadband.

Table 1: Telehealth Modalities

Broadband Availability

Broadband access is increasingly being recognized as a "super-determinant" of health due to its effects on other social determinants, such as education, employment, and healthcare access. Without broadband access, individuals are not able to take advantage of opportunities for remote health care. In addition, they are often unable to access online health records or educational materials related to health issues (Brittney Crock Bauerly, 2018).

Currently, in Virginia, there are approximately 160,000 locations without reliable Internet. In Figure 1 below, the areas in orange are those where broadband is available. All unshaded areas shown below do not have broadband access.

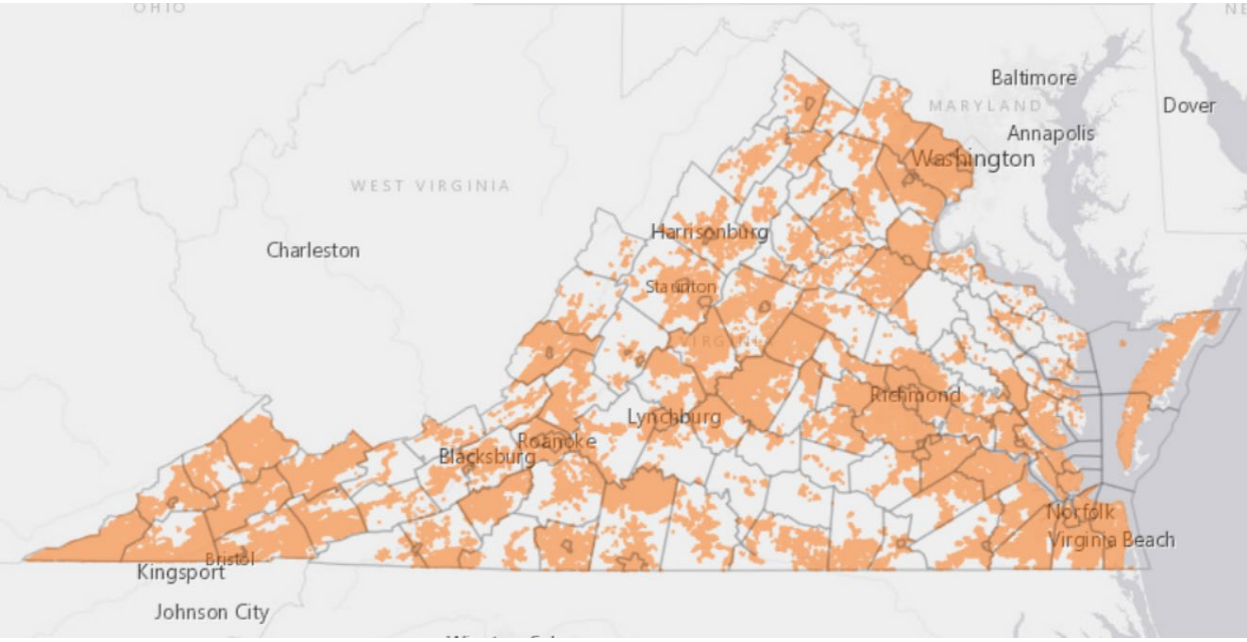


Figure 1: Broadband Connectivity Map courtesy of Commonwealth Connection – 9/30/23

Virginia has a stated goal and plan to reach universal broadband access by 2028. Expanding broadband access is a priority in the Commonwealth. During Former Governor Ralph Northam's administration, the goal was to achieve universal broadband access by 2028. Virginia has been working hard to move toward this goal. The Commonwealth started on its path toward this goal in 2017. When Governor Northam took office, it was estimated that 500,000 connections were needed, now that number is around 160,000 (Commonwealth Connect Plan, 2020).

The top priority for broadband in the Commonwealth, as stated in the Commonwealth Connect Plan, "is to provide all Virginia homes, businesses, and community anchor institutions with an option for broadband service that enables full participation in the 21st century and beyond," (Commonwealth Connect Plan, 2020). Virginia is looking to bridge the gap between demographics and regions with digital access and those without, otherwise known as the "digital divide."

Table 2: Components of the Digital Divide – Commonwealth Connect Plan	
Broadband Access	Locations with no options for broadband service.
Broadband Affordability	Broadband access is available, but the service is unaffordable.
Broadband Adoption	Utilizing services from online job applications to telehealth.

To better understand how the lack of broadband access impacts individuals with disabilities in Virginia, we can analyze broadband connectivity overlaid with disability prevalence data. The map below (Figure 2) illustrates the disparities across various regions and provides a visual representation of how disability prevalence and broadband access intersect in Virginia. Please refer to Appendix A for similar maps broken down by local Community Services Boards/Behavioral Health Authority.

1. **High Disability, Low Broadband Access (Deep Light Blue):** In areas shaded with the deepest light blue (located at the top-left of the grid key), it is estimated that at least 22% of the population has a disability. However, these areas have limited access to reliable broadband services, with fewer than 67% of residential locations offering internet at speeds of at least 100 Mbps upload and 20 Mbps download. These speeds are crucial for accessing telehealth services.
2. **Low Disability, High Broadband Access (Deep Bright Green):** On the opposite end, areas shaded in the deepest bright green have a disability prevalence of less than 8%. In these regions, greater than 90% of residential broadband serviceable locations have access to internet speeds of 100 Mbps upload and 20 Mbps download. This indicates a significantly higher level of broadband availability.
3. **Low Disability, Low Broadband Access (Light Pale Green):** The lightest shade of pale green (lower-left of the grid) represents areas where less than 8% of the population has

a disability. However, these areas still face challenges, as fewer than 67% of locations are considered served by broadband services.

4. **High Disability, High Broadband Access (Purple):** In contrast, regions shaded in purple (top-right) have a disability prevalence of greater than 22%. However, these areas benefit from greater than 90% coverage of broadband access at the recommended 100 Mbps upload and 20 Mbps download speeds. This demonstrates a more equitable distribution of broadband services in areas with higher disability rates.

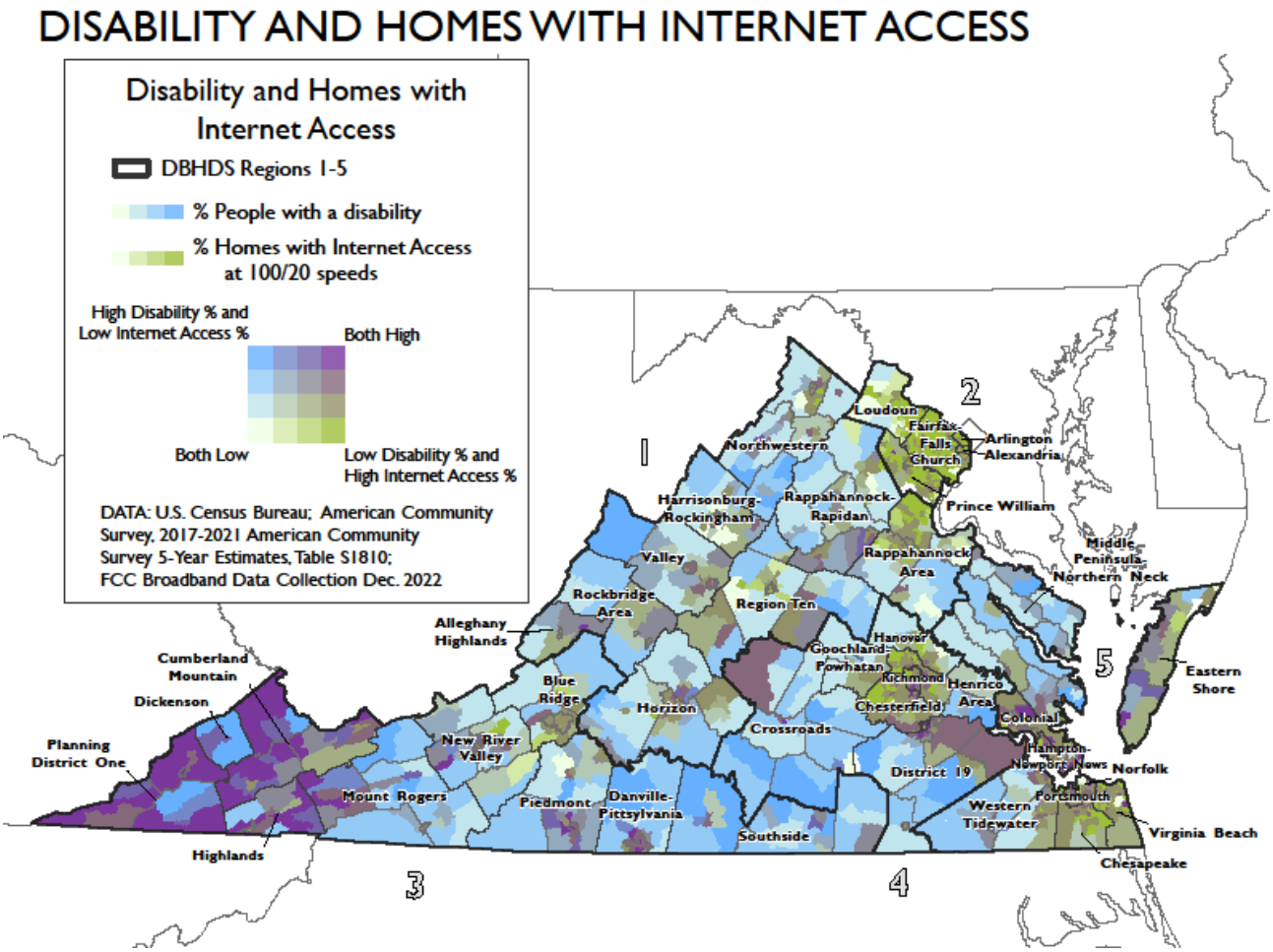


Figure 2: Broadband Connectivity Map with Disability Prevalence overlay

Universal broadband access is at least four years away, without any delays, as might be expected with any long-term construction project. Community options should be developed to allow access, including providing access points at frequently used and easily accessible community organizations such as libraries, municipal buildings, schools, etc.

In a November 14, 2023, presentation to the House Appropriations Committee, appropriations staff indicated that there have been challenges implementing broadband projects, including

supply chain issues and workforce shortages. These challenges may cause further delays in the completion of projects, also pushing the "universal broadband" access date past 2028. It is not unthinkable that many residents in rural parts of the Commonwealth will remain without access to reliable broadband for years to come. For these individuals, and communities overall, it will be necessary to have other options in place to provide that access.

The importance of community anchor institutions cannot be overstated. Community anchor institutions include schools, libraries, medical and healthcare providers, public safety entities, community colleges, community support organizations, and others. Community anchor institutions are trusted organizations active within the community and already providing important services for the community. Taking advantage of the connections that exist in the community will help alleviate many of the barriers discussed throughout this assessment.

Recommendations Related to Broadband Availability
Recommendation Number 1: The Department of Housing and Community Development (DHCD) should work with local communities to implement community-based options, such as use of community anchor institutions to fill gaps in access in the near term and to provide options for access for all. DHCD should target those areas with higher percentages of individuals with disabilities and low levels of broadband access.

Broadband Affordability

Access to affordable broadband is an important component of modern life, significantly shaping educational, employment, and healthcare opportunities. In Virginia, a commonwealth characterized by its diverse regions, the issue of broadband affordability is central. A review of online resources showed that there are several programs currently available to assist with broadband affordability. Table 3 below shows a handful of programs available to Virginians.

Program	Description	Website
Affordable Connectivity Program	FCC program to assist households in affording broadband access.	www.fcc.gov/acp
Lifeline	FCC program to make communication services more affordable for low-income consumers.	lifelinesupport.org/
Century Link	Consumer Assistance Programs offered by Century Link	centurylink.com/aboutus/community/community-development/lifeline.html
Comcast Internet Essentials	Low-cost high-speed internet for qualifying individuals.	xfinity.com/learn/internet-service/internet-essentials

Cox Connect to Compete	Low-cost student internet program.	cox.com/residential/internet/connect2compete.html
T-Mobile EmpowerED	Provides off-campus devices and data plans to students at eligible schools and districts.	t-mobile.com/business/education/empowered
Sprint 1 Million Project	Corporate initiative to bridge the digital divide for 1 million students lacking reliable home internet access.	www.1millionproject.org

Table 3: Broadband Affordability Programs

The Affordable Connectivity Program is underutilized in Virginia. Targeted outreach is needed to increase enrollment and assist individuals in accessing affordable broadband. Unfortunately, the Affordable Connectivity Program (ACP) is a particularly beneficial program that is underutilized. The ACP is a federally funded program to assist households in affording the broadband needed for work, school, healthcare, and more. The ACP benefit provides a discount of up to $30 per month toward internet service for eligible households, in addition to a one-time discount of up to $100 to purchase a laptop, desktop computer, or tablet from participating providers (Affordable Connectivity Program, 2023). A household is eligible for ACP if the household income is at or below 200% of the federal poverty guidelines or if a household member meets one of a number of criteria, including participation in SNAP, Medicaid or SSI. For the full eligibility criteria, please refer to the ACP website at www.fcc.gov/acp.

In Virginia, it is estimated that nearly 1.09 million households are eligible for the ACP. Current enrollment in Virginia is just under 425,000 households which is an adoption rate of 39% (No Home Left Offline, 2023). The national average is a 40% adoption rate. In surrounding states, North Carolina is at 49%, and Maryland is at 33%. Adoption of the ACP is a national issue.

The Department of Housing and Community Development has received an FCC Affordable Connectivity Program Outreach grant to increase enrollment in ACP. The Office of Broadband, housed within the Department of Housing and Community Development, has received grant funding under the FCC Affordable Connectivity Outreach Grant Program. These grant funds are intended to assist in increasing enrollment in ACP. The Office of Broadband has created a targeted list of areas in the Commonwealth with low enrollment in ACP but high eligible populations, shown in Table 4 below. The Office of Broadband is looking to partner with organizations in these target areas to distribute flyers and social media posts and add information to their websites. The Office of Broadband has developed a toolkit of media resources to share with organizations that can help get the information out to their communities.

Table 4: ACP Target Areas

Accomack County	Newport News
Bristol	Norfolk
Buena Vista	Northampton County
Covington	Norton
Danville	Petersburg
Emporia	Portsmouth
Galax	Richmond
Harrisonburg	Roanoke
Henry County	Smyth County
Hopewell	Staunton
Lexington	Tazewell County
Lynchburg	Waynesboro
Martinsville	Wise County

The Affordable Connectivity Program is projected to run out of funding in the Spring of 2024 without congressional action to continue funding. The ACP was created as part of the Infrastructure Investment and Jobs Act in 2021. Unfortunately, it is estimated that the program will run out of funding by mid-2024 without congressional action (Garnett, 2023). President Biden has requested additional funding to strengthen the ACP through December 2024, which has been widely supported (White House Briefing Room, 2023). Support from Virginia's Congressional Delegation for sustained funding of the ACP is essential.

Recommendations Related to Broadband Affordability
Recommendation Number 2: To boost enrollment in the FCC Affordable Connectivity Program, the Department of Housing and Community Development (DHCD) should partner with local Community Services Boards and disability services and advocacy organizations to effectively disseminate DHCD-prepared information to specific areas targeted by the Outreach Grant and provide assistance through the application process. **Recommendation Number 3:** The Governor and General Assembly should engage Virginia's Congressional Delegation to advocate for sustained funding of the Affordable Connectivity Program.

Barriers to Telehealth

Telehealth has emerged as a transformative force in healthcare today. It provides greater opportunities for convenience and accessible medical services. While the potential to break

down geographical barriers is significant, individuals with disabilities often encounter additional barriers to participation in telehealth. Barriers range from technological limitations to accessibility, communication, or other necessary specialized accommodations. It will be crucial to address these barriers to harness the power of telehealth for all.

Telehealth Accessibility

Telehealth accessibility refers to the extent to which individuals can readily and effectively access and utilize telehealth services. Telehealth includes a range of digital technologies and communication tools for the remote delivery of healthcare services. Both physical and digital barriers could hinder individuals from fully participating in telehealth.

From a physical standpoint, accessibility issues might include challenges related to mobility, visual impairments, or hearing impairments. For example, an individual with mobility issues may find it difficult to navigate a digital platform for telehealth consultation. Those with visual or hearing impairments may struggle to access information through video or audio interfaces. It is important that telehealth technologies are designed with inclusivity in mind.

Federal law, including the Americans with Disabilities Act, requires that telehealth must be accessible by individuals with disabilities just as an in-person visit would be. The Americans with Disabilities Act (ADA) prohibits providers from discriminating on the basis of disability, whether healthcare is provided in person or through telehealth. The ADA defines telehealth as "health care that is provided by video, phone, or other electronic methods," (Telehealth, 2023). Telehealth can include virtual appointments, messages sent through an electronic portal, and at-home health monitors (Telehealth, 2023). It is important to remember that under the ADA, providers must effectively communicate with patients with disabilities and provide reasonable modifications as needed for patients with disabilities to access services (Telehealth, 2023).

PATIENT BARRIERS TO TELEHEALTH

While it is clear that there are benefits to telehealth and that the potential to assist individuals with disabilities is great, there are substantial barriers faced by individuals with disabilities when accessing telehealth services. Physical and cognitive impairments can create barriers to using the necessary technology, such as smartphones, computers, or cameras, which may be required for virtual consultations with healthcare providers. In addition, some telehealth platforms are not as accessible as they need to be and can be difficult to navigate and use effectively.

Telehealth providers need to be aware of the potential barriers and provide appropriate modifications as needed. Too often, patients are required to reach out to providers to ask for any needed accommodations. This puts the patient in an uncomfortable position. In many cases, the individual with a disability may not even be aware of what types of accommodations would be available to them. One helpful practice is for providers to ask questions regarding

needing accommodations as a matter of course with all patients. These questions could be addressed during initial visits so that providers can adequately address any needed accommodations at forthcoming appointments. This applies to accommodations for both in-person and virtual/telehealth appointments.

Technology Barriers

One of the most significant barriers to using telehealth services is access to broadband. As previously discussed in this assessment, Virginia is working hard to ensure that all Virginians have access to broadband service. Unfortunately, there are further technology barriers after individuals have broadband access. Individuals with disabilities are often faced with interface issues, such as platforms that are not accessible from the standpoint of the use of screen readers or captions. Not all platforms allow for interpreters or third-party participation, which could be necessary for an individual who requires support to access the technology. Another common issue is simply the ability to use computer technology due to the system's complexity. Without training in how the technology works, it can be difficult to navigate.

Physical Barriers

Individuals with disabilities can also face physical barriers to accessing telehealth. Individuals with mobility impairments could find it difficult to use the needed technology. Furthermore, movements or positioning that may be needed by a provider for a proper exam may be difficult for them to achieve. In addition, these same individuals may require the assistance of caretakers or aides, which can create concerns about privacy.

Cost Barriers

A common concern with telehealth is the cost. During the COVID-19 pandemic and the accompanying Public Health Emergency (PHE), regulations and policies were broadened to make telehealth accessible for everyone. As the PHE has now ended, many states have allowed for telehealth flexibilities to remain. The Center for Connected Health Policy tracks telehealth laws and Medicaid program policies in each state and issues an annual report. In its Fall 2023 report, the Center for Connected Health Policy found that 25 state Medicaid programs, including Virginia, reimburse for all four modalities (live video, store-and-forward, remote patient monitoring, and audio only) of telehealth services. This progress helps to remove the cost barrier to telehealth services.

PROVIDER BARRIERS TO TELEHEALTH

The Virginia Telehealth Network conducts an annual survey of active, licensed healthcare providers across the Commonwealth. The survey results provide insight into the current state of telehealth services in Virginia from a provider standpoint. In particular, it provides some of the reasons or barriers reported by healthcare providers as to why they may not provide

services via telehealth. The inaugural survey was conducted in October 2021 and received 9,257 responses. The 2nd Annual survey was conducted in January of 2023 with 10,583 responses (The Virginia Telehealth Network, 2023).

The 2023 survey showed that of those respondents who see patients (9,653), 75.3% provide services via telehealth. These providers have found a number of benefits to telehealth. Providers have reported that it allows them to address patient care barriers, see more patients, and allows for more schedule flexibility (The Virginia Telehealth Network, 2023).

The survey results showed that the largest percentage of providers that see patients but are not currently using telehealth stated that it was because it was not compatible with their specialty or practice. Other concerns expressed included quality of care, lack of patient demand, patient limitations with technology access, and reimbursement (The Virginia Telehealth Network, 2023).

Overall, the survey indicated that provider confidence is growing. Of those who responded, 90% agree that telehealth is an effective tool for providing care, up from 86% in 2021. In addition, 80% of providers stated that they had seen improvements in their patients' continuity of care due to telehealth, up from 71% in 2021 (The Virginia Telehealth Network, 2023). These are heartening statistics. Telehealth appears to be here to stay, which is why it is so important that providers work towards greater equity in telehealth services.

As part of the survey, providers were asked about areas where improvements could be made to improve telehealth services. Ideas for improving the provider experience included interstate licensure, reimbursement for services, and internet connectivity. For the patient experience, providers noted that internet connectivity is by far the most important improvement area. Other areas included access to devices, technical assistance, digital literacy, interpreter services, and trust in telehealth (The Virginia Telehealth Network, 2023). All of these issues have been reoccurring throughout the research on this topic. The topic of internet connectivity has been addressed previously; the following issues will be covered in the coming sections of this assessment.

Training in telehealth best practices is needed for providers and staff to equip them to meet the growing demand for telehealth services. In addition to the barriers addressed by the survey, another barrier for providers is a lack of training on best practices for telehealth. The COVID-19 pandemic led to a quick move to telehealth services. Many providers were not able to properly plan for the switch from in-person to virtual, and therefore, their staff may not have received the training needed to feel comfortable providing telehealth services. Training and certifications have been developed; many trainings are based online. In Virginia, the New College Institute has created the Southside Telehealth Training Academy and Resource Center (STAR), which offers several courses and certificate programs. In addition, the Mid-Atlantic Telehealth Resource Center has a collection of training resources listed on its website.

COMMUNITY SOLUTIONS

Community-based solutions to address barriers are used throughout the country and can be used as models to create community-based solutions here in the Commonwealth. Local community organizations in Virginia and nationwide are stepping in to assist with the barriers to accessing telehealth. These organizations are creating innovative partnerships to get healthcare services to those who need them.

In Delaware, the public library system has partnered with various healthcare systems, health-related nonprofits, the state's Department of Health and Social Services, and others to create a telehealth system within the Delaware libraries. The program started as a pilot program with three libraries and then spread to the entire system. Each library has installed soundproof booths equipped with UV sanitation and HEPA filtration. Each booth is wheelchair accessible and can seat two to three people. Individuals can schedule an appointment for telehealth services and are provided an iPad loaded with teleservice apps and connected to the library's broadband network. In addition, each library has a staff person available to help with scheduling appointments, technology issues, or answer questions about the service (Enis, 2022).

In Tennessee, private corporations are looking to make a difference. Dollar General has partnered with DocGo to pilot mobile health care in Dollar General parking lots. The mobile health vehicle currently rotates between three rural Dollar General locations in the Clarksville area of Tennessee. Individuals can make an appointment or walk up. Inside the mobile health vehicle, the patient meets with an on-site staff person who connects them via telehealth with a physician assistant or nurse practitioner. This program is still new and has received some mixed reviews but shows the possibilities that exist for innovation (Tribble, 2023).

In Virginia, localities are also working to bridge the healthcare gap. A recent example is the Local Impact for Tomorrow (LIFT) Center opening in Southeast Roanoke. The LIFT Center is a private-public partnership between Carilion Clinic, the Delta Dental of Virginia Foundation, and Freedom First Credit Union with its host, Roanoke City Public Schools. The LIFT Center is attached to Fallon Park Elementary School and has three exam rooms, a lab, and a conference room. It is staffed by a registered nurse and a pediatric nurse practitioner. It is also equipped with everything necessary for telehealth as needed. The convenience of having the clinic attached to the school allows parents to make an appointment for their child, and allows for the school nurse to refer a student if symptoms arise during the school day. If a parent or guardian cannot be there in person during the school day, they can attend appointments by phone (Rowan, 2023).

Another program in existence across the country that could serve as a model for expanding telehealth to all is Project – Accessing Telehealth through Local Area Stations (Project-ATLAS), a public-private partnership between the U.S. Department of Veterans Affairs Health

Administration's (VHA) VA Medical Centers (VAMCs) and private/non-governmental organizations. The program provides space and needed technology for telehealth appointments with primary care physicians at their enrolled VAMC (Virginia Department of Health, 2021). The VA partners with organizations like The American Legion, Veterans of Foreign Wars, and Walmart to provide space for this program (Connected Care, 2023). Programs like this can reduce the financial and transportation barriers experienced by individuals in rural communities.

Recommendations Related to Telehealth Accessibility
Recommendation Number 4: The Virginia Board of Health should create and implement a plan to educate telehealth service providers on current laws and standards for accommodating individuals with disabilities consistent with the Board's authority under Section 32.1-122.03:1 of the *Code of Virginia*. This plan should encompass various aspects, such as allowing extra time for appointments, ensuring the availability of suitable platforms that accommodate interpreters or other necessary support, and enabling remote login from a third location. **Recommendation Number 5:** The Virginia General Assembly should direct the Virginia Department of Health Professions to establish and implement a continuing education requirement for healthcare professionals on best practices for providing telehealth services, including specific information on telehealth and individuals with disabilities. **Recommendation Number 6:** The Virginia Broadband Advisory Council should study the innovative partnerships being developed in other states and use them to develop recommendations to the Governor's Office for consideration for the SFY 2026 budget on how Virginia can expand broadband access through community partnerships.

Digital Health Literacy

Digital health literacy is a major barrier to the use of telehealth, particularly in rural areas. Digital health literacy refers to an individual's ability to understand, use, and navigate telehealth technologies and services. The discussion of digital health literacy should address several issues, including technology proficiency, usability of telehealth platforms, digital communication skills, and access and equity. As telehealth continues to evolve, ongoing education and support will be essential to ensure equitable access.

Digital health literacy is an oft-mentioned barrier to telehealth services and a barrier that is best approached using community resources. Digital health education is needed for many individuals to access telehealth services effectively. This is an important piece of the puzzle. Telehealth can help break down many barriers to healthcare for individuals in rural areas, but they must be able to understand and actively engage in telehealth services.

The U.S. Department of Health and Human Services (HHS), through its Health Resources and Services Administration (HRSA) has created The Rural Health Information (RHI) Hub. The RHI Hub contains scores of information on rural health issues, as well as digital health literacy. As part of the RHI Hub's Rural Health Literacy Toolkit, HRSA looks at different approaches to improving digital health literacy. One such approach is access to and use of digital platforms. This approach focuses on education on using computers and other electronic devices to access medical information and interact with healthcare services. HRSA has found that "programs that help improve access to technology and educate about best methods for using health information have shown promise in rural communities." The RHI Hub also includes examples of programs that have proven helpful for individuals in rural areas (Rural Health Information Hub, 2023).

In addition to the information on the RHI Hub, research has made clear that Virginia does not need to start building digital literacy education programs from scratch. There are a number of states that have already developed programs and other materials to assist individuals with both health literacy and digital literacy issues. For example, the North Carolina Department of Health and Human Services (NCDHHS), Division of Services for the Deaf and Hard of Hearing, has developed telehealth guidance and resources for patients and providers including infographics, videos, etc. The resources section contains a glossary of telehealth terms, general healthcare resources in addition to telehealth resources, and fillable letters that patients can use to request communication accommodations (North Carolina Division of Services for the Deaf and Hard of Hearing, 2023).

South Carolina is also working to tackle digital health literacy barriers in its state. Palmetto Care Connections (PCC) is a non-profit formed in 2010 that brings "technology, broadband, and telehealth solutions to health care providers in rural and underserved areas in South Carolina." PCC has a digital inclusion program that works to increase internet access and affordability, provides digital literacy trainings, and connects individuals to quality-of-life resources such as telehealth. PCC's digital literacy training has graduated 1,283 individuals through 15 counties in South Carolina. State programs like this can serve as a model for creating digital literacy programs in Virginia.

Digital Equity Act

In 2022, Virginia received a Planning Grant through the federal Digital Equity Act State Planning Grant program. This grant was to study how Virginians are affected by the Digital Divide. The Office of Broadband within the Virginia Department of Housing and Community Development administers this grant. The Office of Broadband conducted several activities to gather information, including a pilot program, digital opportunity survey, and other stakeholder engagement opportunities. As a result of these activities, the Office of Broadband completed a needs assessment to help guide the drafting of the Digital Opportunity Plan.

The planning process for the draft of the Digital Opportunity Plan revealed to the Office of Broadband that individuals with disabilities, in particular, are a covered population with specific digital opportunity needs. As a result, the Digital Opportunity Plan contains specific goals and objectives intended to meet the needs of this population. It will be important for the Office of Broadband to include trusted community organizations in implementing the Digital Opportunity Plan.

Building Trust

Many individuals in rural communities lack trust in systems created without their involvement. Any outreach must be done through local community organizations and individuals who live in the community, giving them a unique understanding of barriers faced in rural areas. After discussions with various rural health experts in Virginia, it is clear that trust is a major barrier for many individuals in rural areas. In the Virginia Telehealth Network's 2023 Benchmarking Telehealth Usage in Virginia survey results, trust in telehealth is listed as an area for improving the patient experience (The Virginia Telehealth Network, 2023). Additionally, in the news article introducing the new LIFT Center in Roanoke, officials noted that trust building has been one of the biggest lessons from opening the center.

To build the needed trust in the telehealth system, it is essential to partner with community organizations with existing relationships with individuals. Organizations such as libraries, schools, and emergency services have daily interactions with individuals in their community and are a trusted resource. Using these existing trusted resources to disseminate information and training will increase the effectiveness of the communications.

Recommendations Related to Digital Health Literacy
Recommendation Number 7: When updating the state telehealth plan, the Virginia Telehealth Network and the Virginia Department of Health should incorporate strategies and a plan for collaborating with community partners to offer digital literacy services to individuals who require them. **Recommendation Number 8:** The Office of Broadband should include a plan for collaboration with community-based organizations and community-anchor institutions in the 2024 Digital Opportunity Plan. In addition, the Office of Broadband should collaborate with those organizations and stakeholders on implementation.

Resource Requirements

Access, including affordability, of technology needed to participate in telehealth is a barrier for many. To use telehealth services, a patient must have access to a computer, tablet, or smartphone. In addition, for individuals with disabilities, other equipment or technology, such as communication aids or services, may necessary. The cost of all of this technology can be

prohibitive. Several programs exist to help with the cost of needed technology. Some of these programs are listed in Table 5 below.

Program Name	Description	Website/Phone
Virginia Student Training and Refurbishment Program (STAR)	After school club in schools across the Commonwealth that refurbish computer while working toward IT industry standard certifications. Computers are then donated to families, organizations or school districts at no cost.	vastar.org/
Assistive Technology Funding and Systems Change Project	Nationwide project that provides individuals in need of assistive technology with funding, information, and technical assistance.	800-827-0093 (Voice) or 800-833-8272 (TTY/TDD)
Assistive Technology Loan Fund Authority	Commonwealth of Virginia State Authority created with public funds to help Virginians with Disabilities obtain assistive technology.	atlfa.org/
United Cerebral Palsy Bellows Fund	National grant program that provides funds to individuals with disabilities for assistive technology equipment.	ucp.org/resource-guide/assistive-technology/
iCanConnect	Provides free equipment and training for people with both significant hearing and vision loss who meet the program's disability and income eligibility guidelines.	icanconnect.org
Virginia Assistive Technology System	Statewide program authorized by the Assistive Technology Act to increase awareness, accessibility, and acquisition of assistive technology.	vats.virginia.gov/

Table 5: Technology Affordability Programs

In Virginia, the Virginia Assistive Technology System (VATS) works to ensure that Virginians of all ages and abilities can acquire the appropriate, affordable assistive and information technologies and services they need to participate in society as active citizens. VATS provides services through three programs: the Information and Assistance Training and Technical

Assistance Program, the Assistive Technology (AT) Device Demonstration and Loan Programs, and the Assistive Technology Device Exchange and Reuse Program. Programs such as these, when properly utilized, can assist with access to telehealth.

Recommendations Related to Resource Requirements
Recommendation Number 9: The General Assembly should establish a workgroup to identify suitable sources of new funding or additional funding for programs that supply essential technology equipment and training in its use to support access to telehealth. **Recommendation Number 10:** When updating the state telehealth plan, the Virginia Telehealth Network and the Virginia Department of Health should include strategies to increase access to resources, including using the Virginia Assistive Technology System and the Assistive Technology Loan Fund Authority.

Appendix A: Broadband and Disability Prevalence Maps by Community Services Boards/Behavioral Health Authority

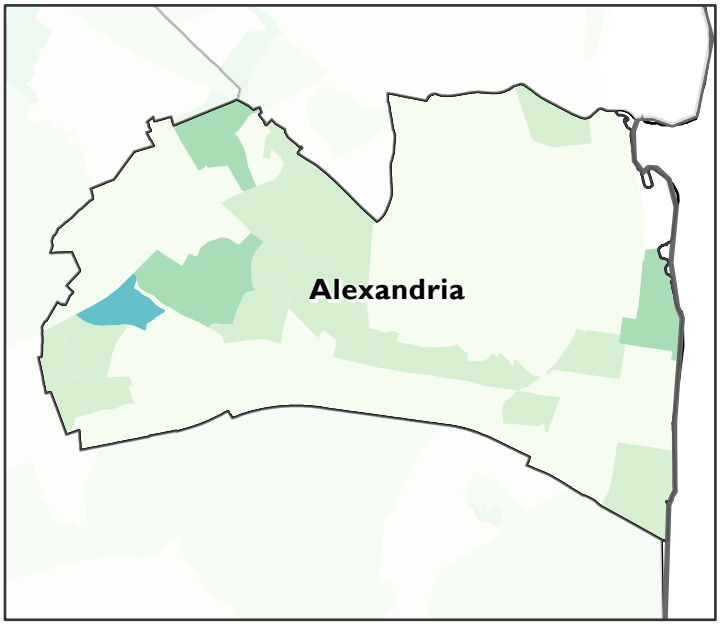
Alexandria CSB
Alleghany Highlands CSB
Arlington County CSB
Blue Ridge Behavioral Healthcare
Chesapeake Integrated Behavioral Healthcare
Chesterfield CSB
Colonial Behavioral Health
Crossroads CSB
Cumberland Mountain CSB
Danville-Pittsylvania CSB
Dickenson County CSB
District 19 CSB
Eastern Shore CSB
Fairfax-Falls Church CSB
Goochland-Powhatan CSB
Hampton-Newport News CSB
Hanover County CSB
Harrisonburg-Rockingham CSB
Henrico Area Mental Health and Developmental Services
Highlands CSB
Horizon Behavioral Health
Loudoun County Dept. of Mental Health, Substance Abuse and Developmental Services
Middle Peninsula-Northern Neck CSB
Mount Rogers CSB
New River Valley CSB
Norfolk CSB
Northwestern CSB
Piedmont CSB
Planning District One Behavioral Health Services
Portsmouth Behavioral Healthcare Services
Prince William County CSB
Rappahannock-Rapidan CSB (Encompass Community Supports)
Rappahannock Area CSB
Region Ten CSB
Richmond Behavioral Health Authority
Rockbridge Area CSB
Southside Behavioral Health
Valley CSB
Virginia Beach Human Services
Western Tidewater CSB

Accessibility: This document is accessible. The data-maps in Appendix A have brief Alt Text descriptions, but access to their detailed data is not possible with these types of maps at this time. If you would like to discuss the maps and analysis of findings, please email info@vbpd.virginia.gov or call 804-786-0016.

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 2

ALEXANDRIA CSB

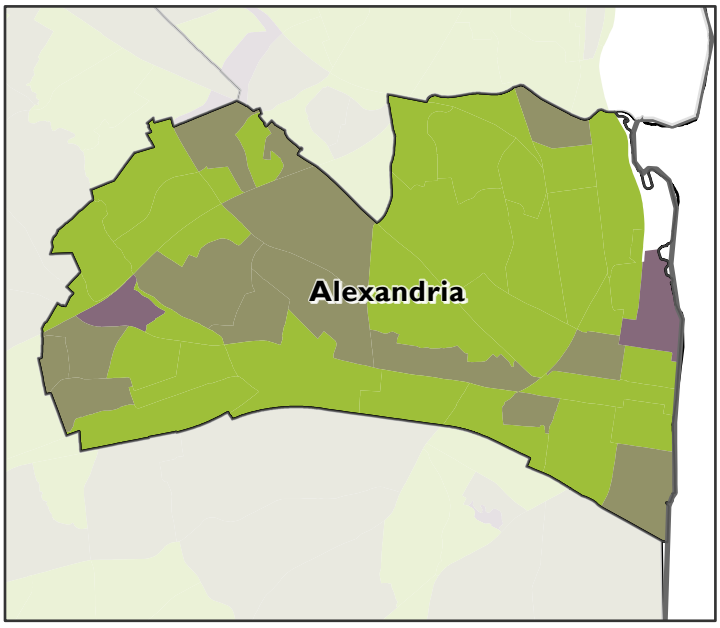


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

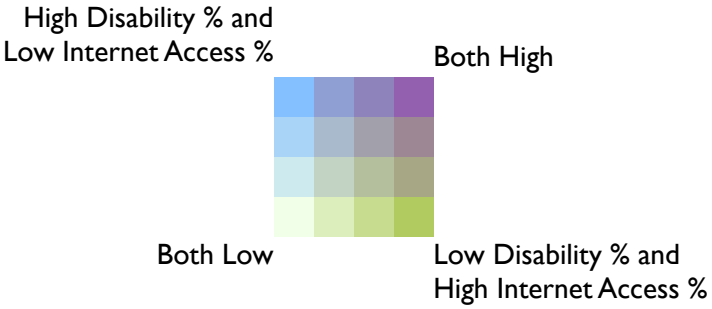
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



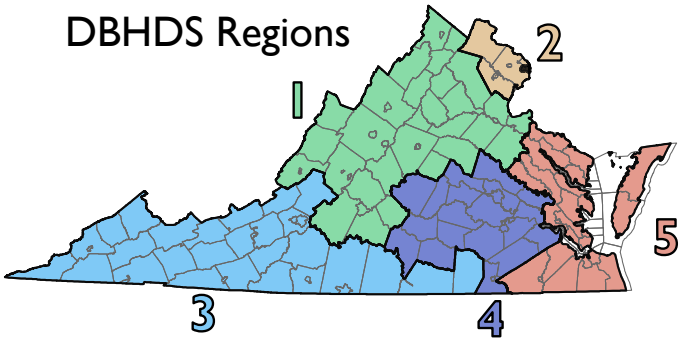
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions



DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

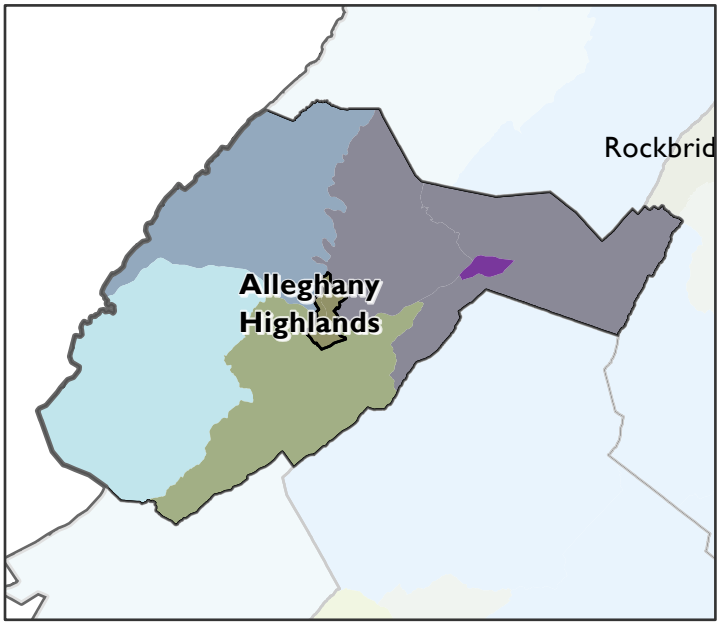
ALLEGHANY HIGHLANDS CSB

Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

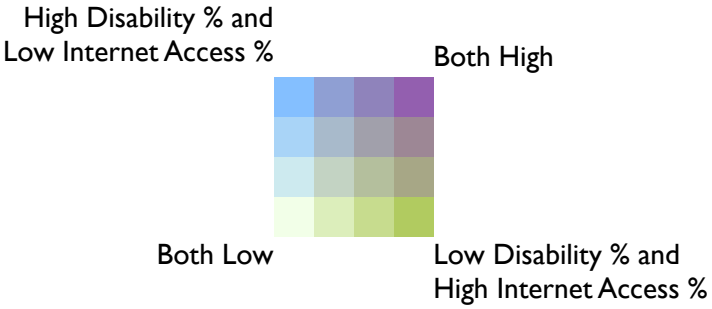
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



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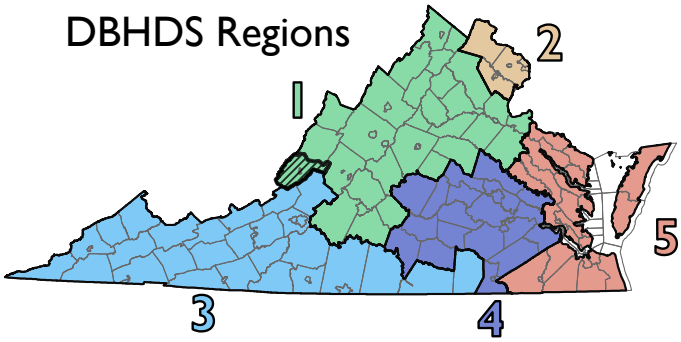


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 2

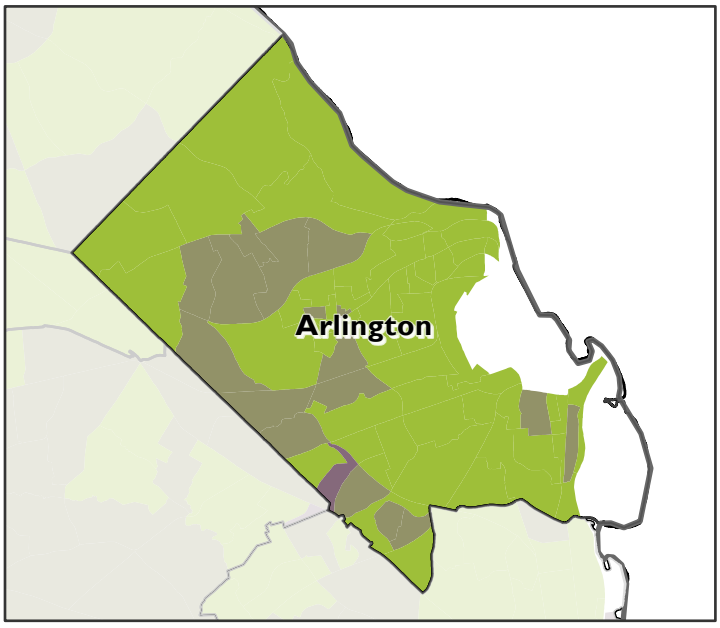
ARLINGTON COUNTY CSB

Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

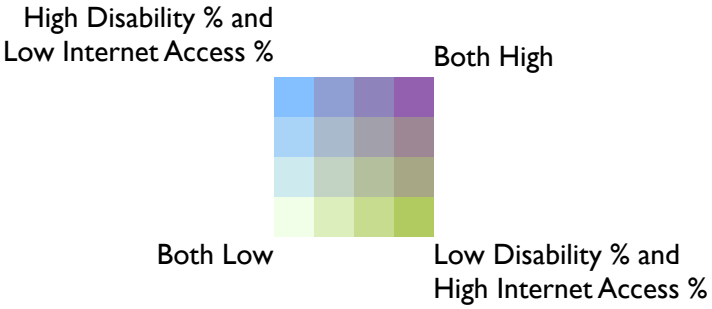
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



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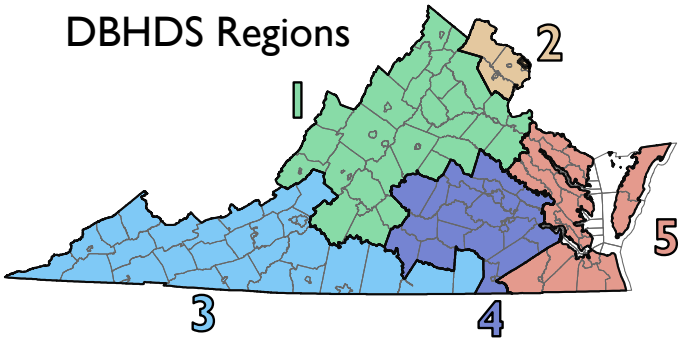
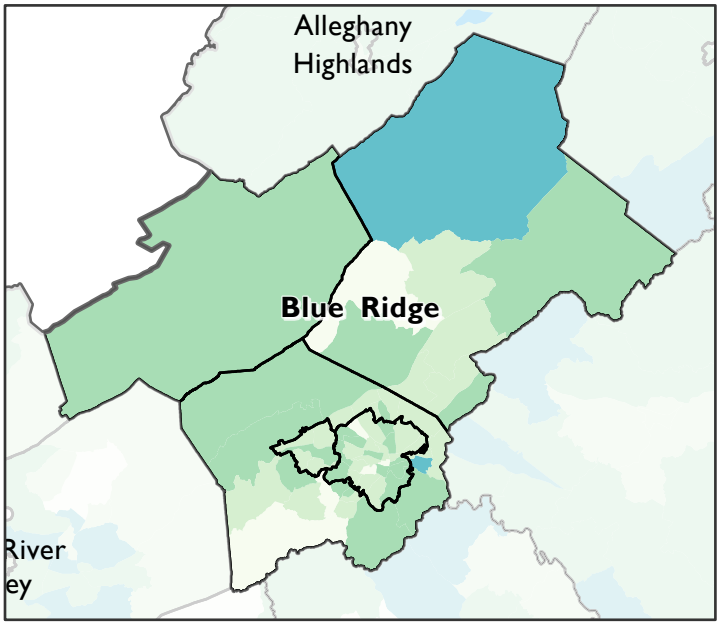
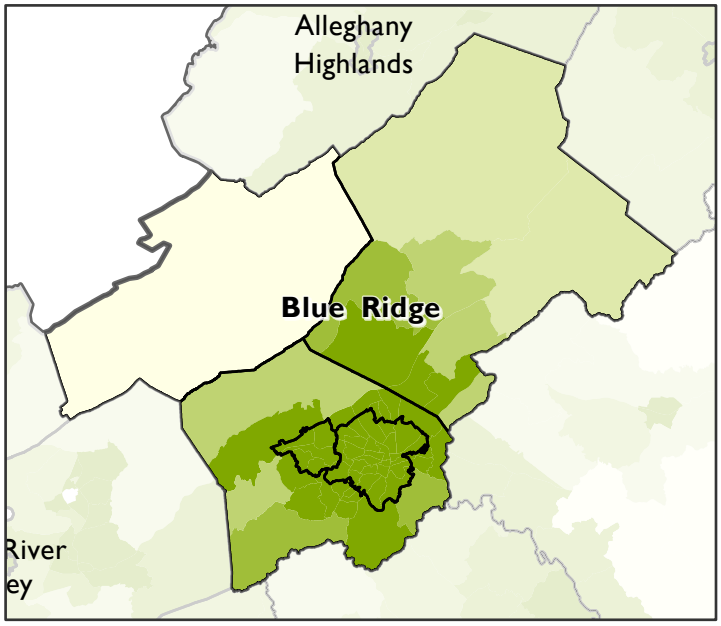


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 3

BLUE RIDGE BEHAVIORAL HEALTHCARE



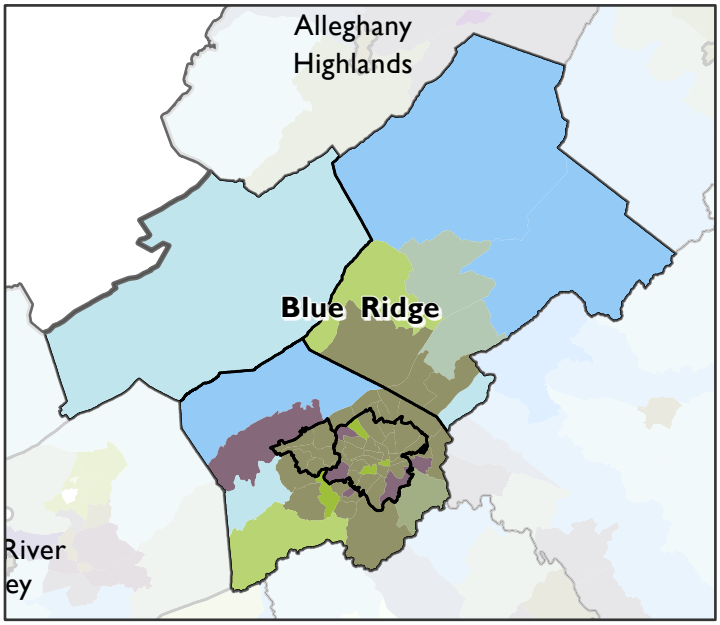


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

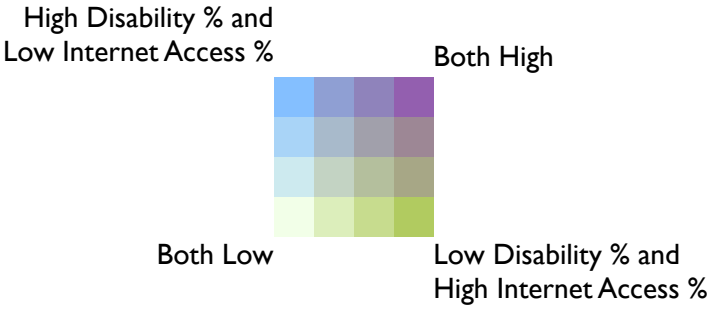
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



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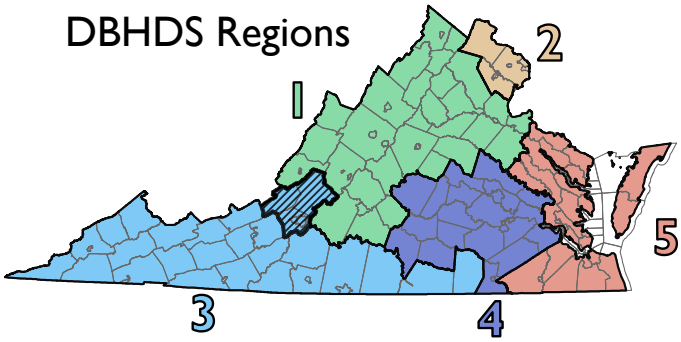
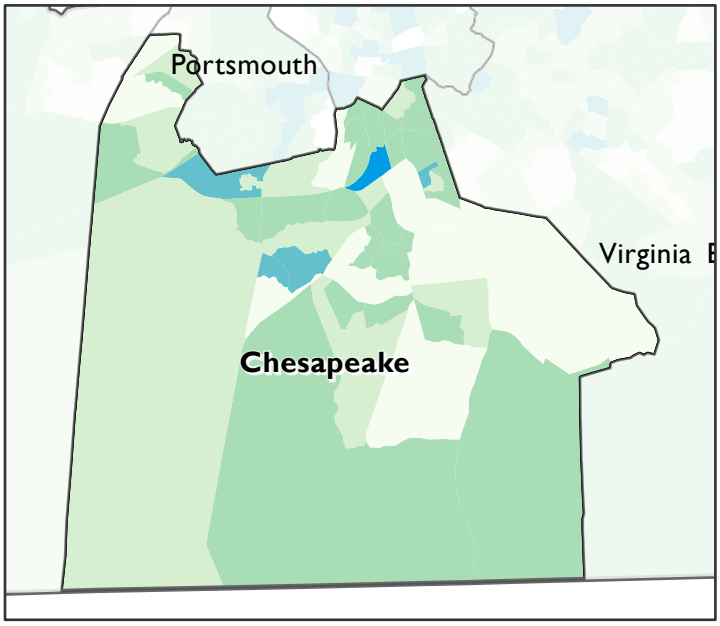


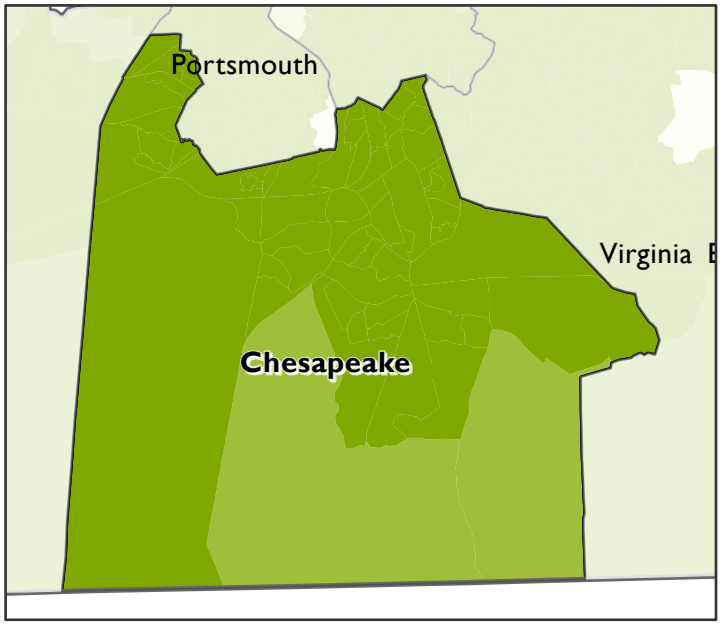
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

CHESAPEAKE INTEGRATED BEHAVIORAL HEALTHCARE



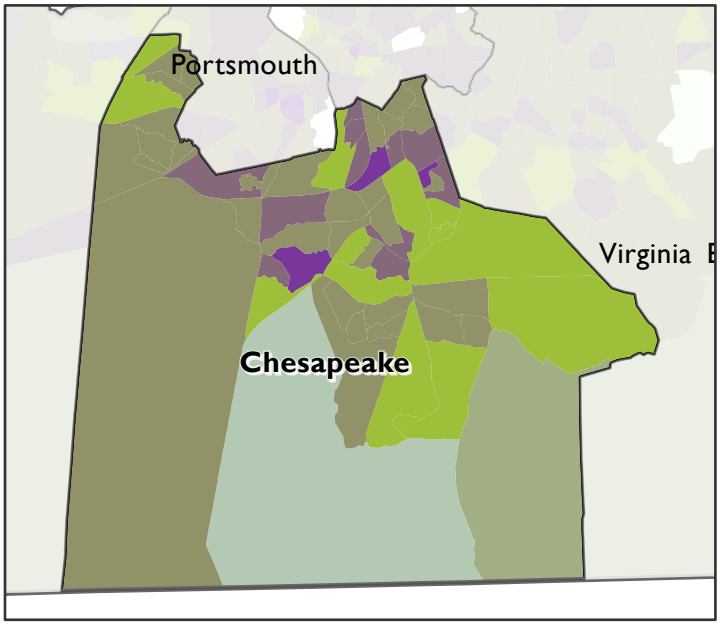


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

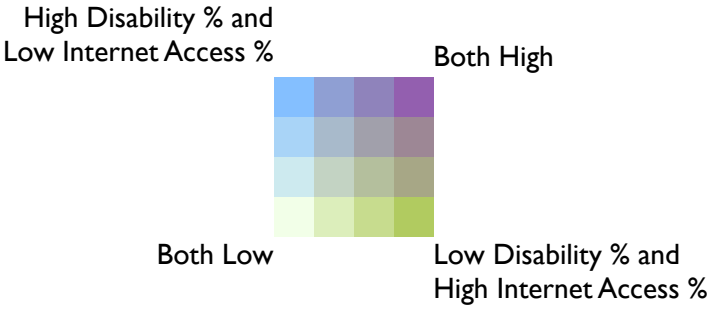
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



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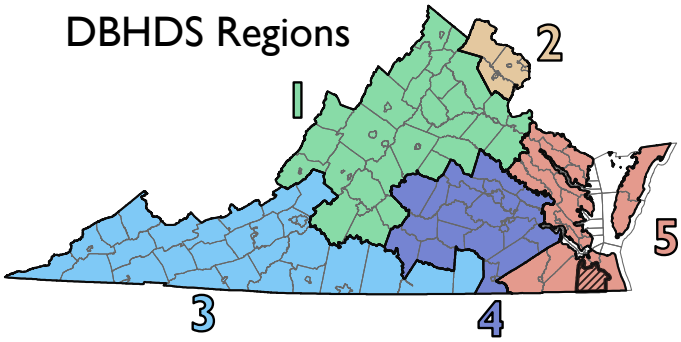


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 4

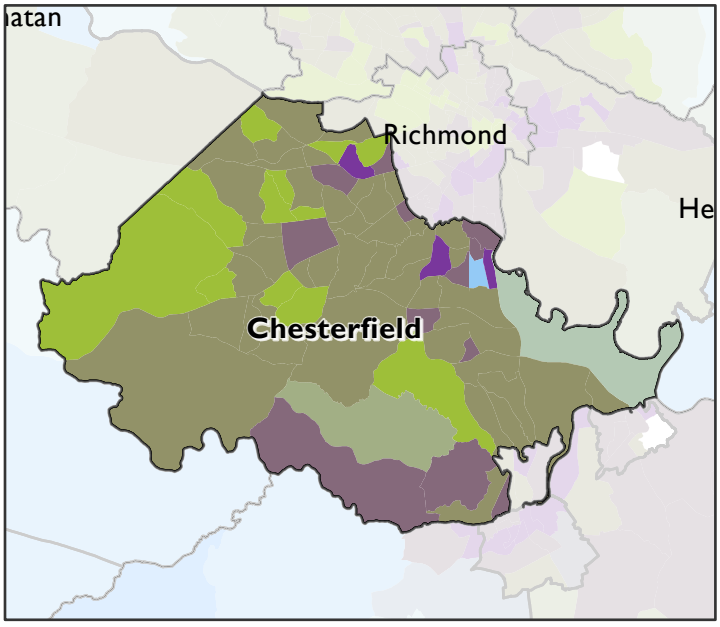
CHESTERFIELD CSB

Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

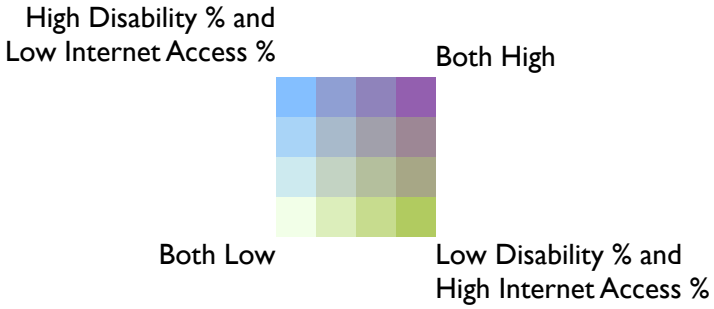
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



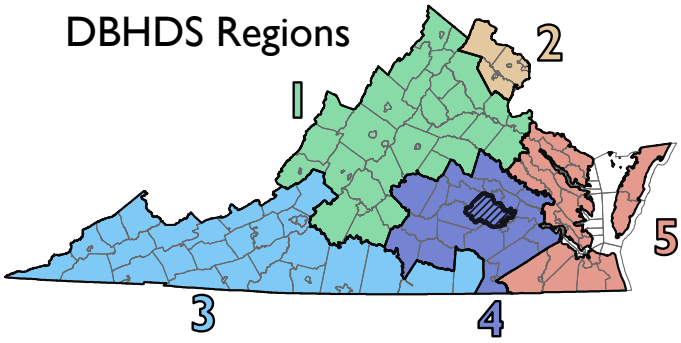
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

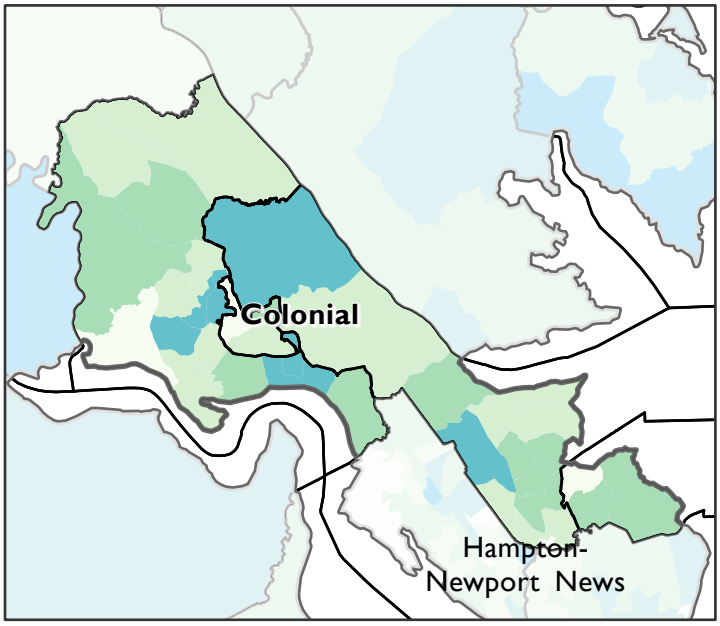


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

COLONIAL BEHAVIORAL HEALTH

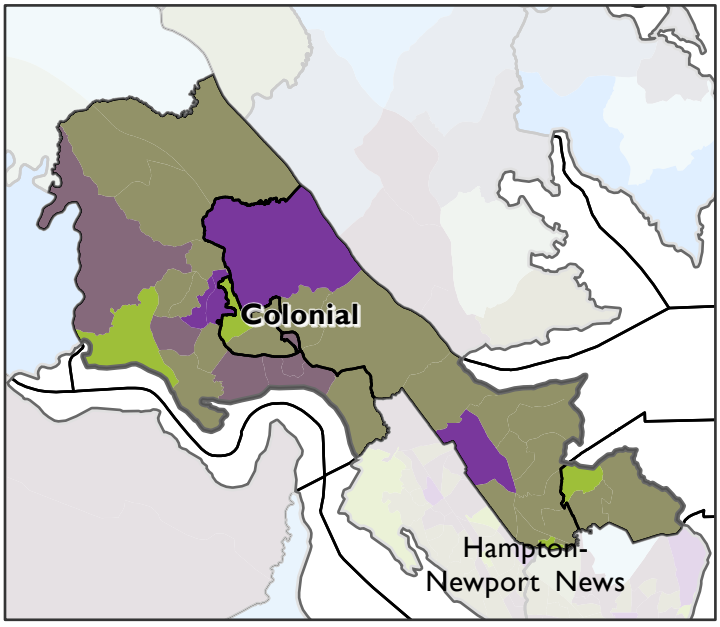


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

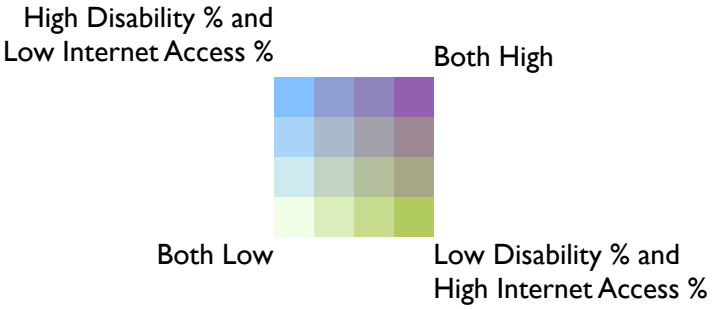
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



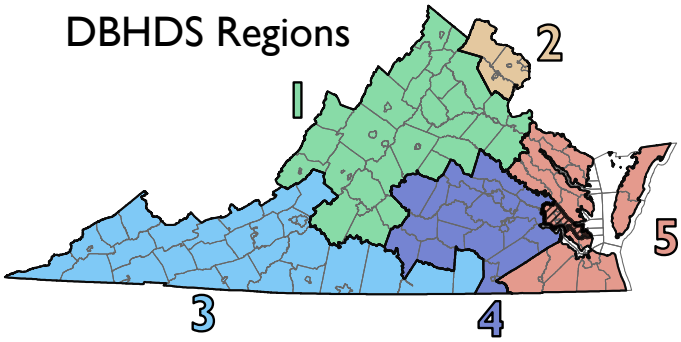
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



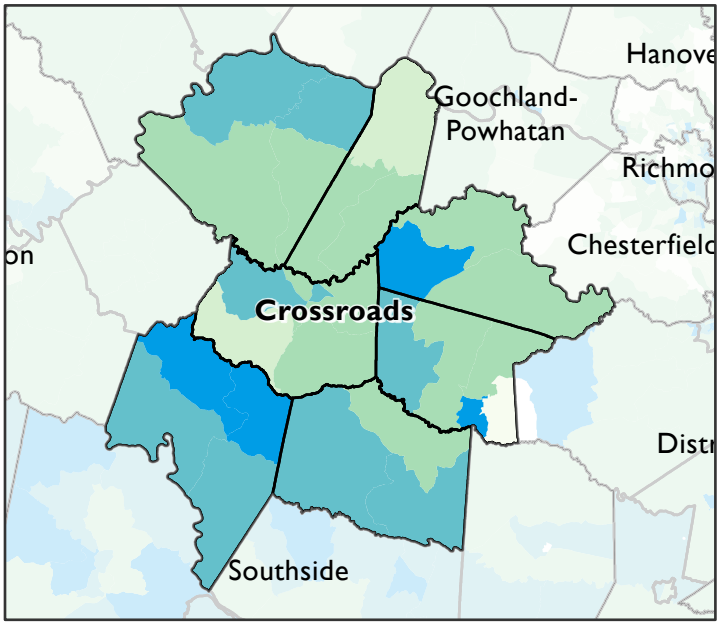
DBHDS Regions

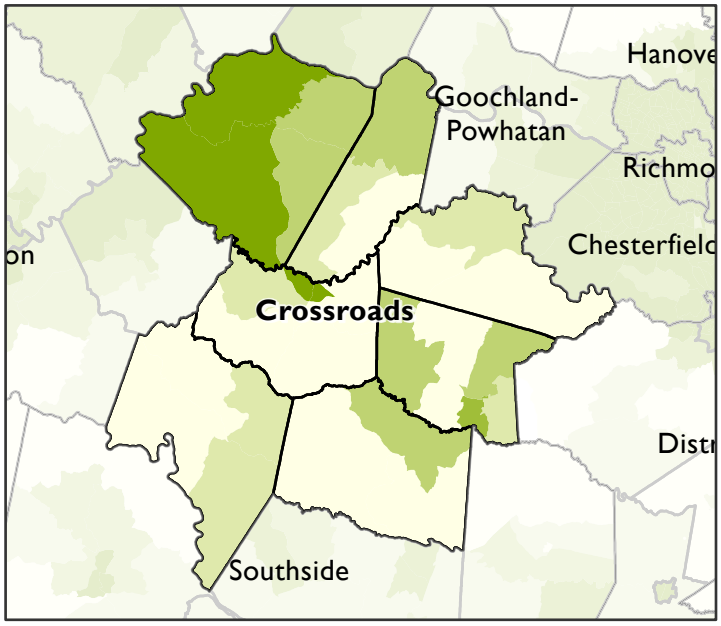


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 4

CROSSROADS CSB





Disability Prevalence

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Residential Broadband Coverage

- 0 - 25%
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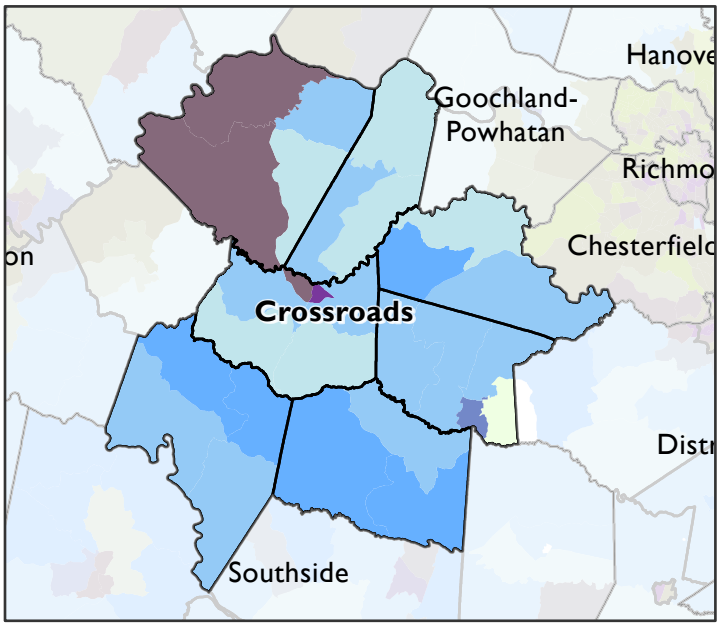
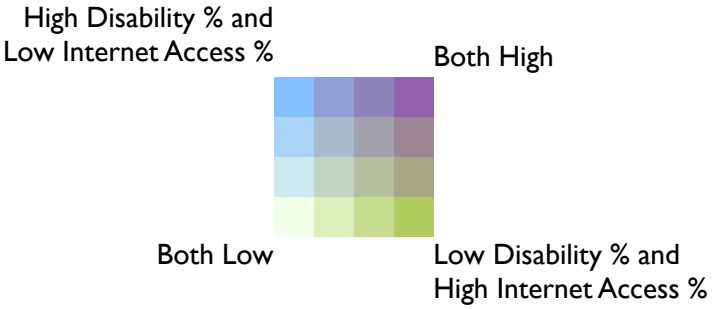


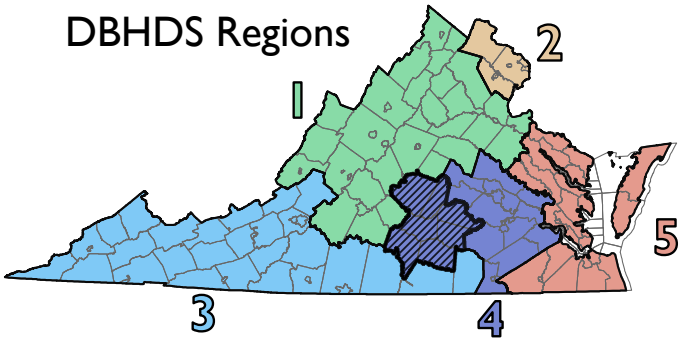
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

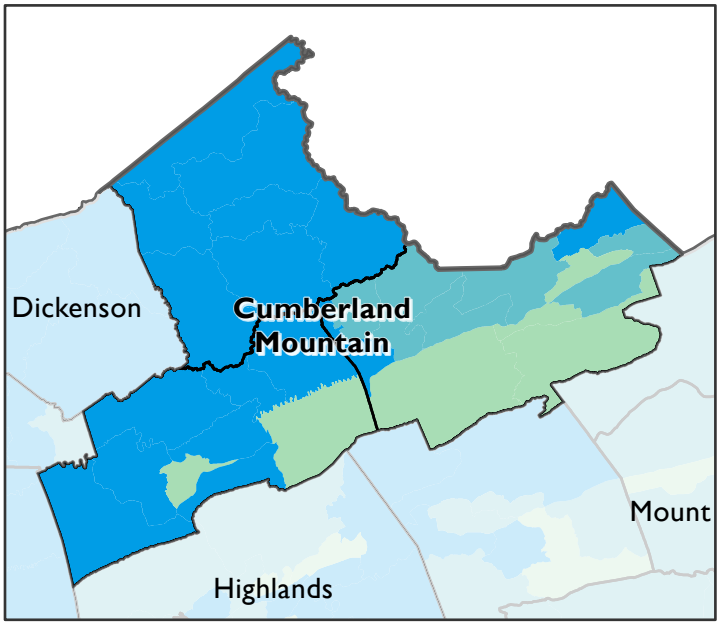


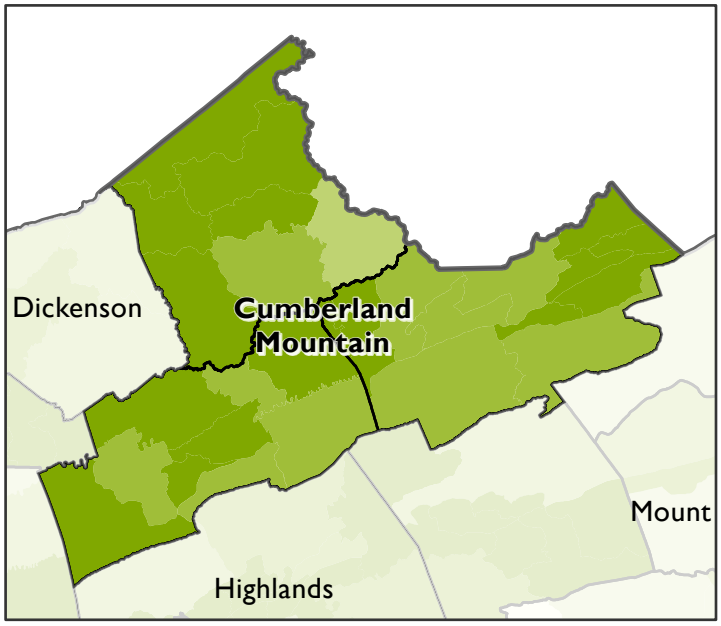
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

CUMBERLAND MOUNTAIN CSB



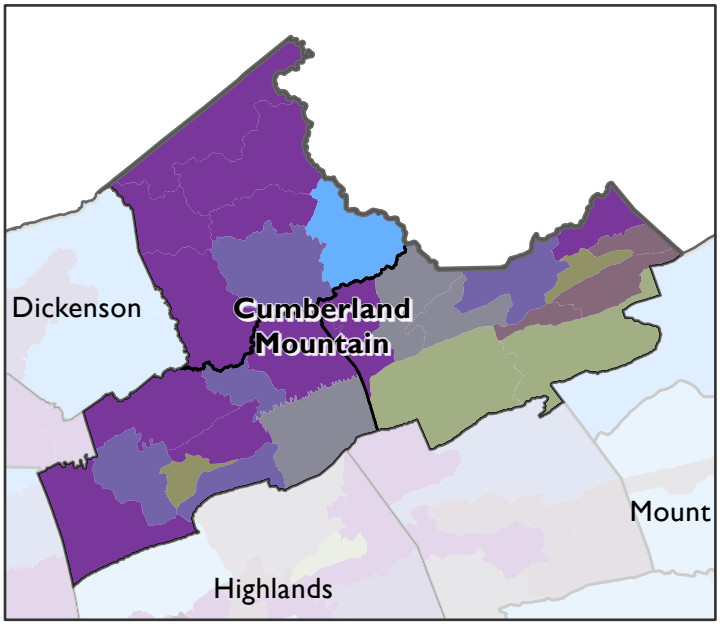


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

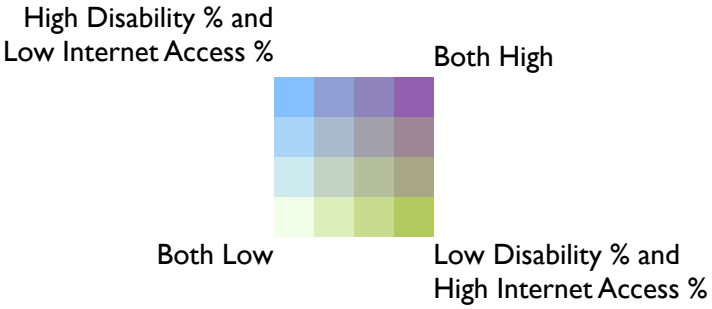
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



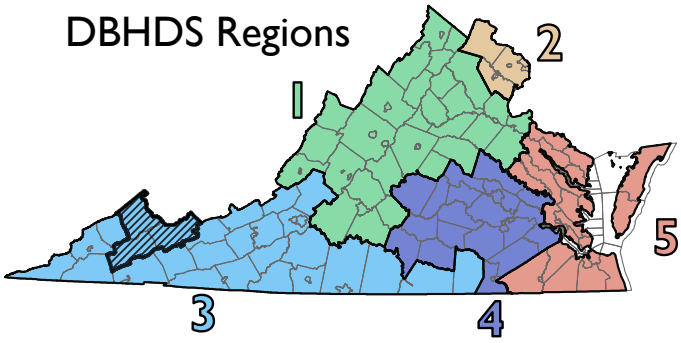
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

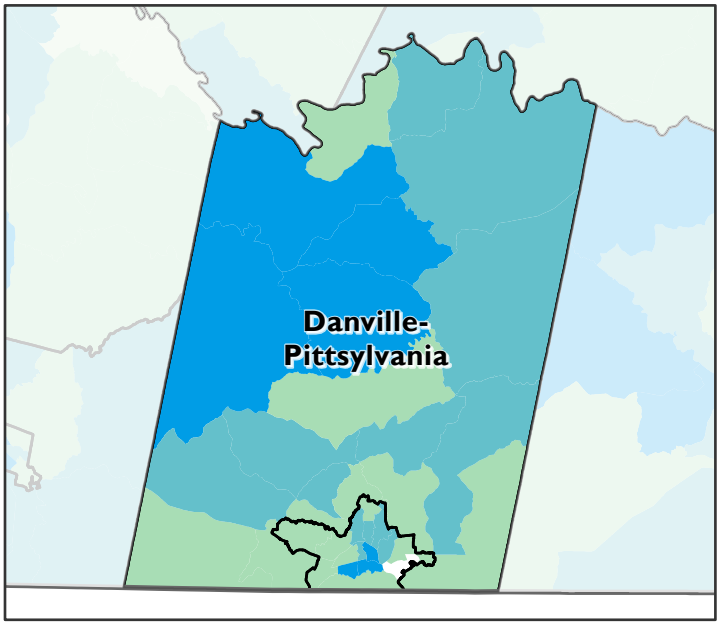


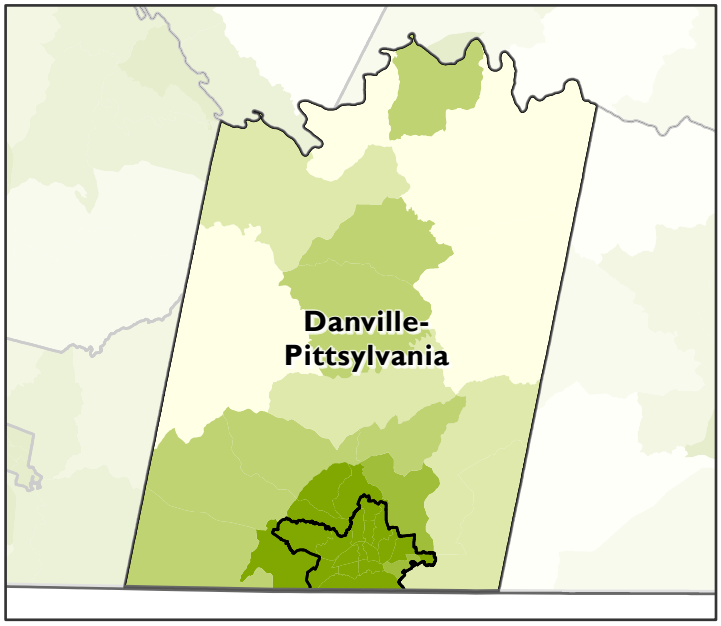
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

DANVILLE-PITTSYLVANIA CSB



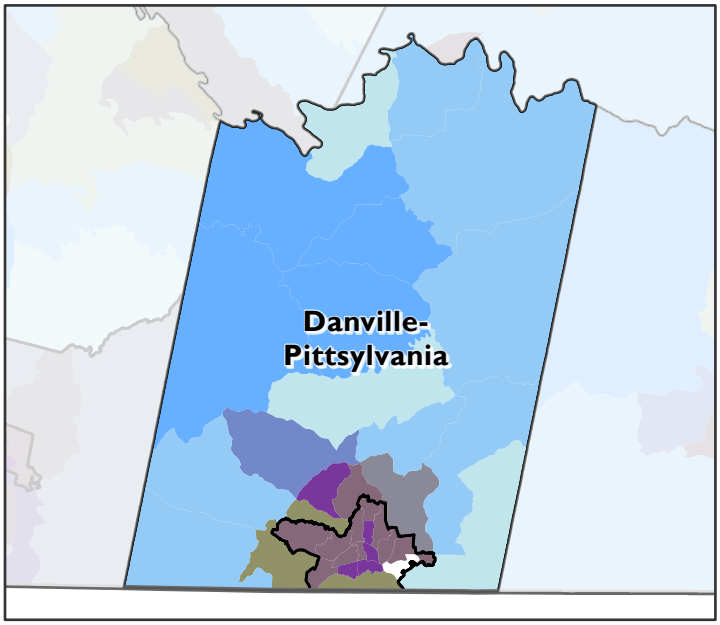


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

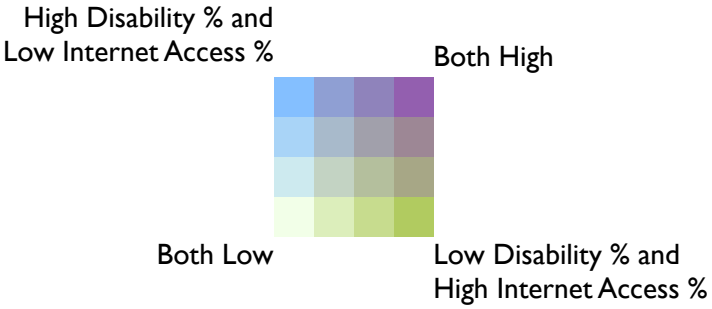
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



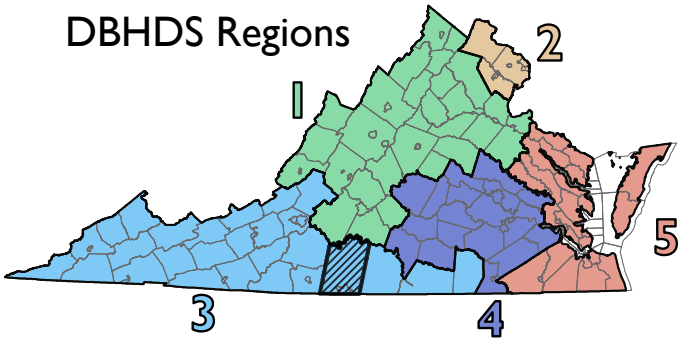
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

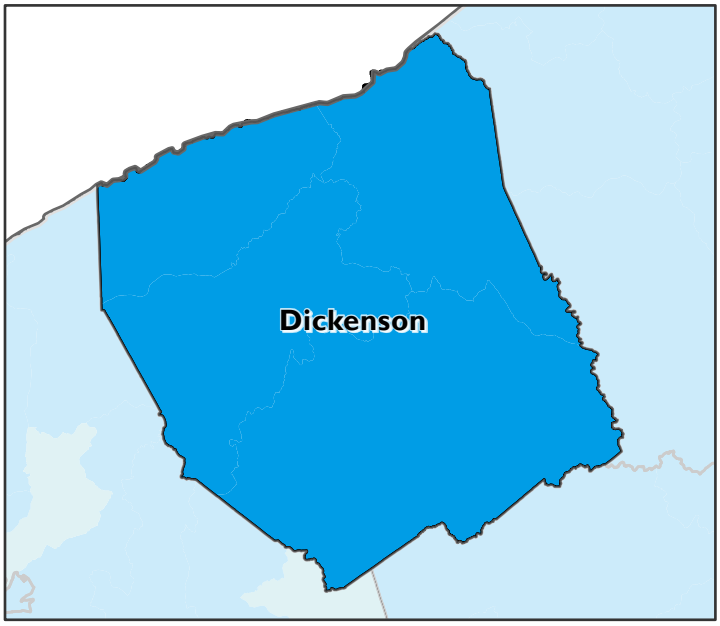


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

DICKENSON COUNTY CSB

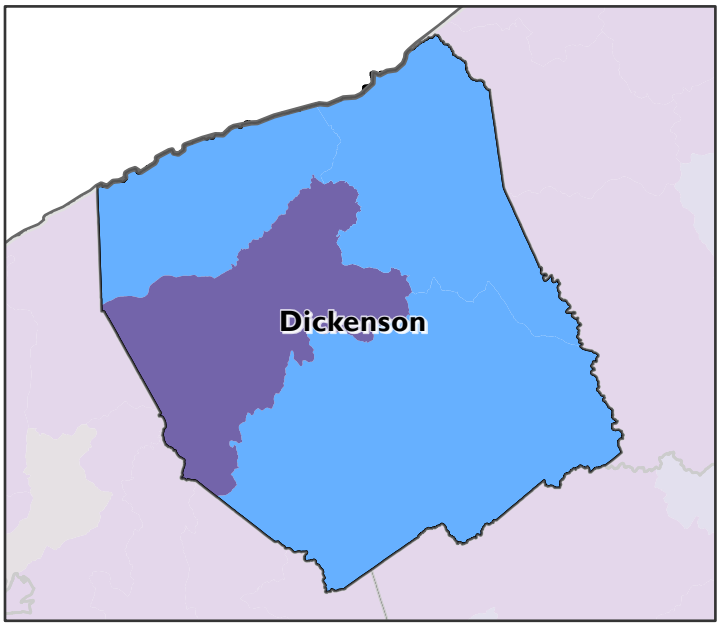


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

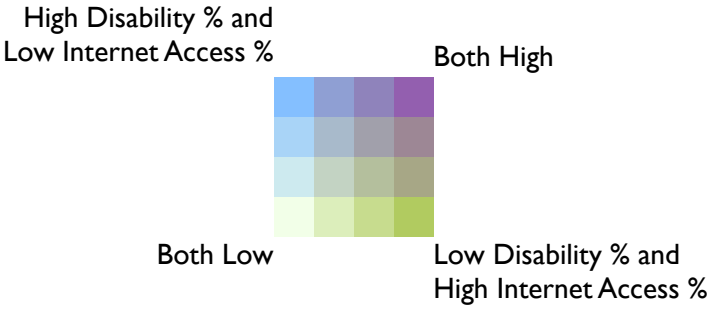
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



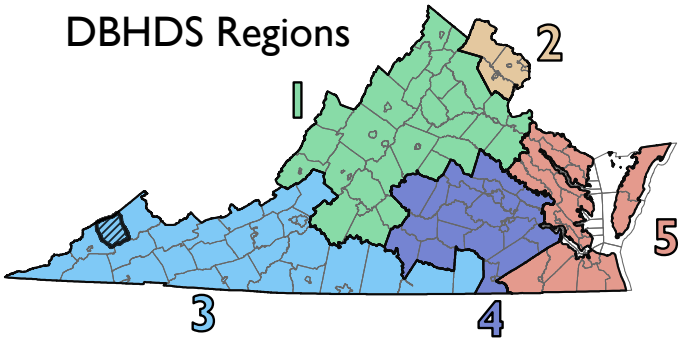
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

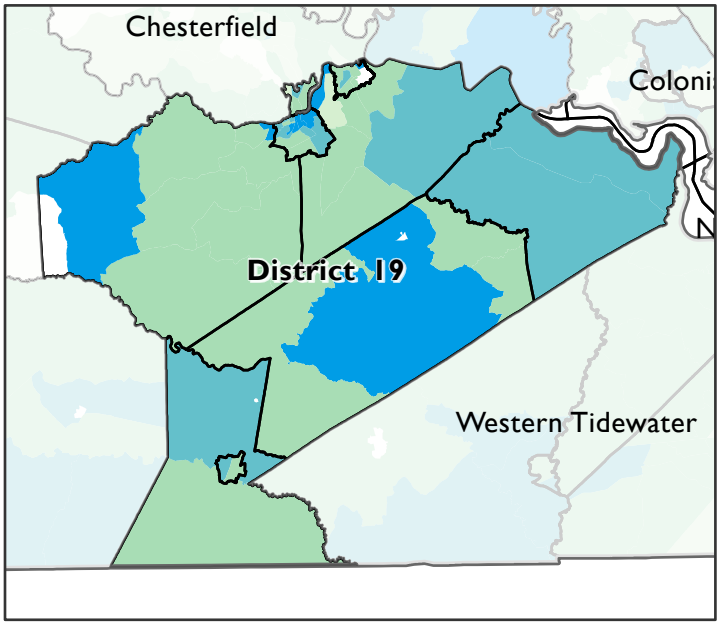


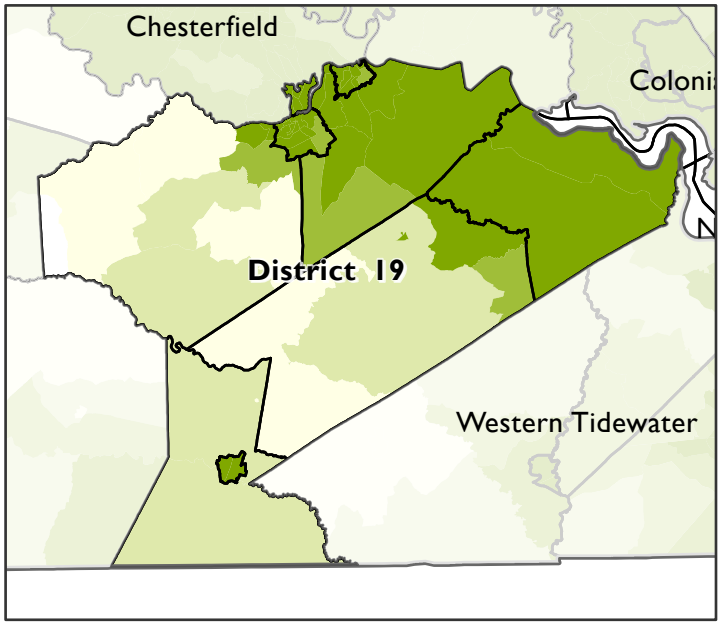
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 4

DISTRICT 19 CSB



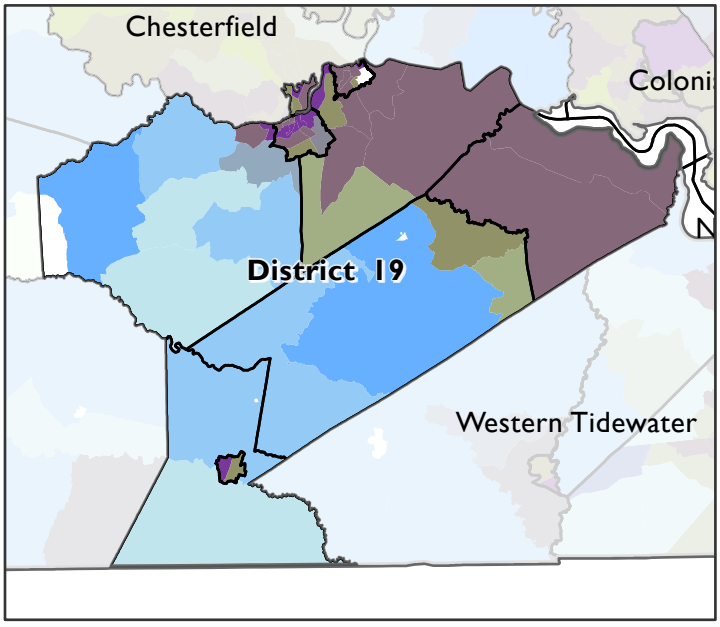


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

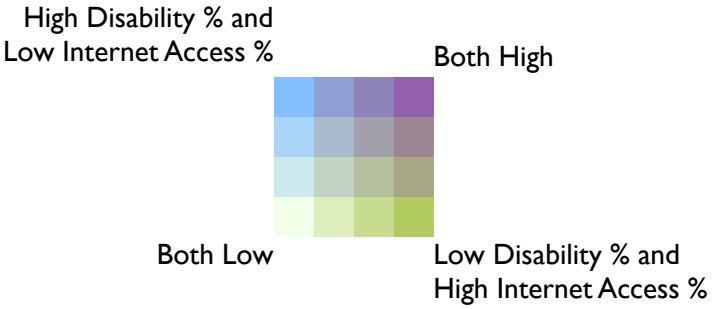
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



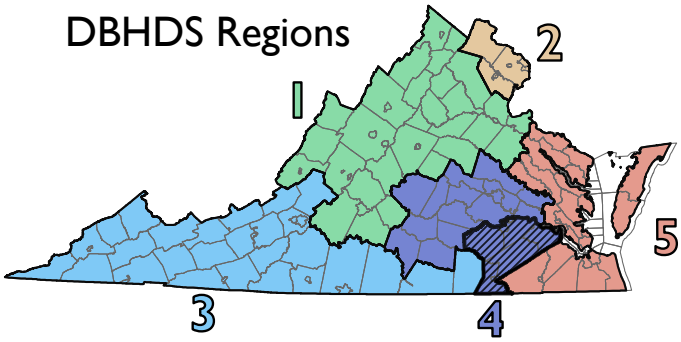
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

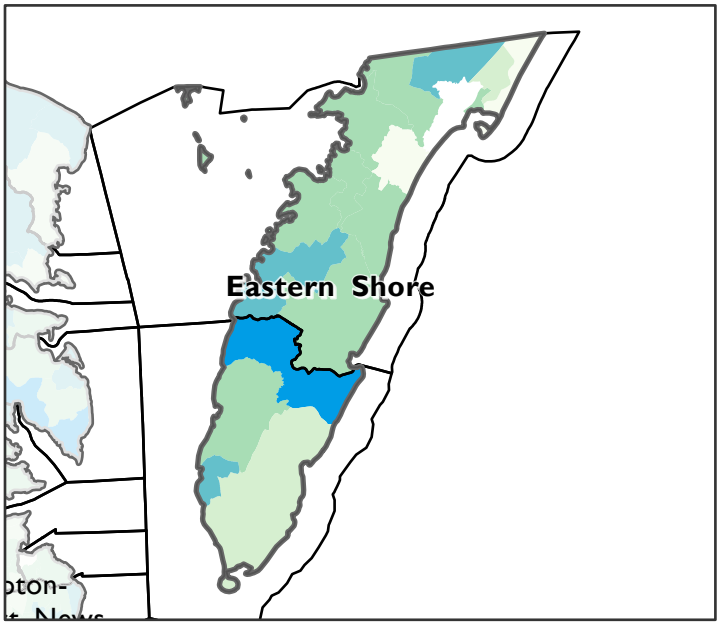


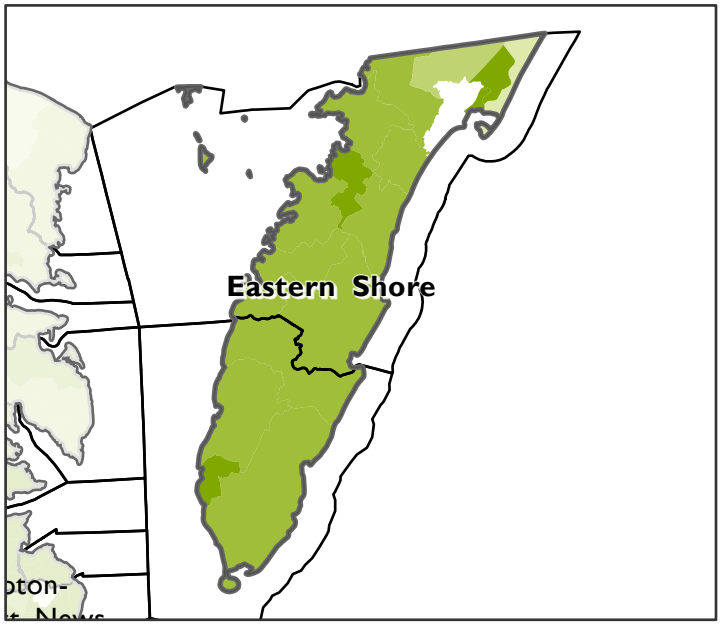
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

EASTERN SHORE CSB



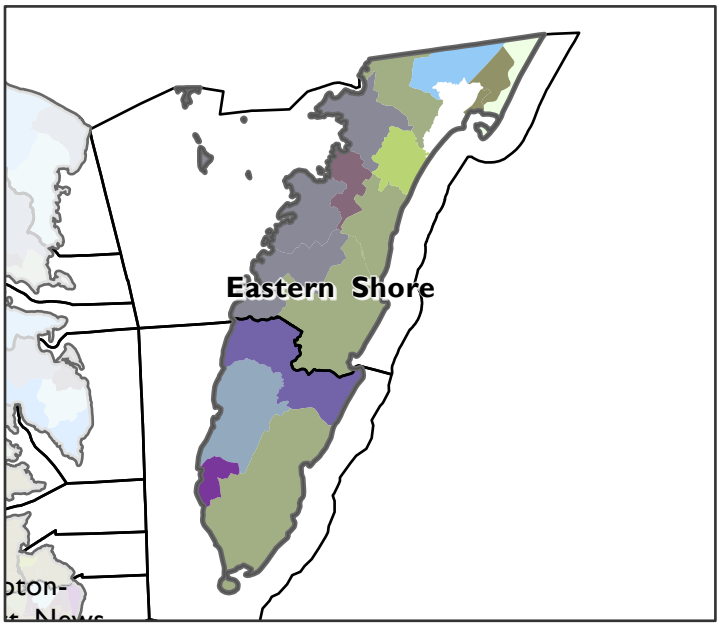


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

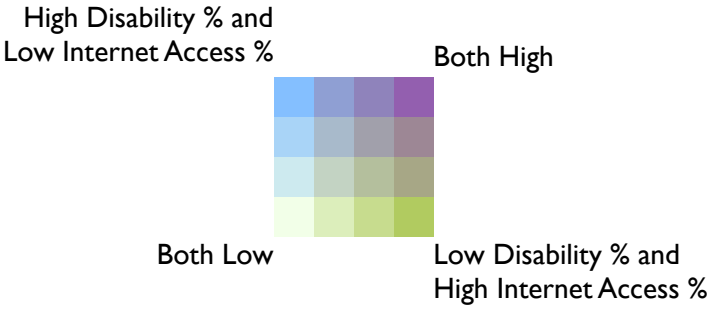
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



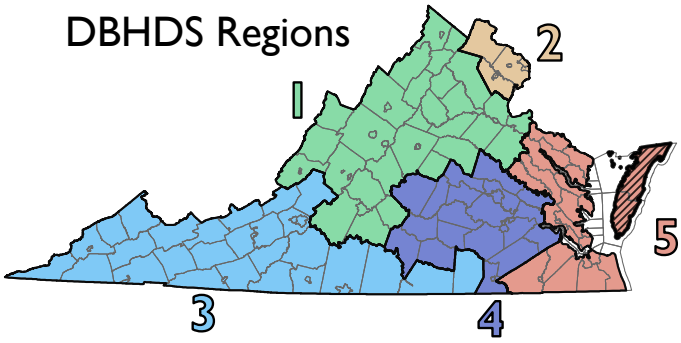
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



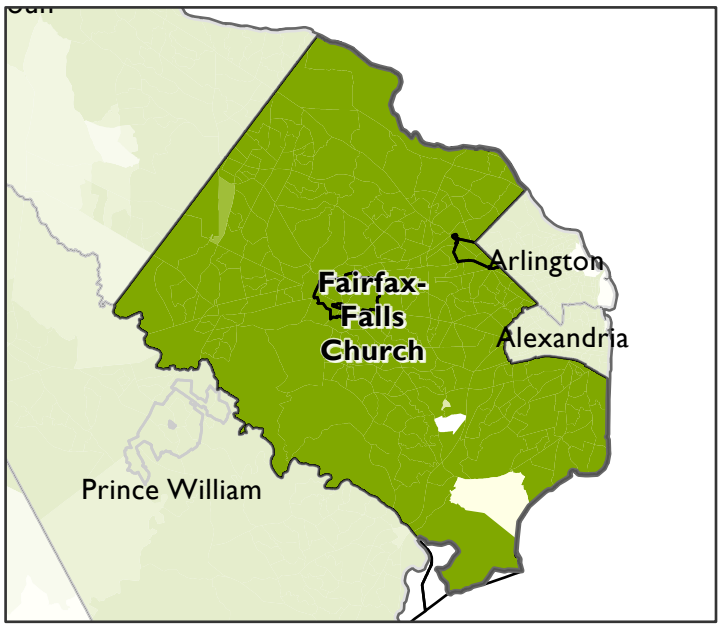
DBHDS Regions



DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 2

FAIRFAX-FALLS CHURCH CSB

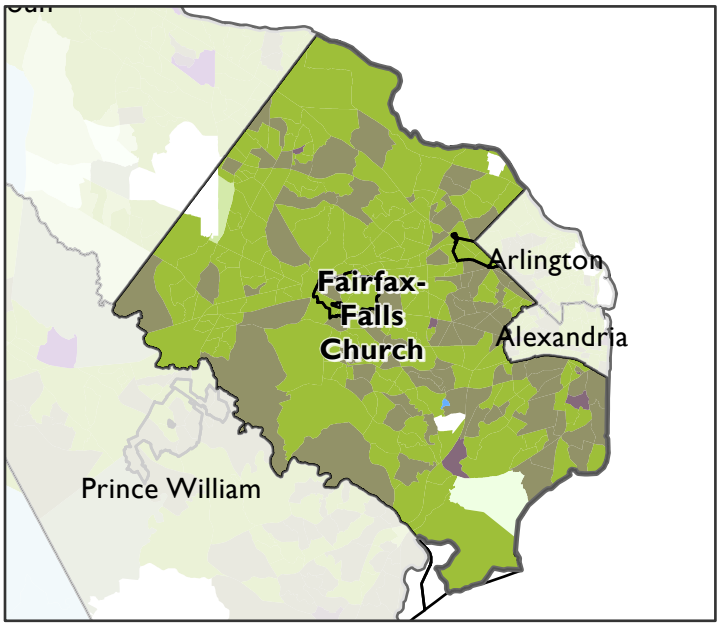


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

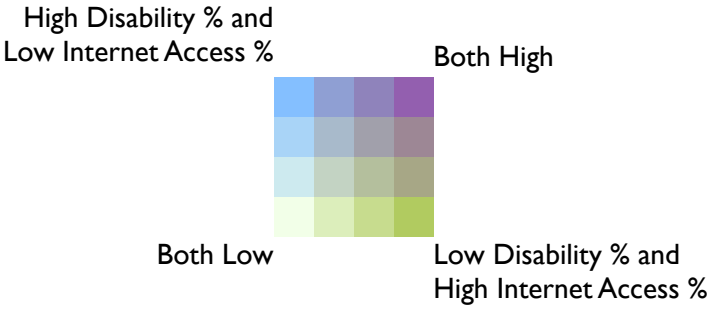
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



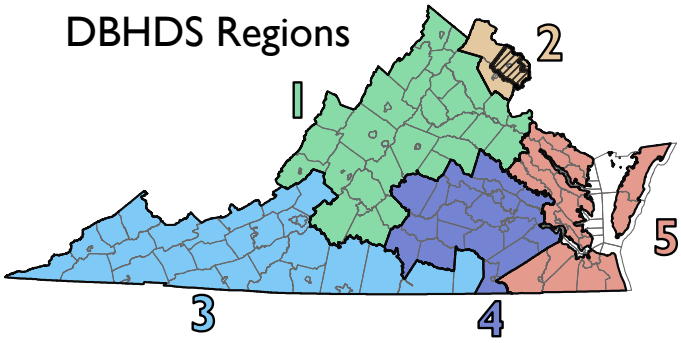
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

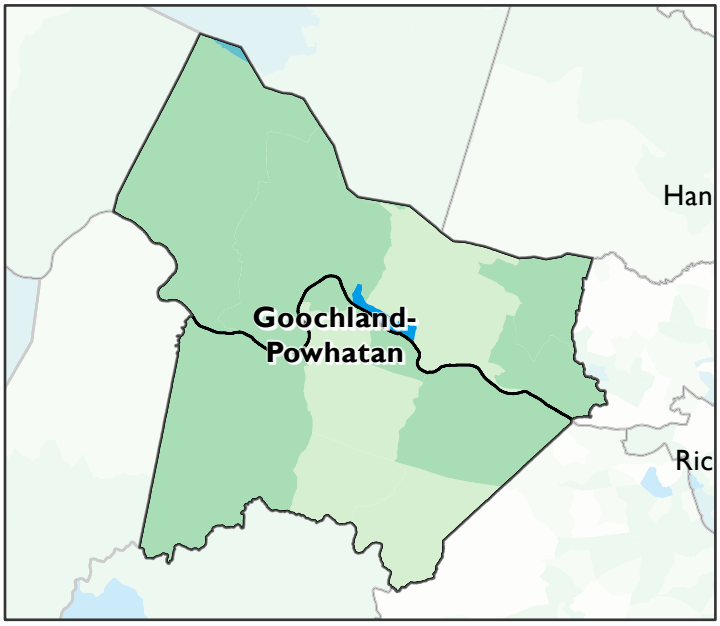


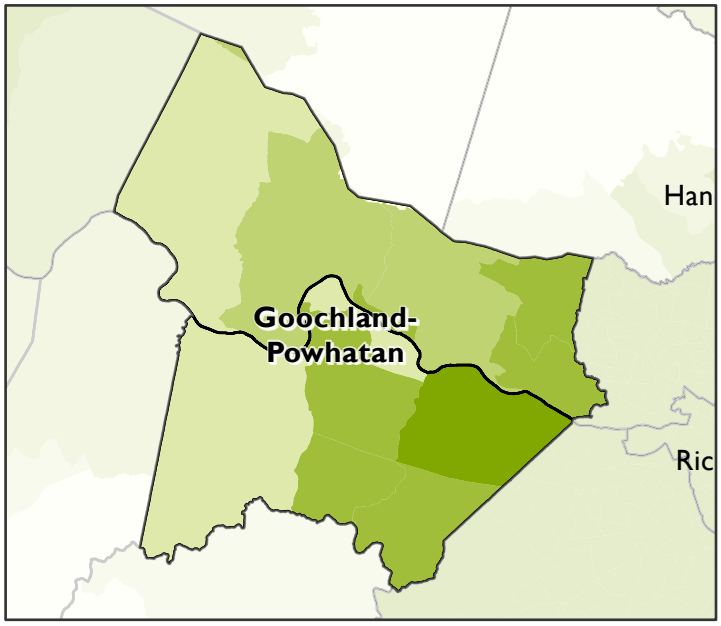
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 4

GOOCHLAND-POWHATAN CSB





Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
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Residential Broadband Coverage

- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
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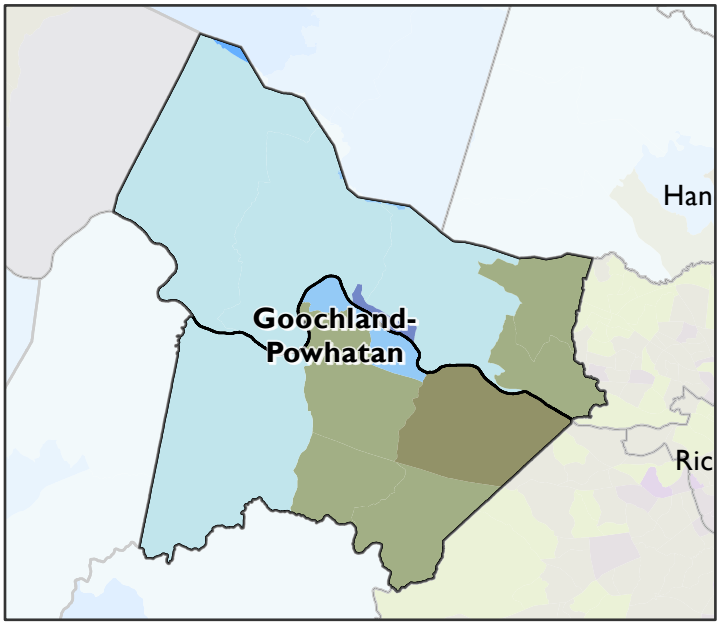
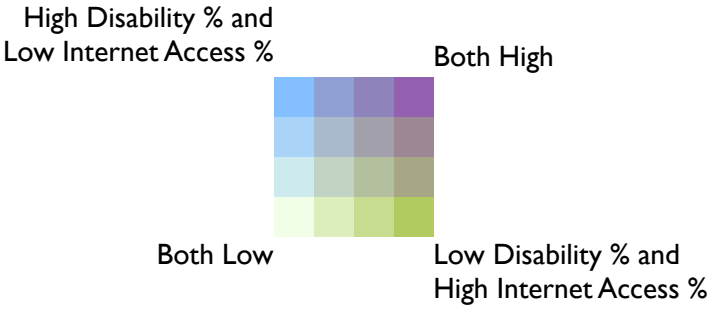


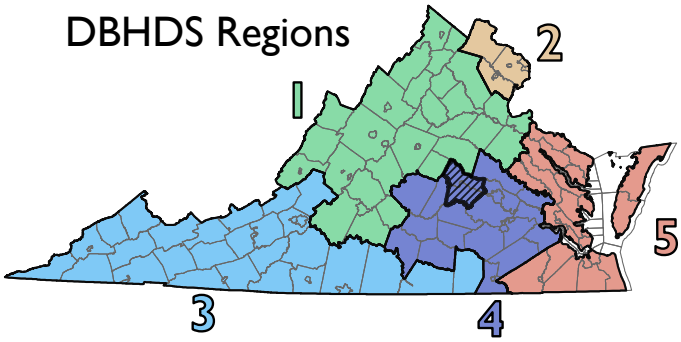
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

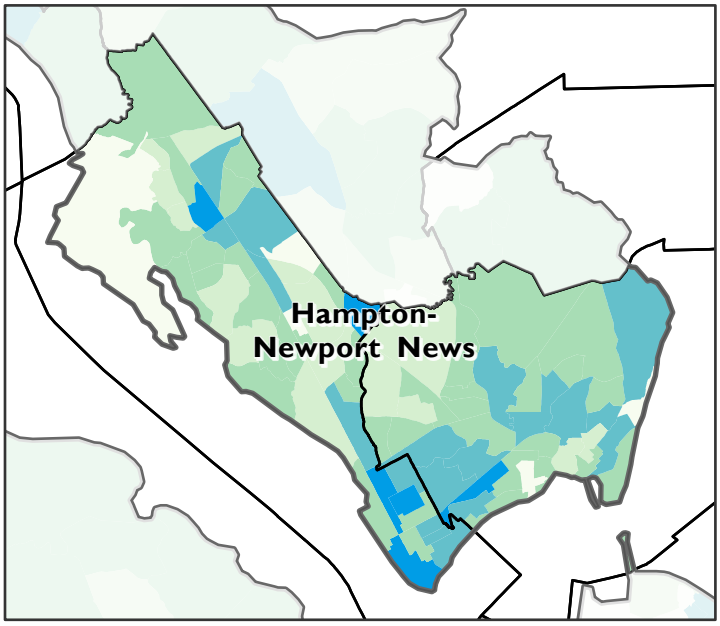


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

HAMPTON-NEWPORT NEWS CSB



Disability Prevalence

- 0 - 8%
- 8.01 - 12%
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- 18.01 - 24%
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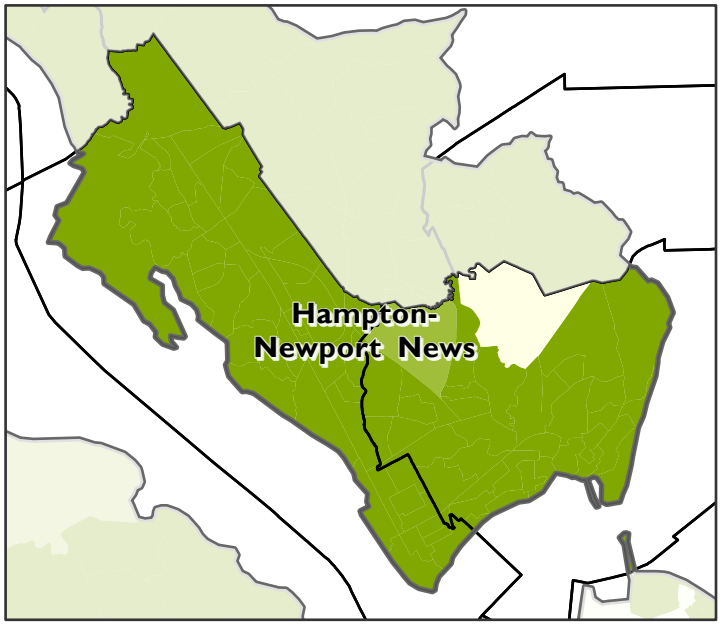
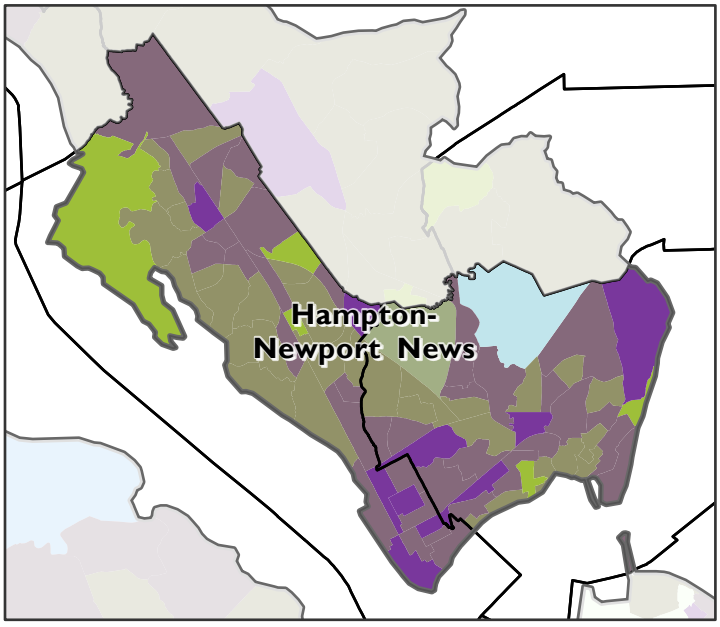


Residential Broadband Coverage

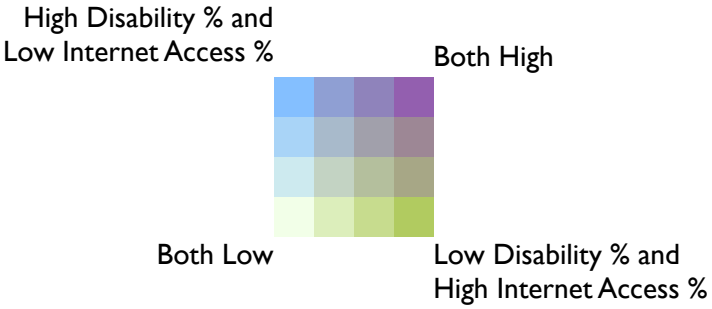
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



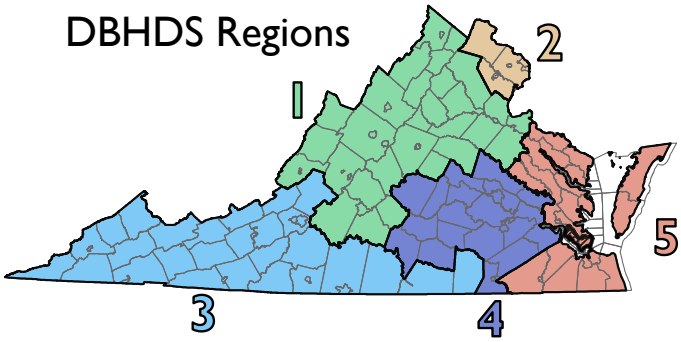
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions



DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

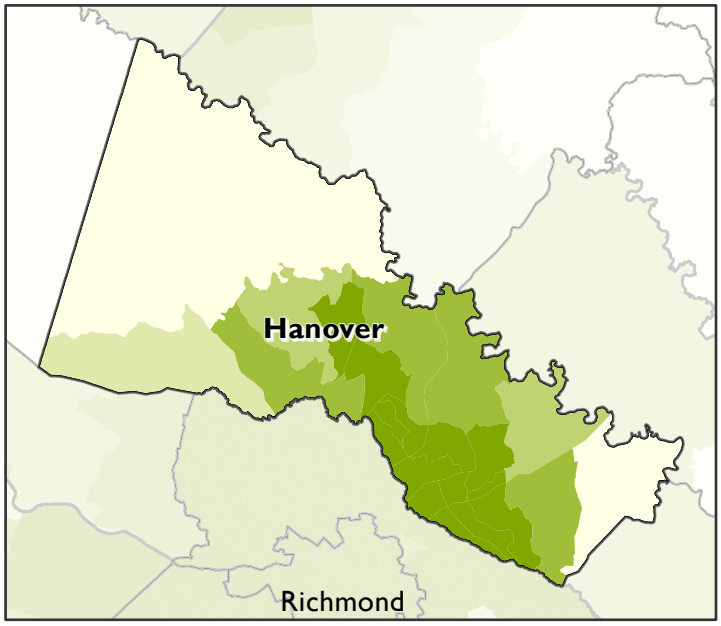
DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 4

HANOVER COUNTY CSB

Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%



Residential Broadband Coverage

- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
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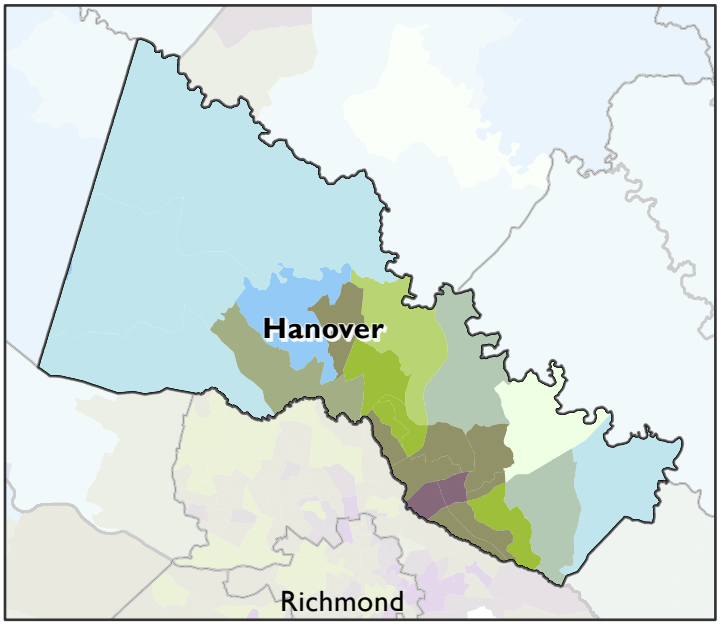
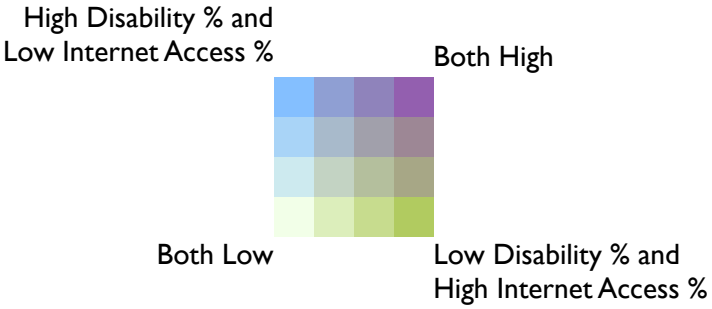


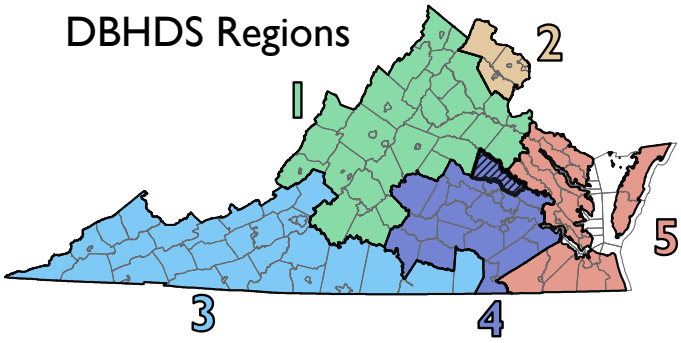
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

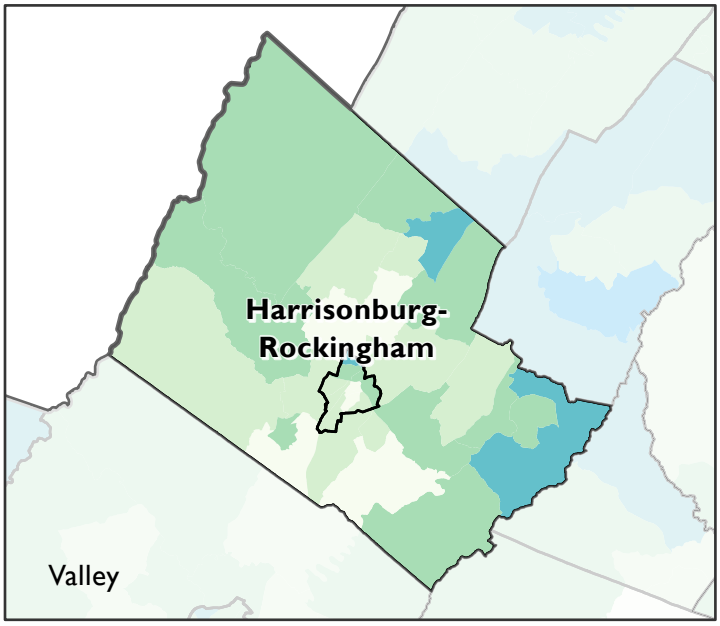


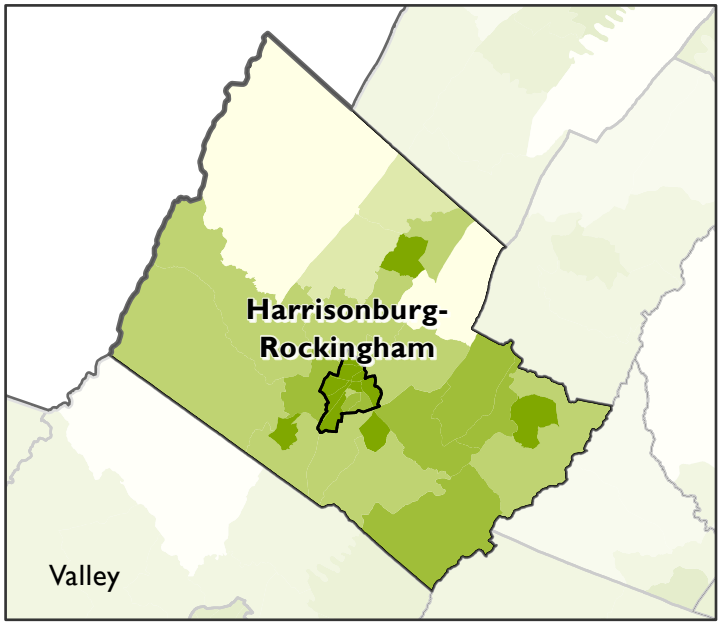
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

HARRISONBURG-ROCKINGHAM CSB



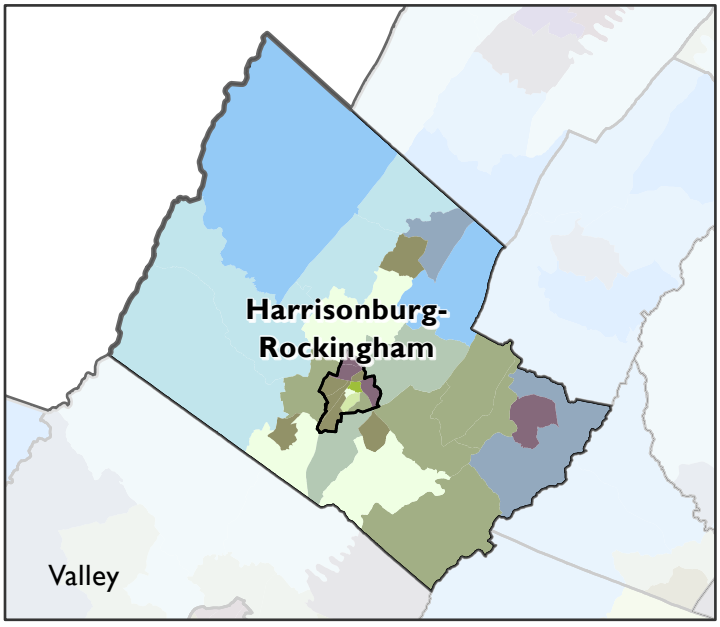


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

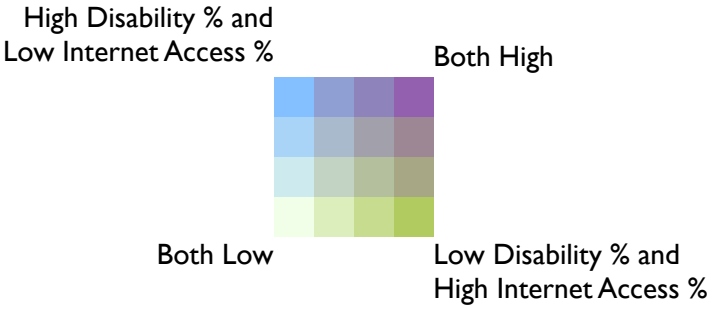
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



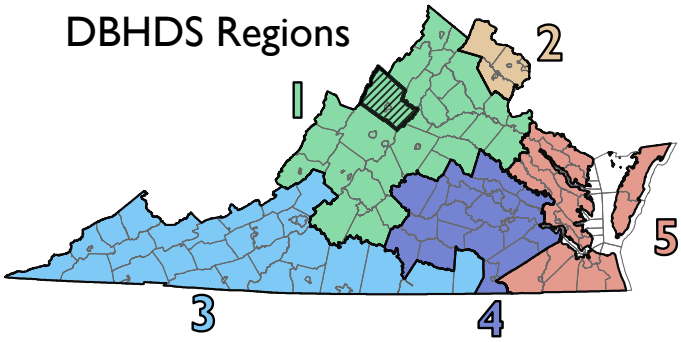
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



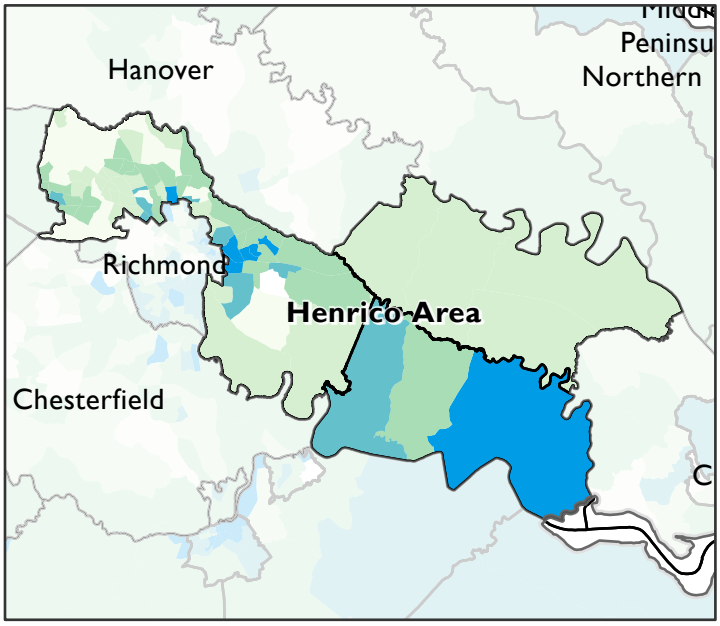
DBHDS Regions

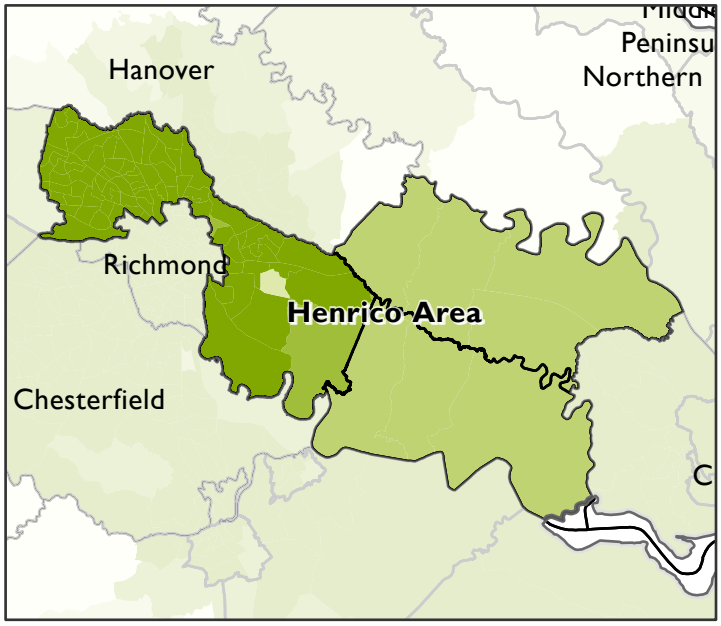


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 4

HENRICO AREA MENTAL HEALTH AND DEVELOPMENTAL SERVICES



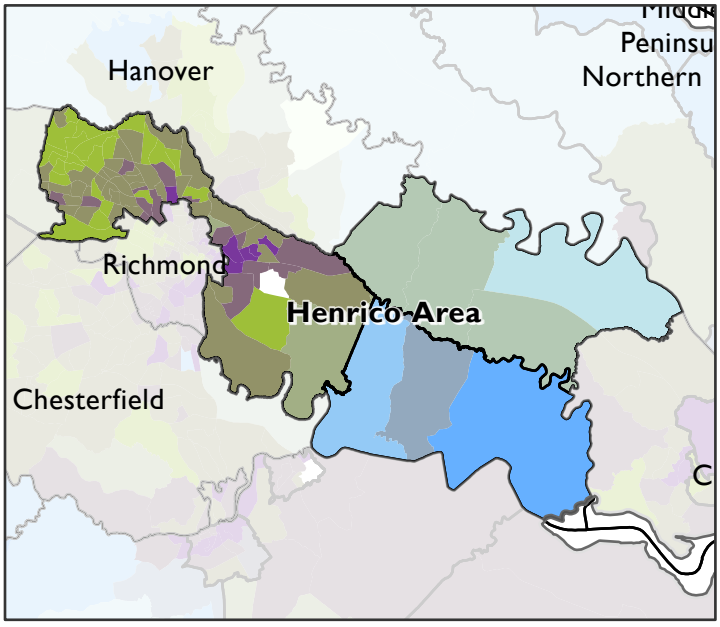


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

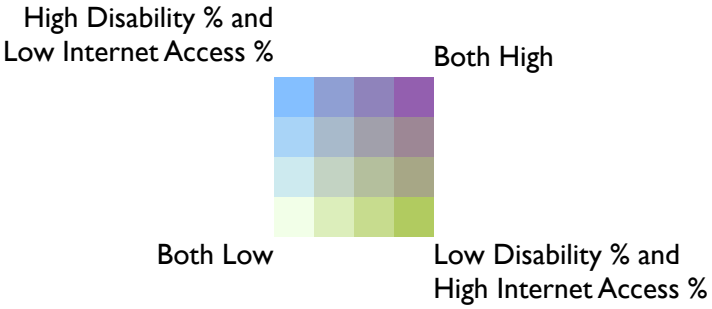
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



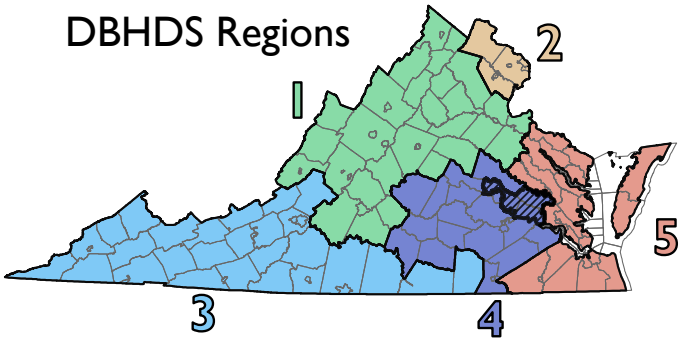
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

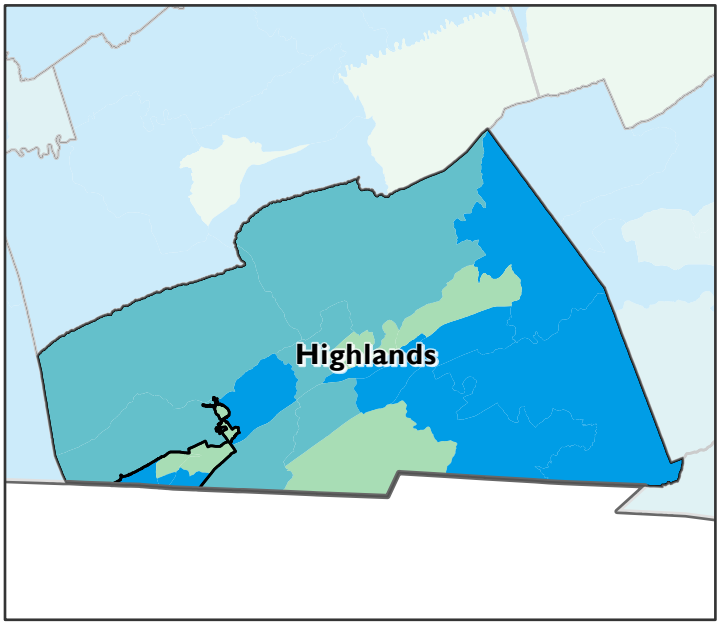


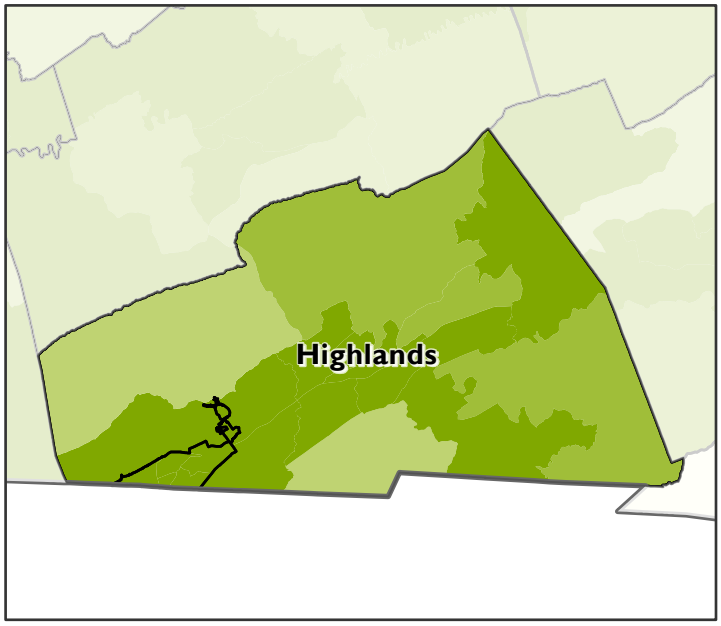
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

HIGHLANDS CSB



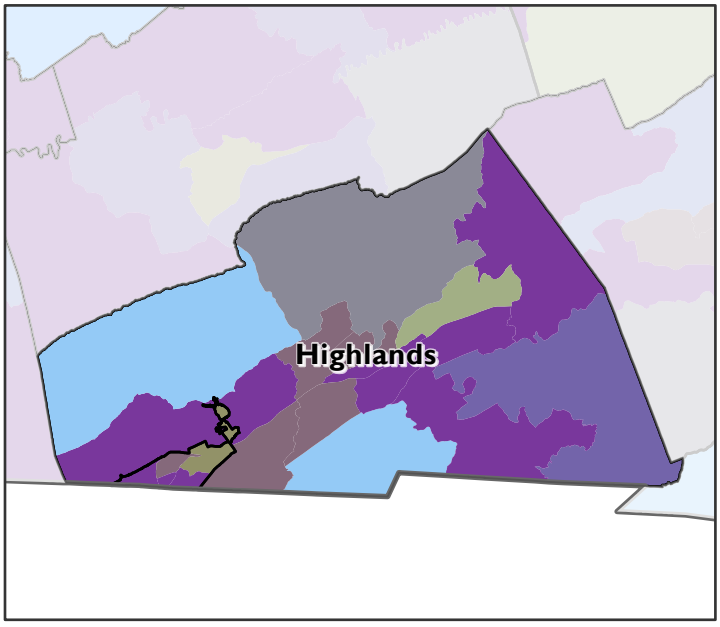


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

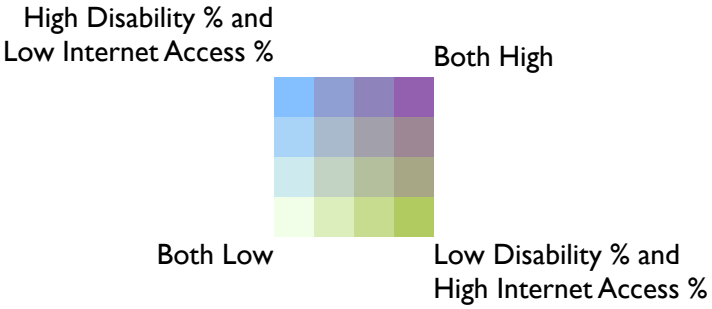
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



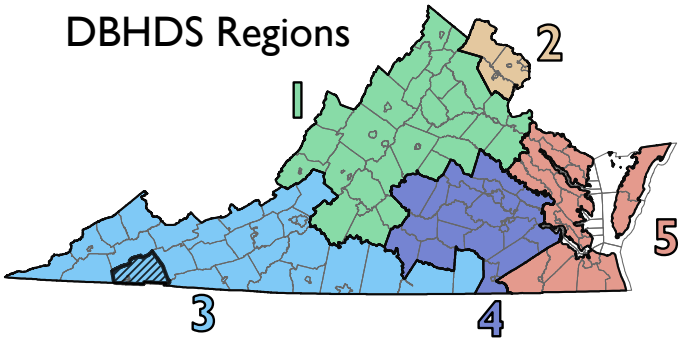
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



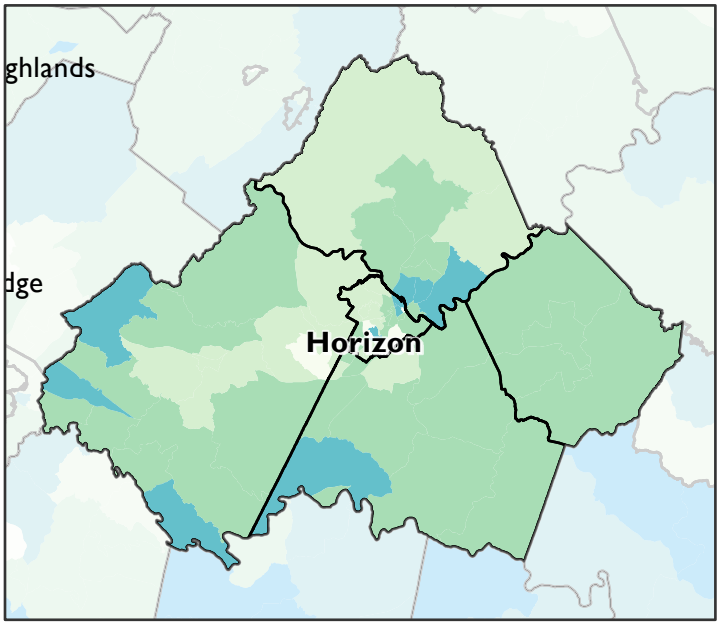
DBHDS Regions

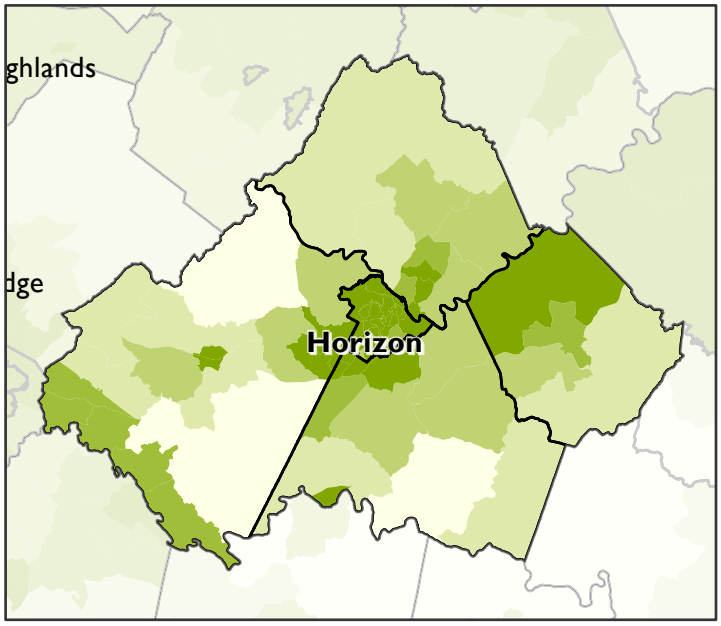


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 1

HORIZON BEHAVIORAL HEALTH



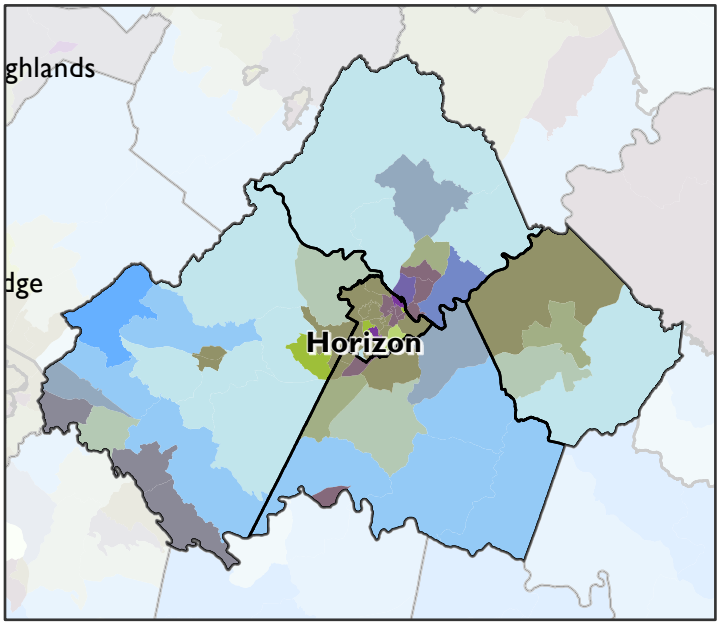


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

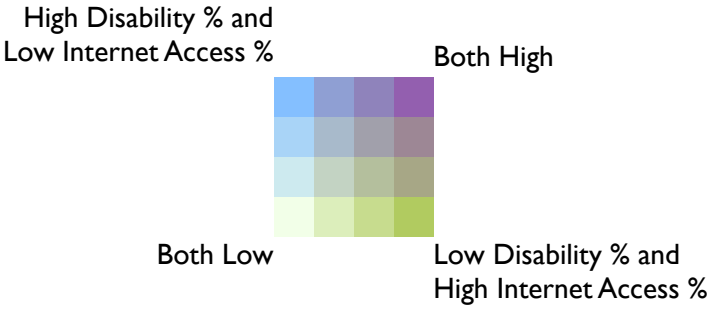
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



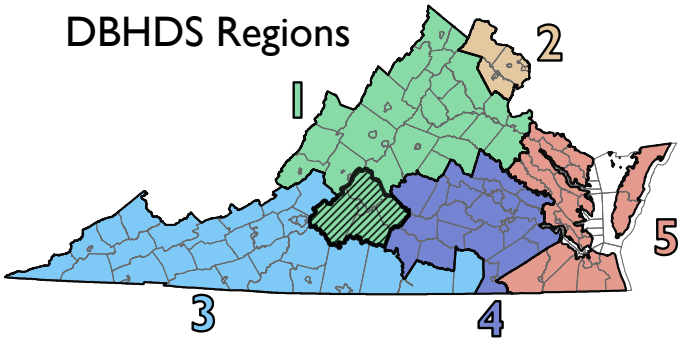
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



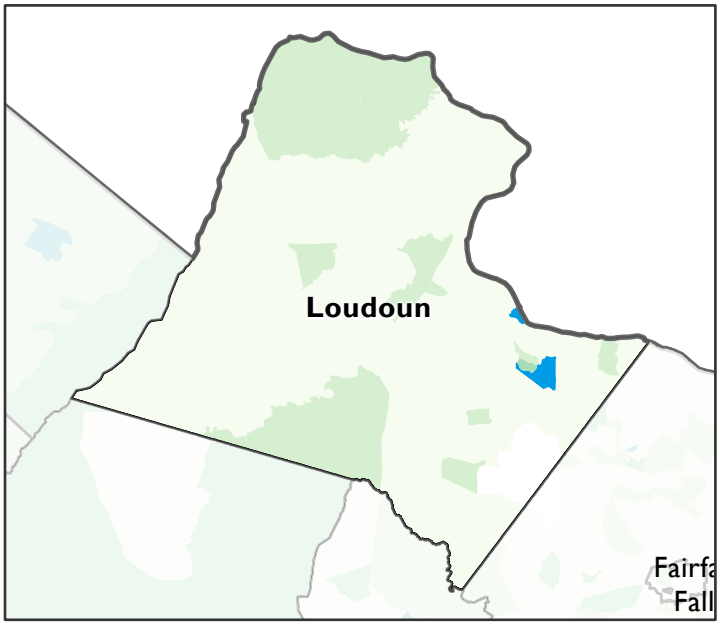
DBHDS Regions

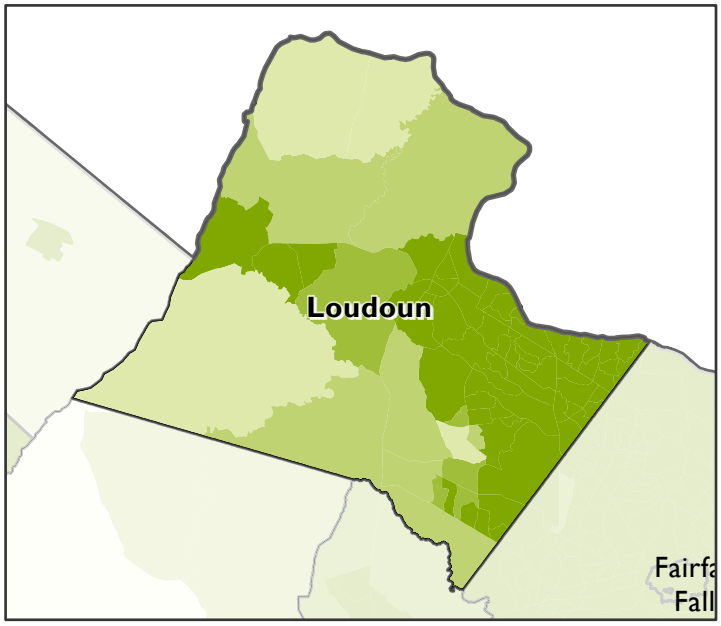


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 2

LOUDOUN COUNTY DEPT. OF MENTAL HEALTH, SUBSTANCE ABUSE AND DEVELOPMENTAL SERVICES



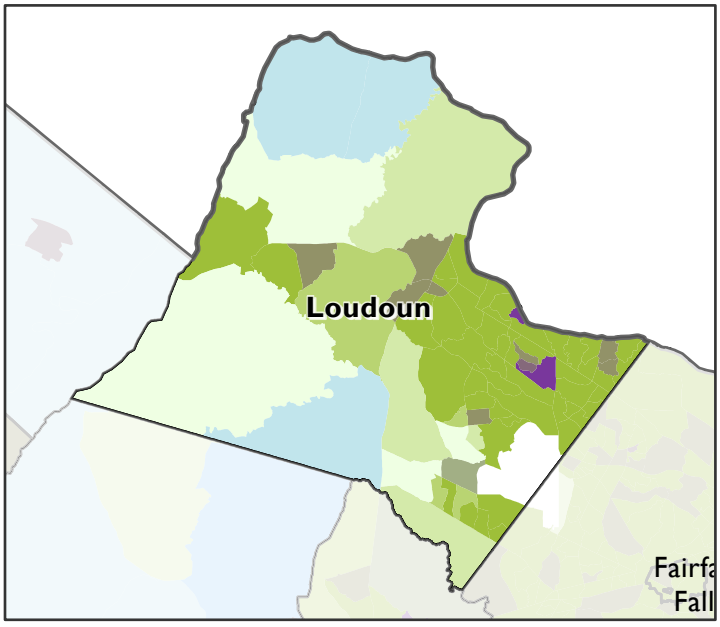


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

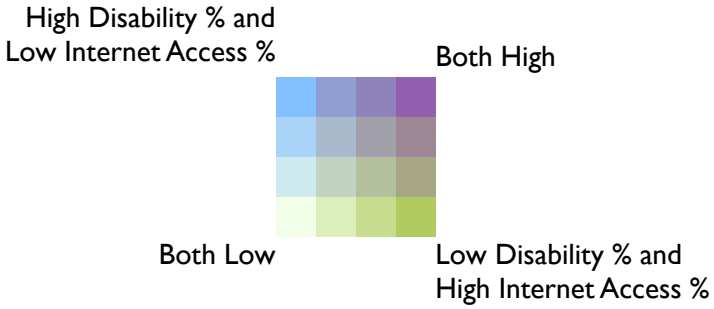
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



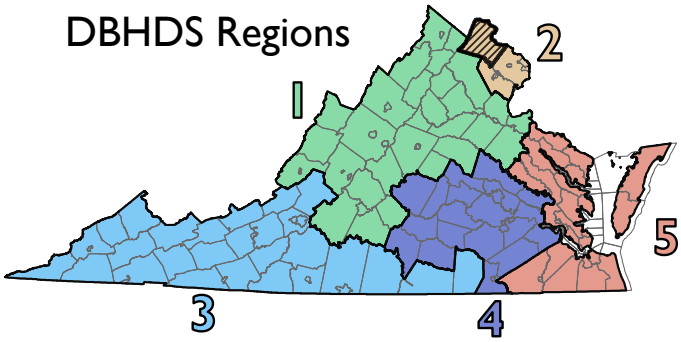
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



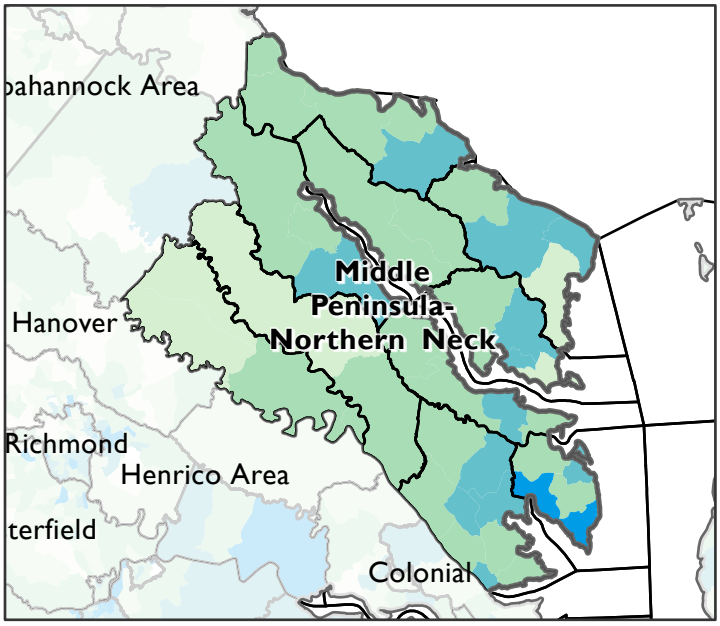
DBHDS Regions



DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

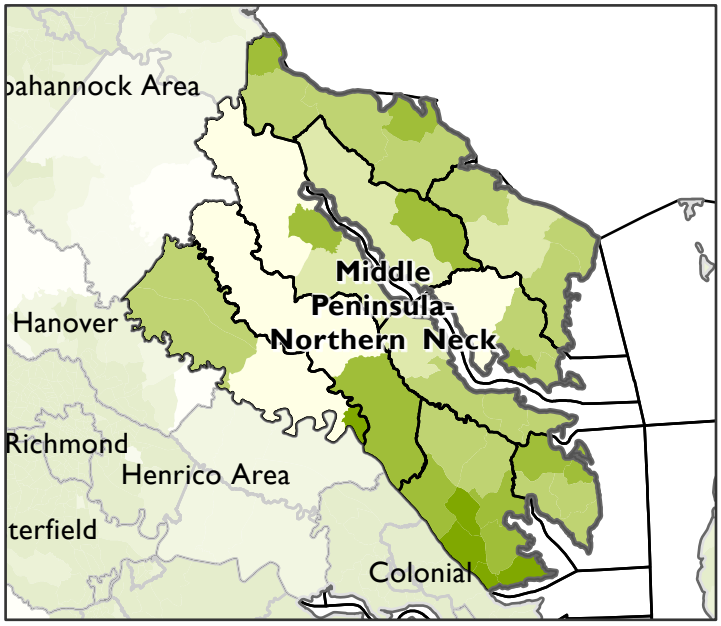
DISABILITY AND HOMES WITH INTERNET ACCESS REGION 5

MIDDLE PENINSULA-NORTHERN NECK CSB



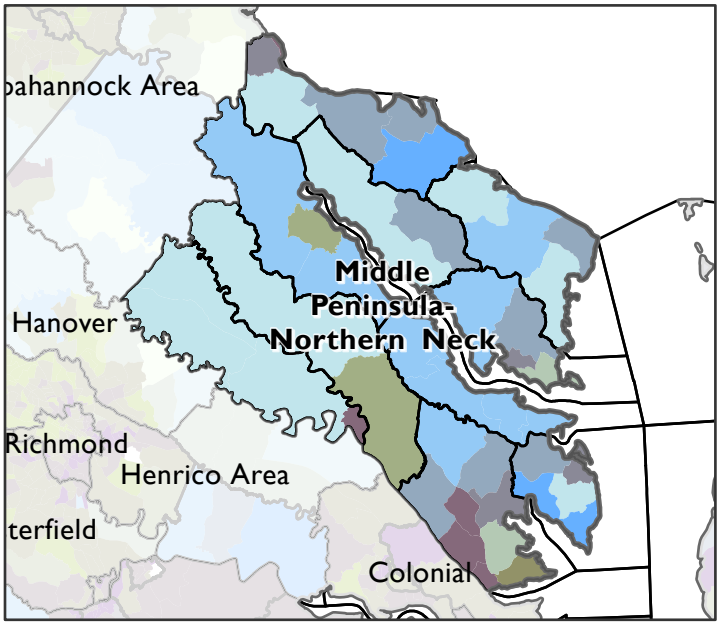
Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%



Residential Broadband Coverage

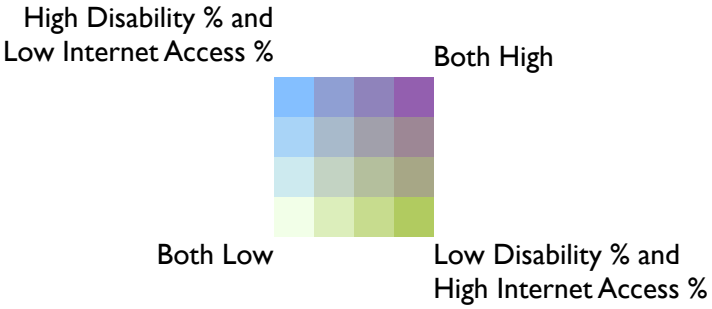
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



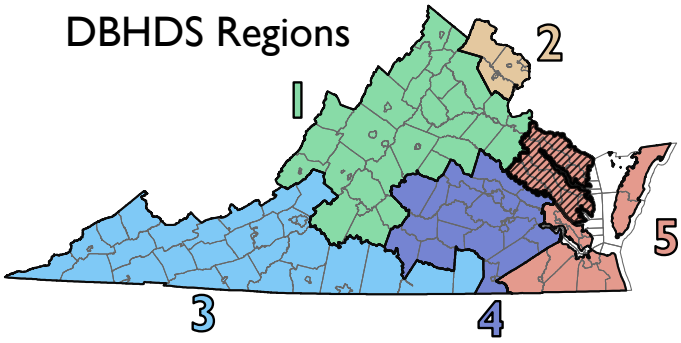
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

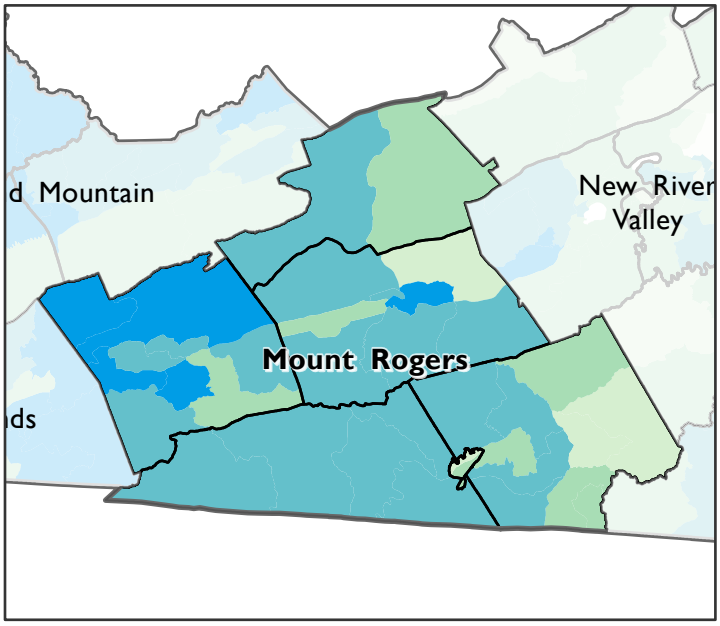


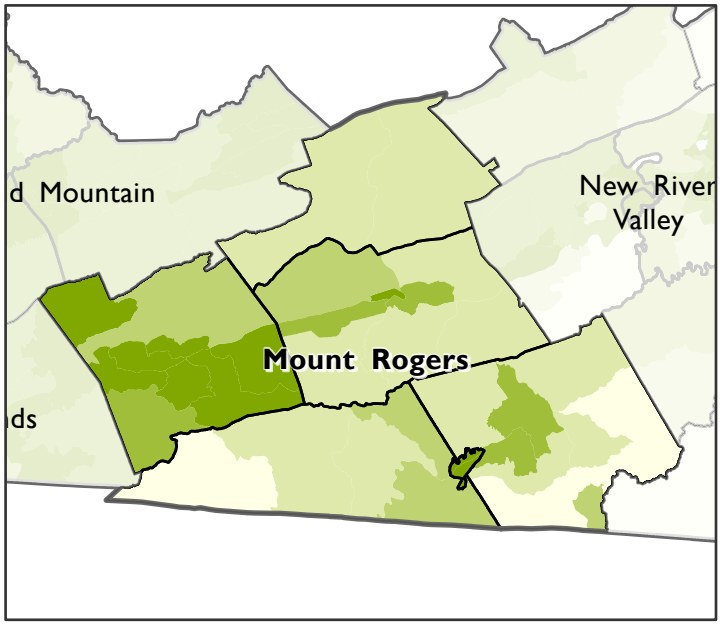
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

MOUNT ROGERS CSB



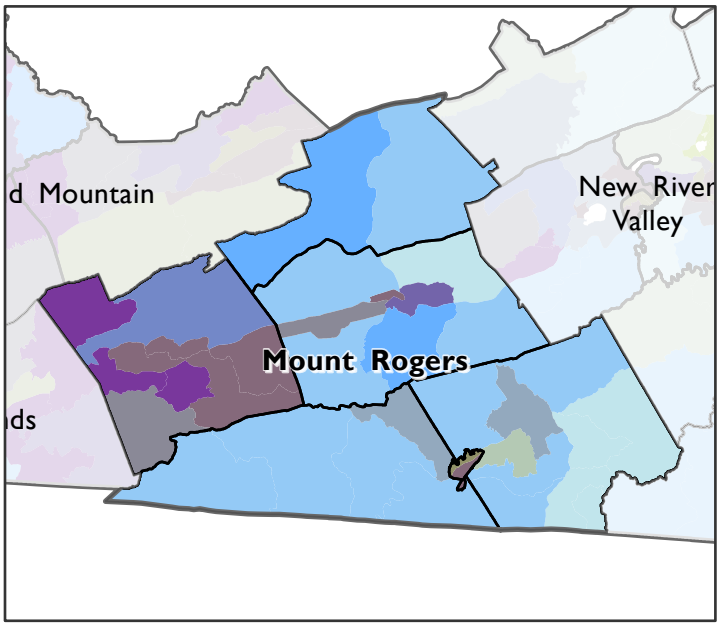


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

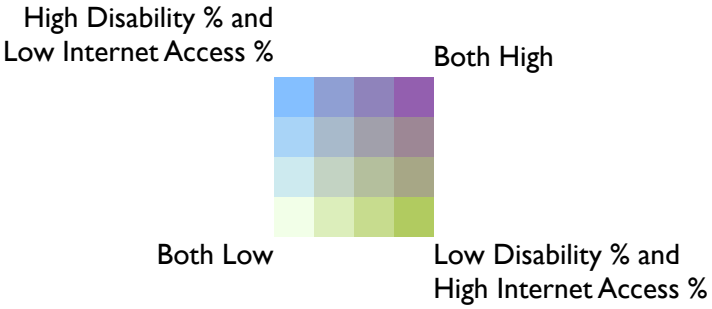
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



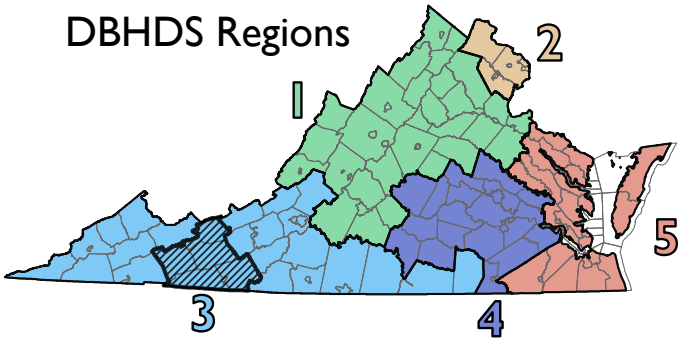
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

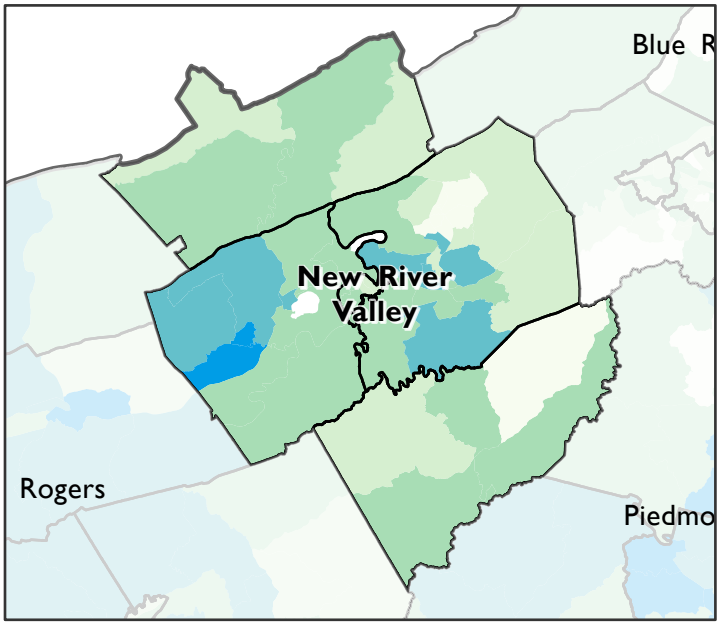


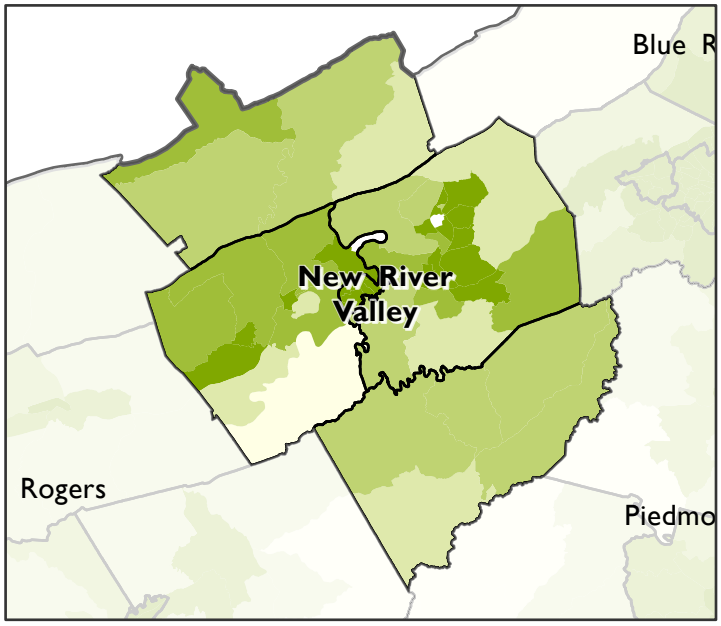
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

NEW RIVER VALLEY CSB



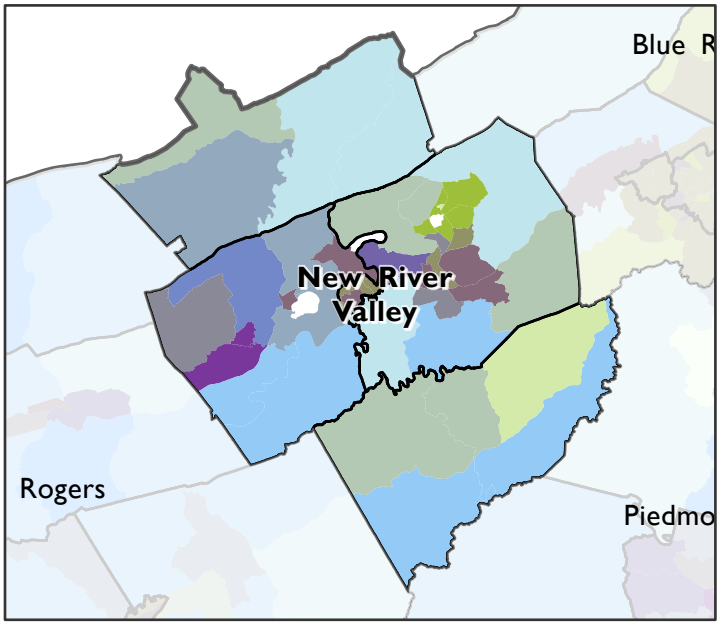


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

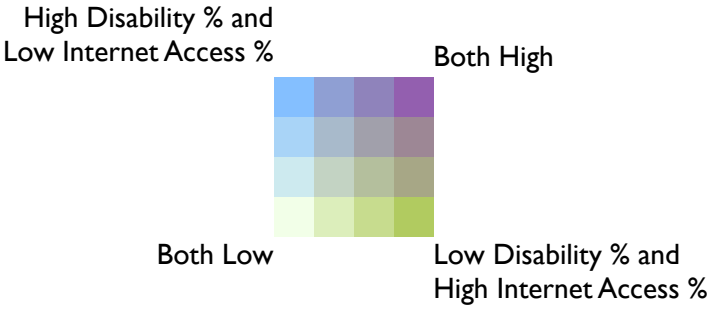
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



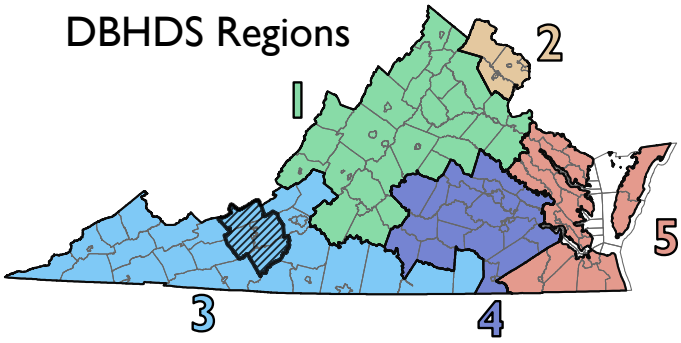
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

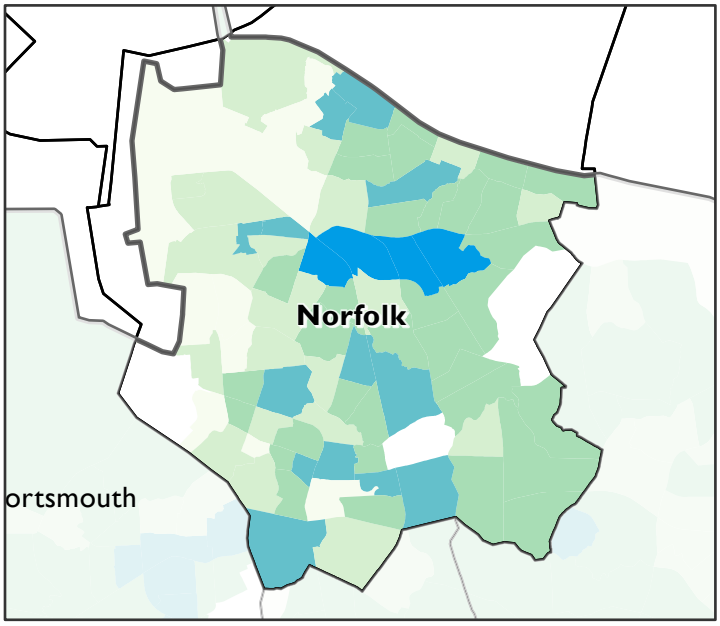


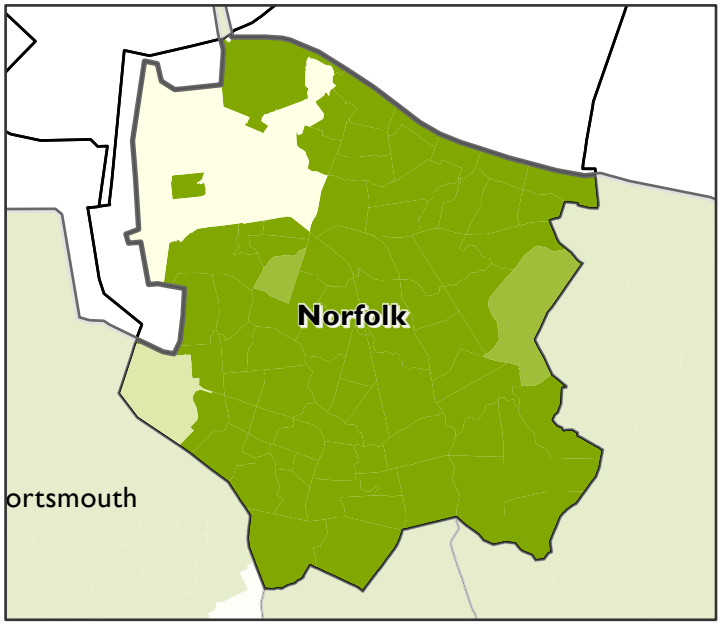
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

NORFOLK CSB



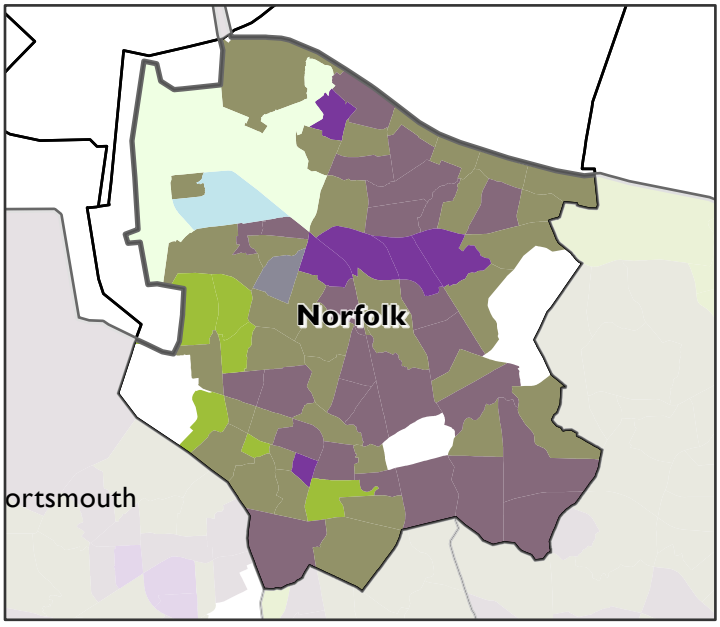


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

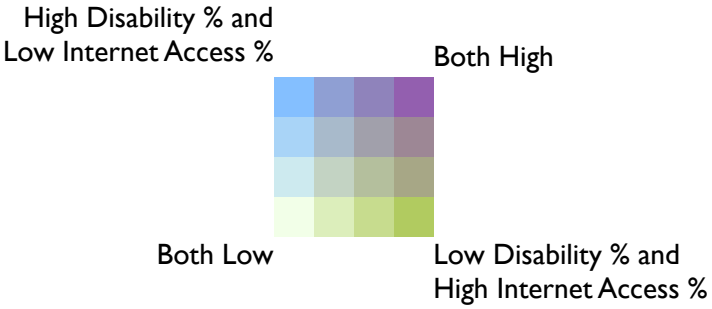
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



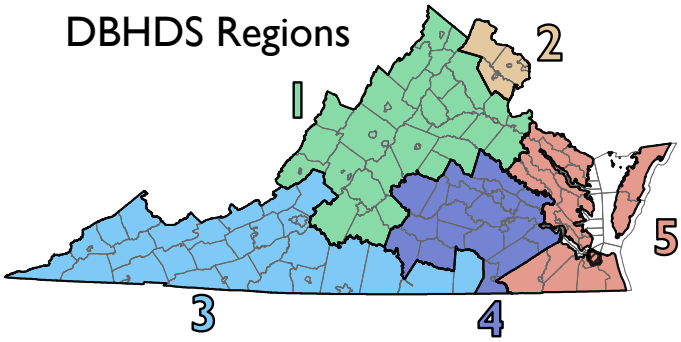
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

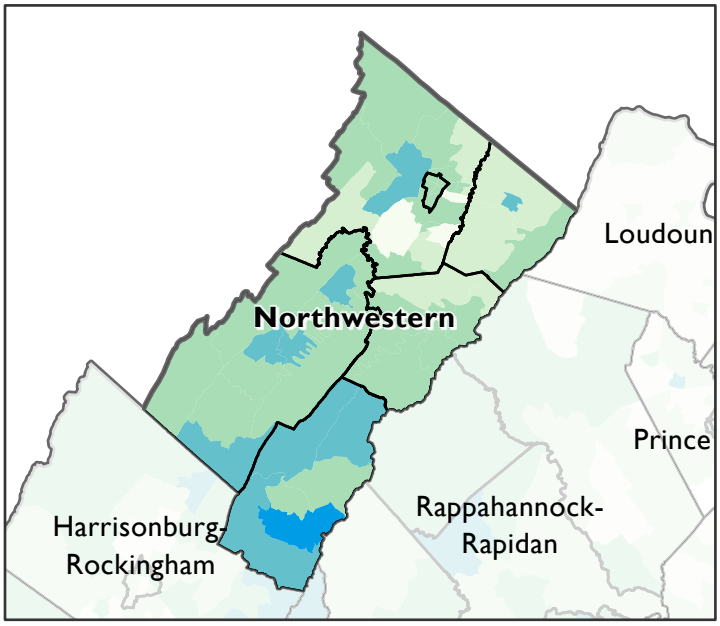


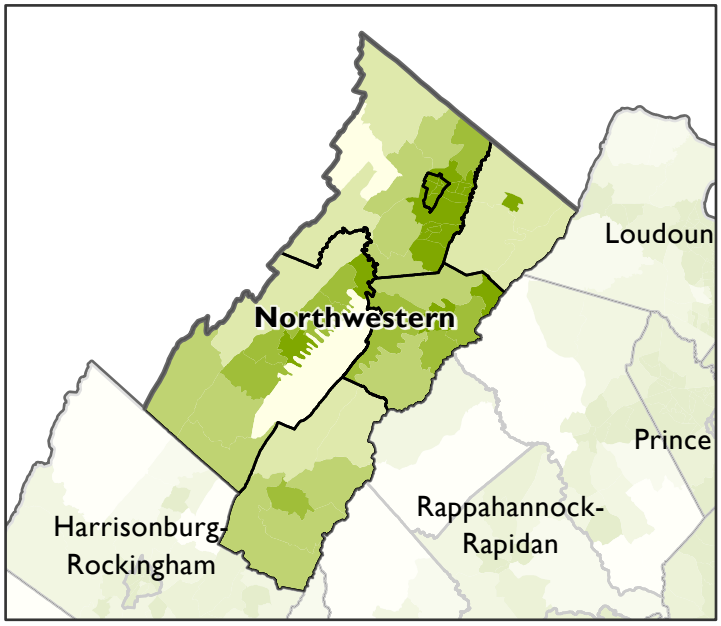
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

NORTHWESTERN CSB



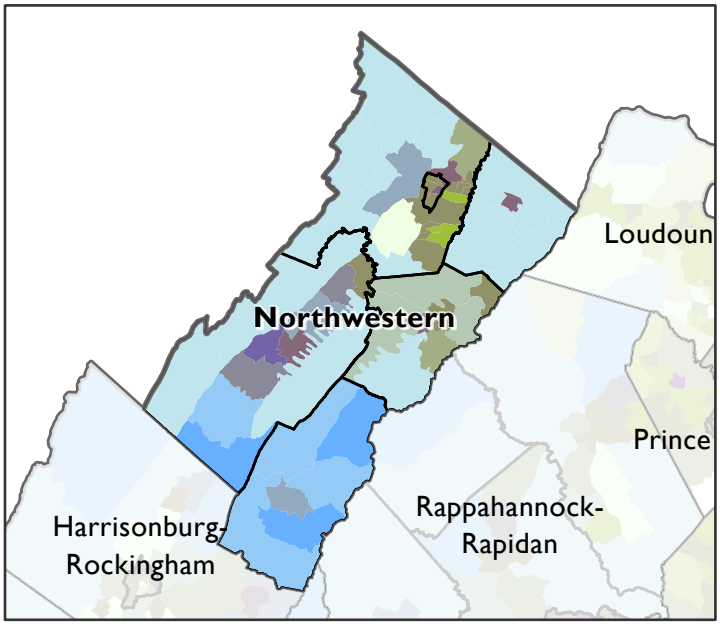


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

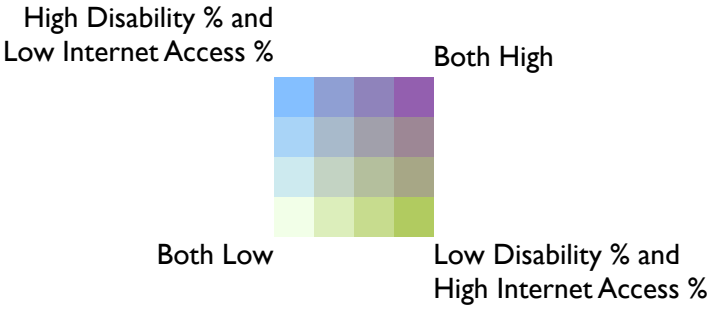
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



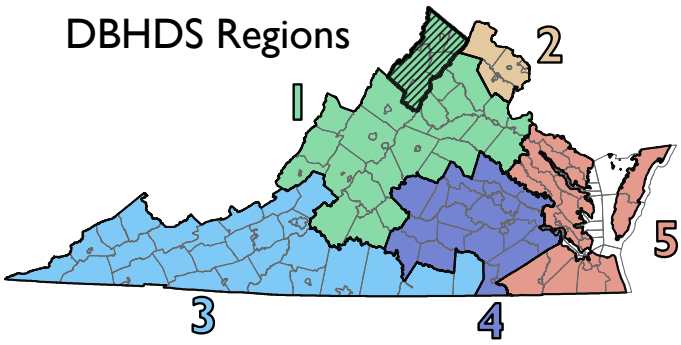
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

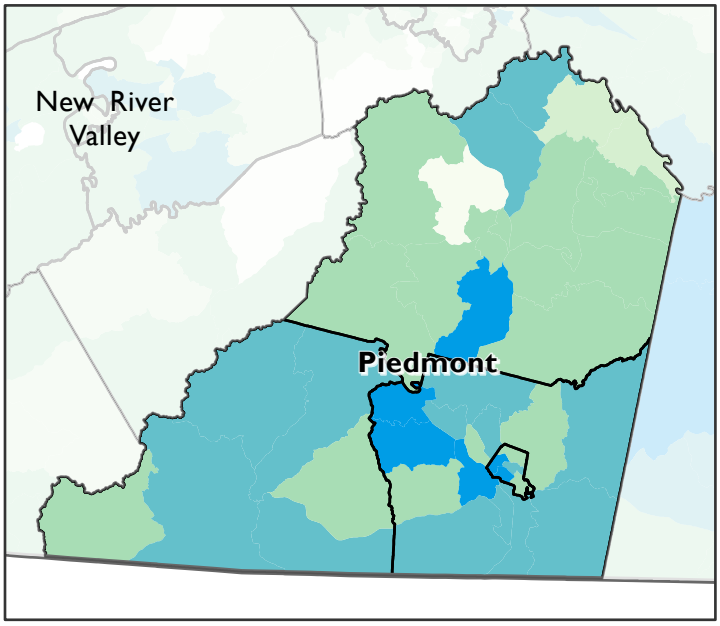


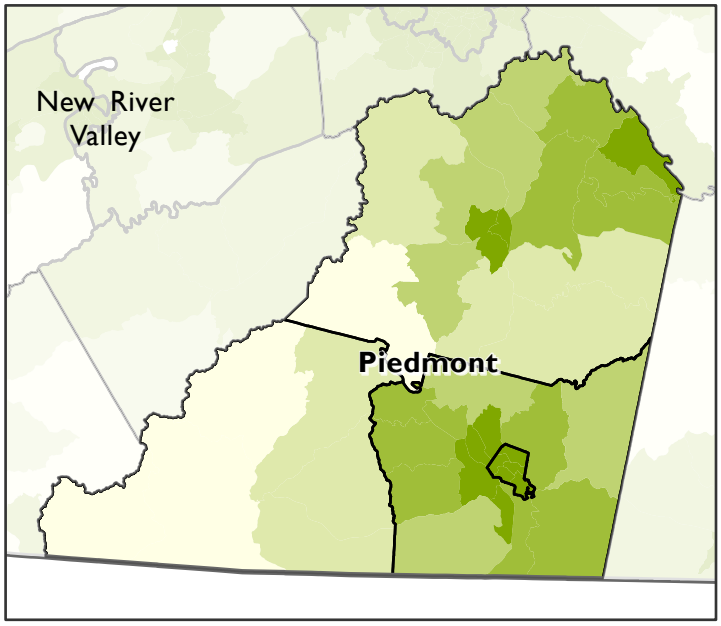
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

PIEDMONT CSB



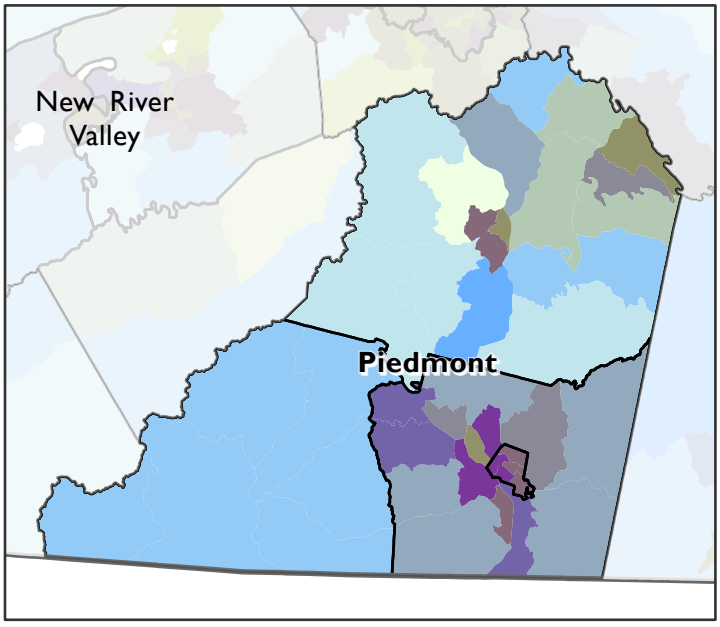


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

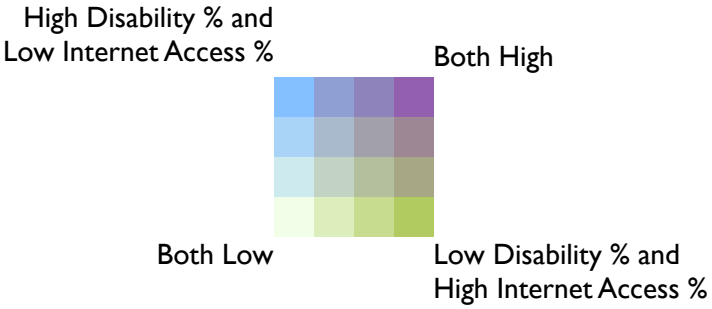
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



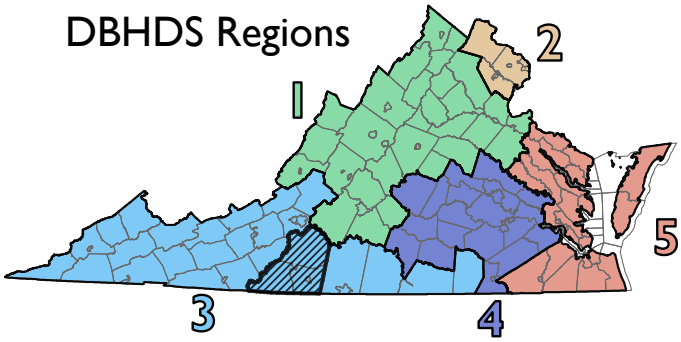
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

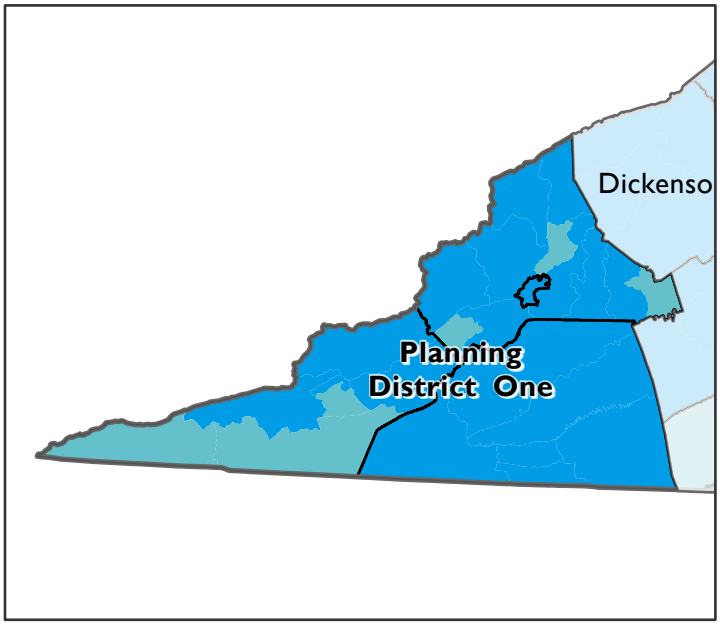


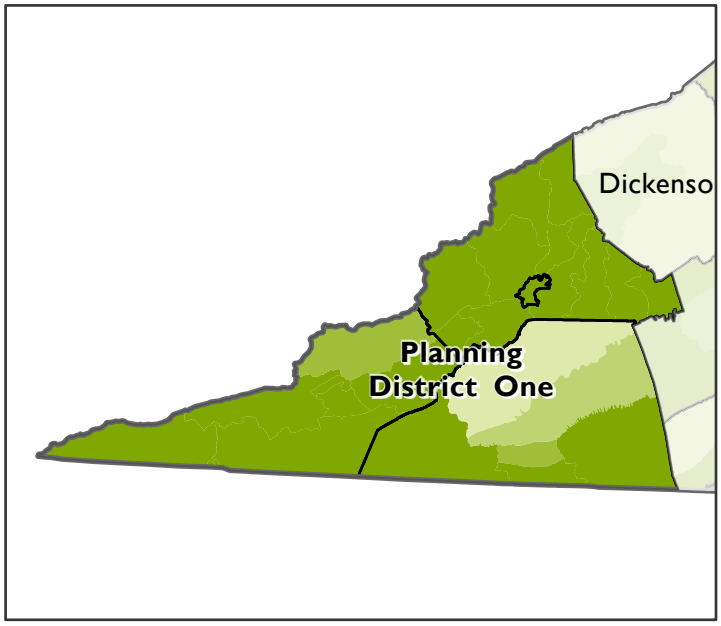
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

PLANNING DISTRICT ONE BEHAVIORAL HEALTH SERVICES



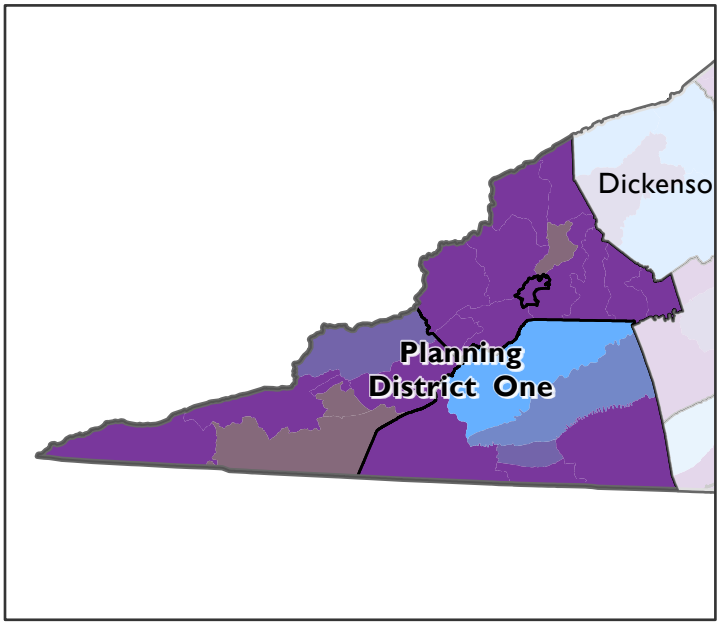


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

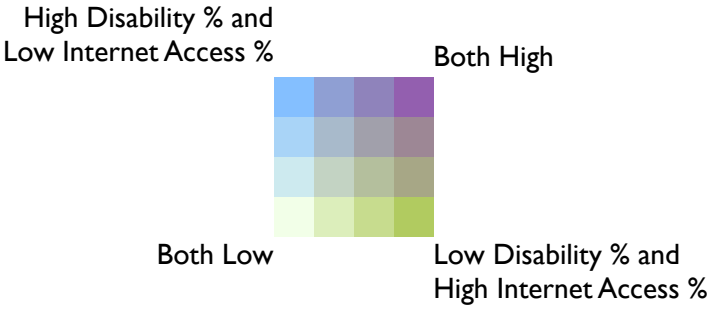
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



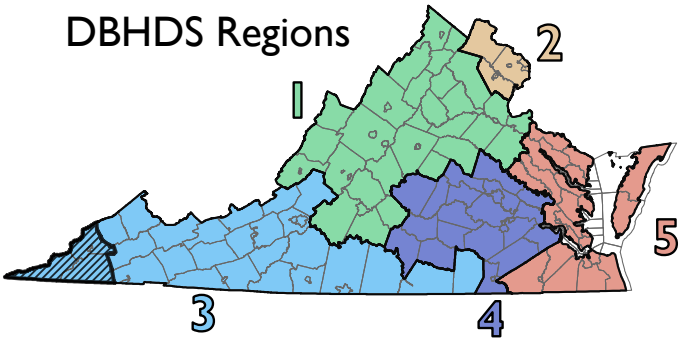
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

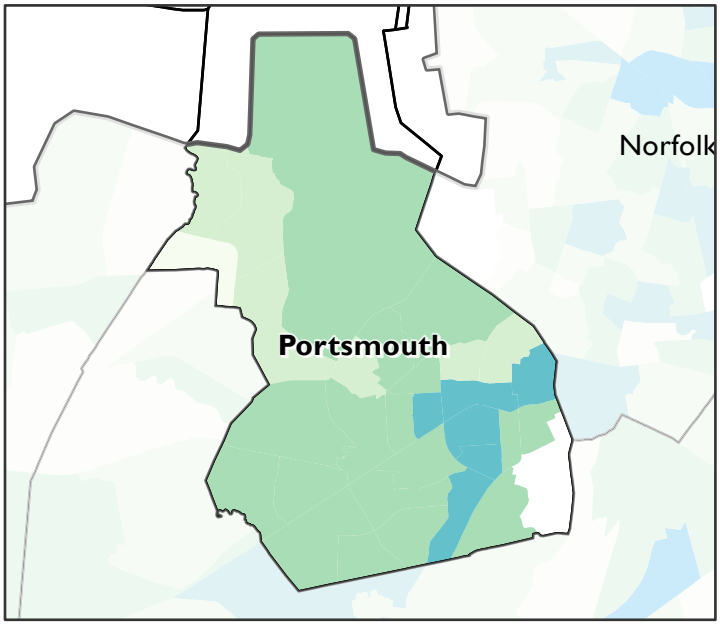


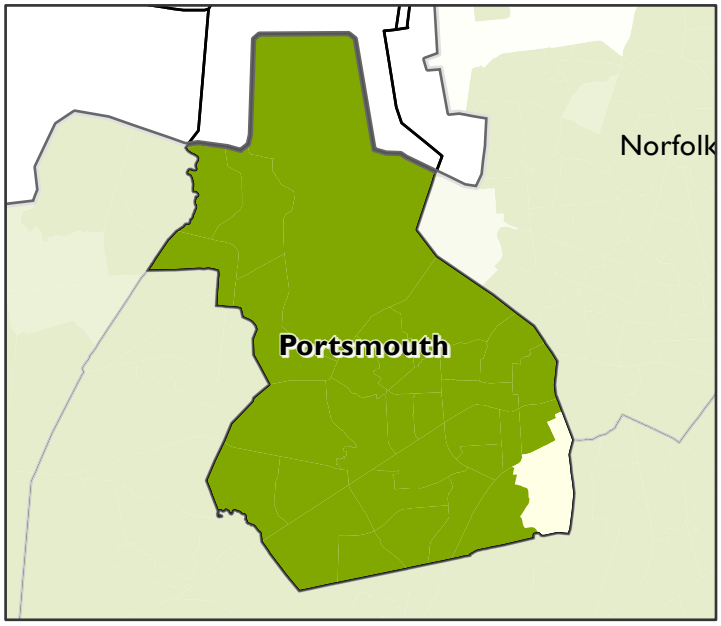
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

PORTSMOUTH BEHAVIORAL HEALTHCARE SERVICES



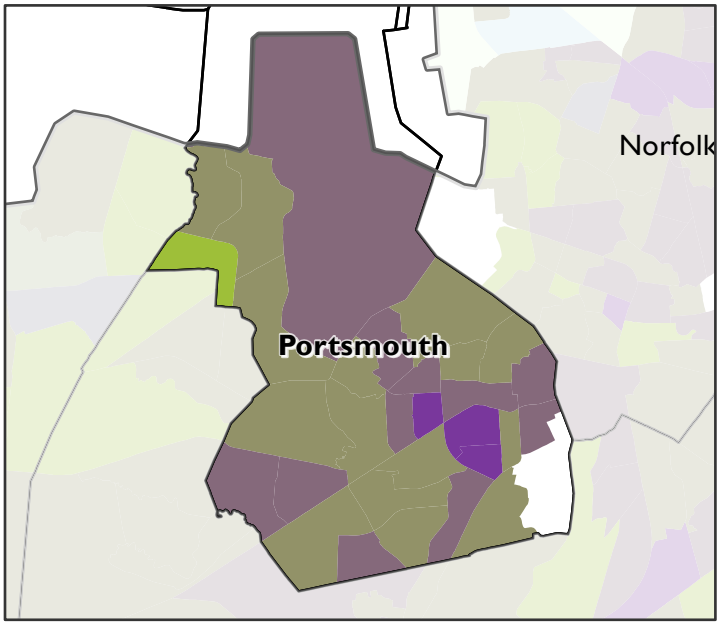


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

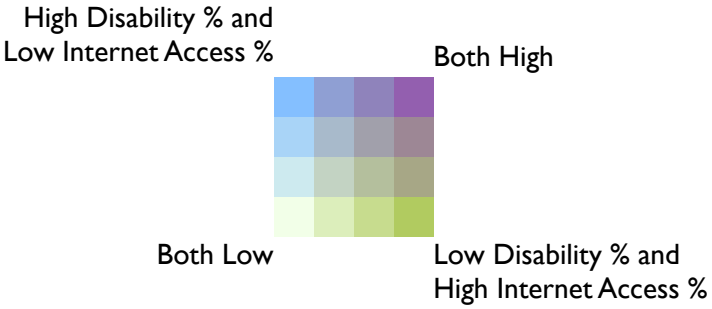
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



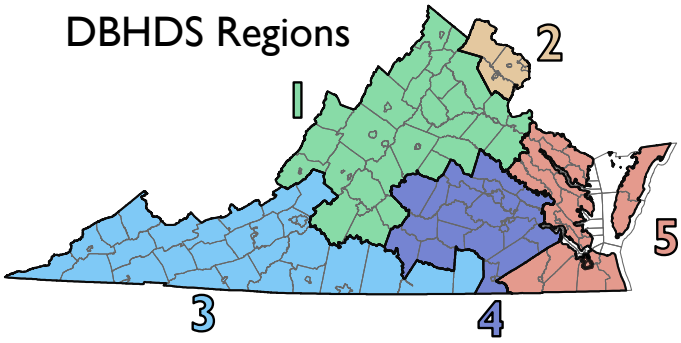
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

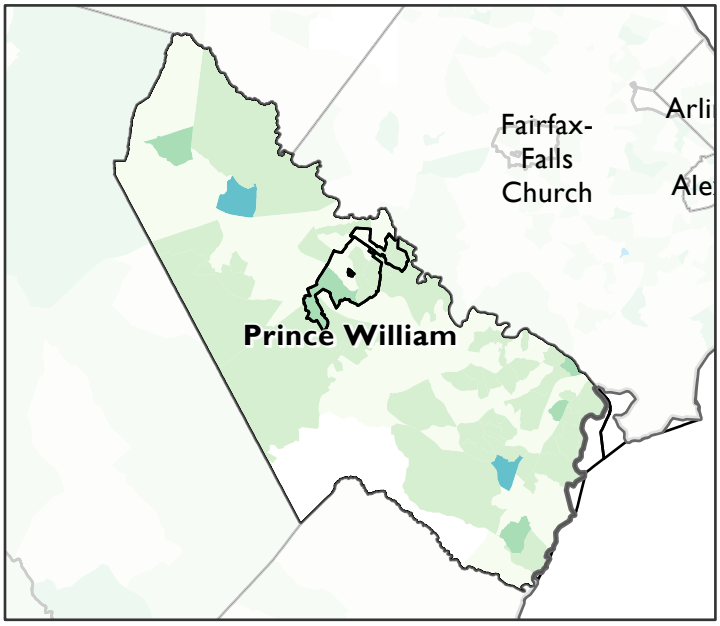


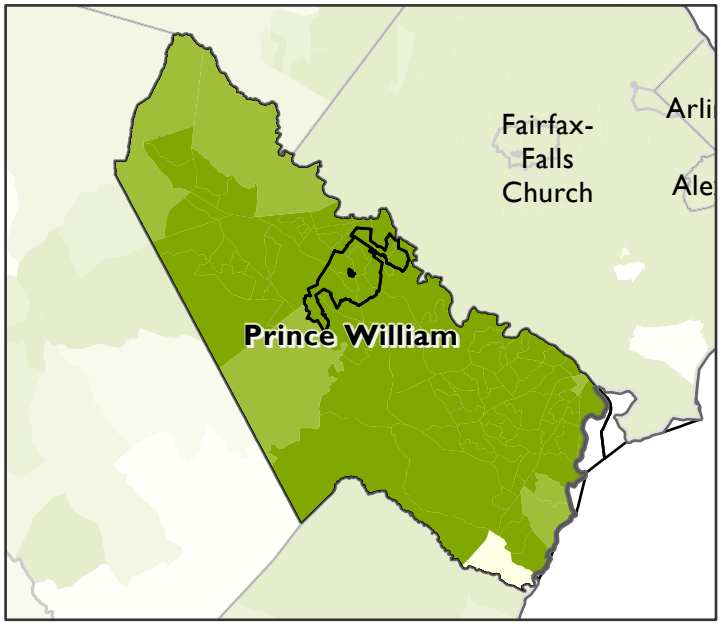
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 2

PRINCE WILLIAM COUNTY CSB



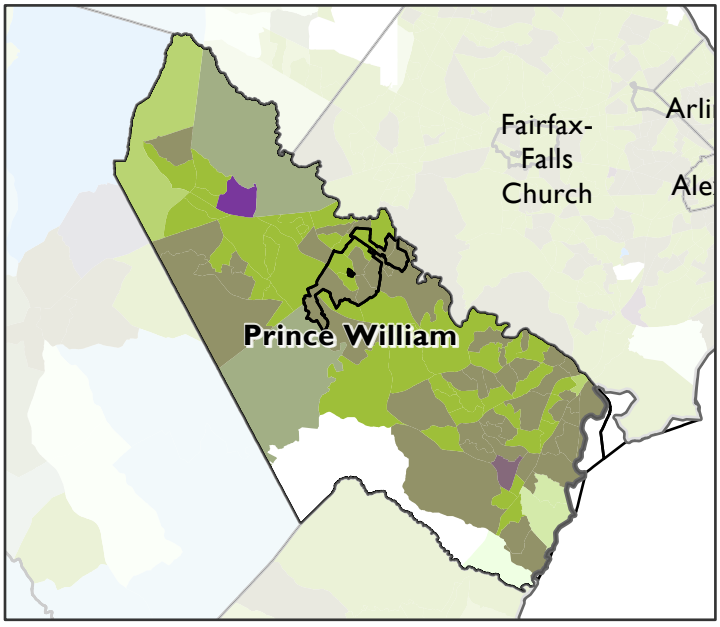


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

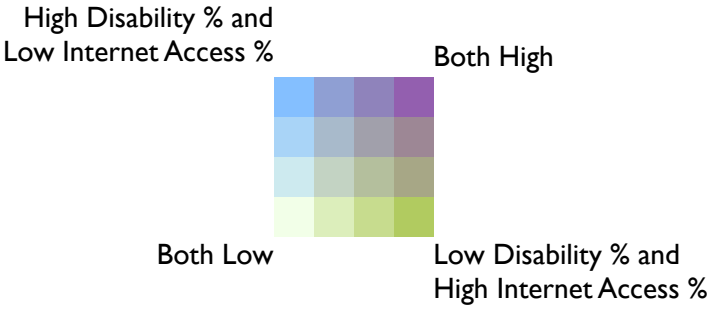
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



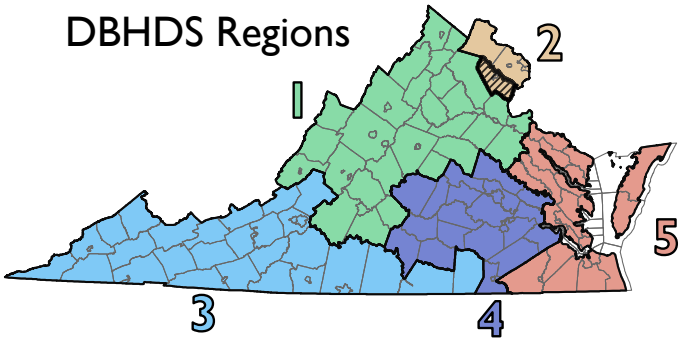
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



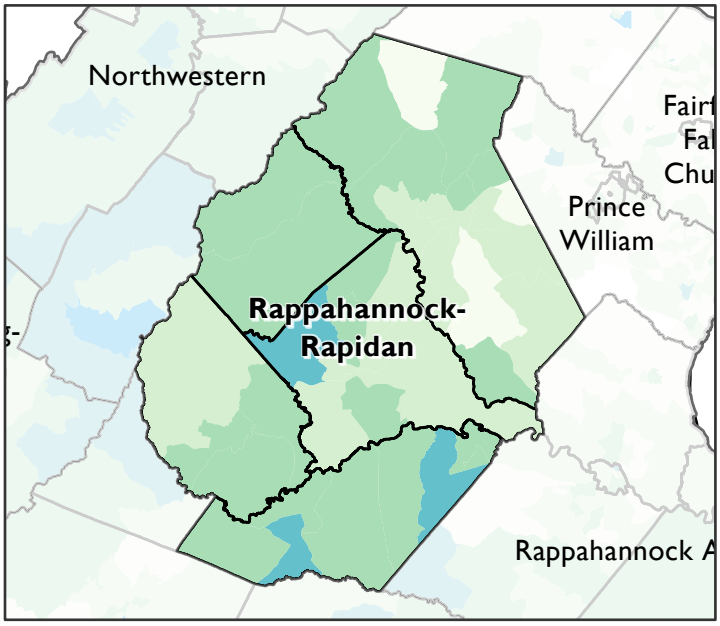
DBHDS Regions

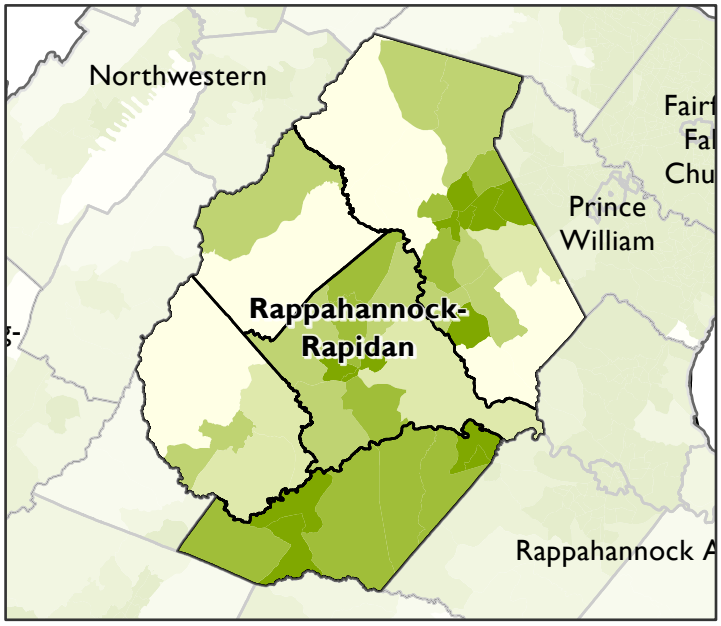


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS REGION 1

RAPPAHANNOCK-RAPIDAN CSB (ENCOMPASS COMMUNITY SUPPORTS)



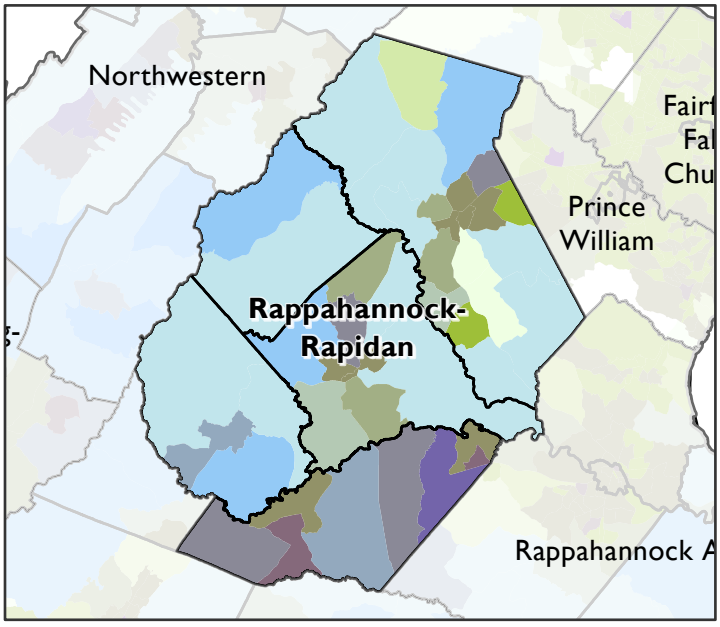


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

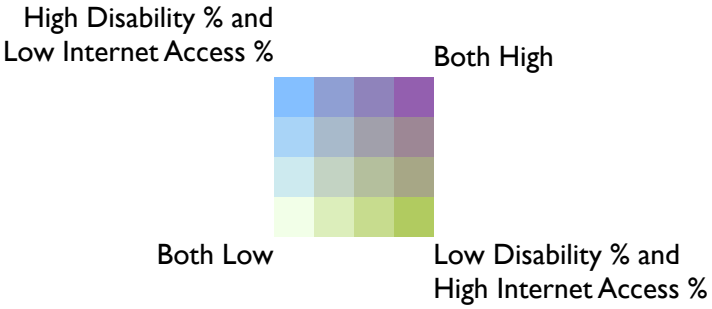
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



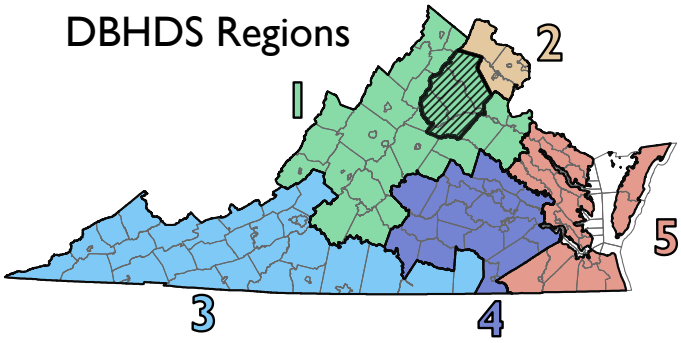
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

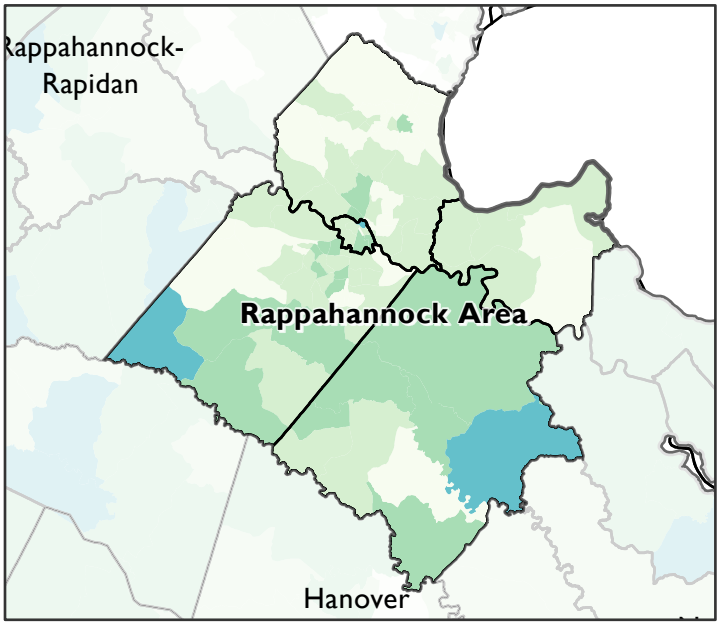


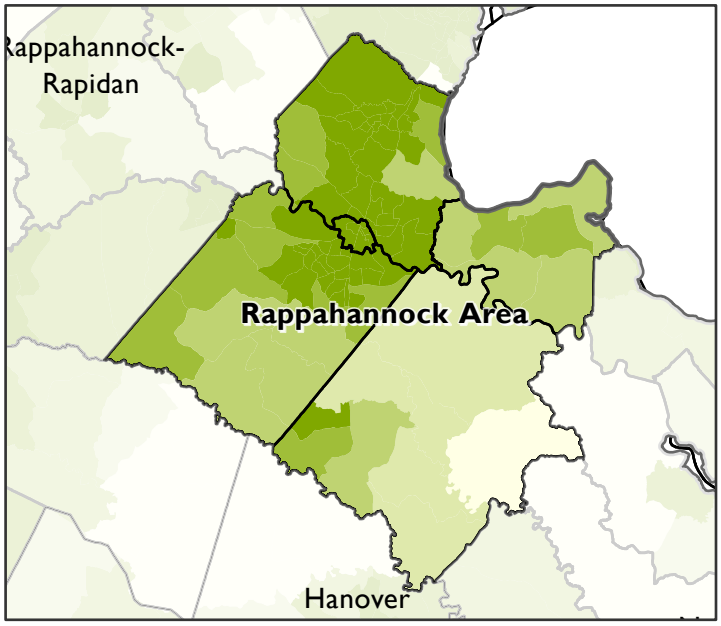
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

RAPPAHANNOCK AREA CSB



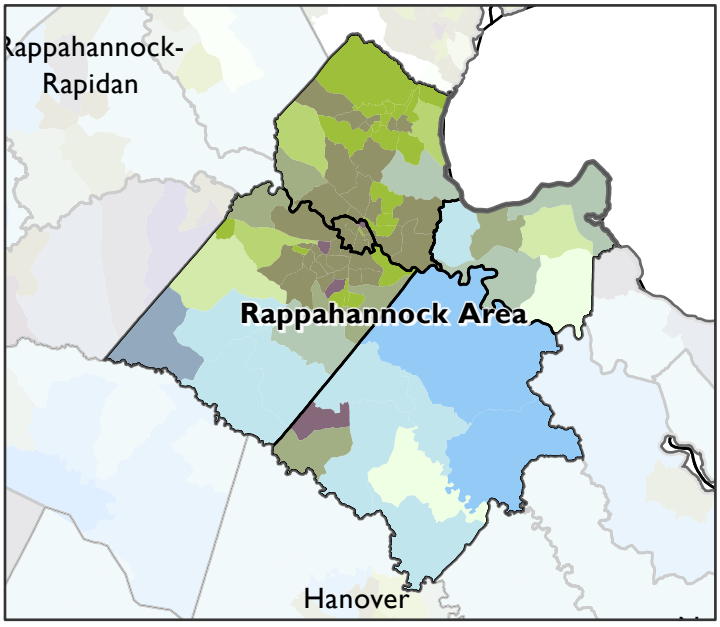


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

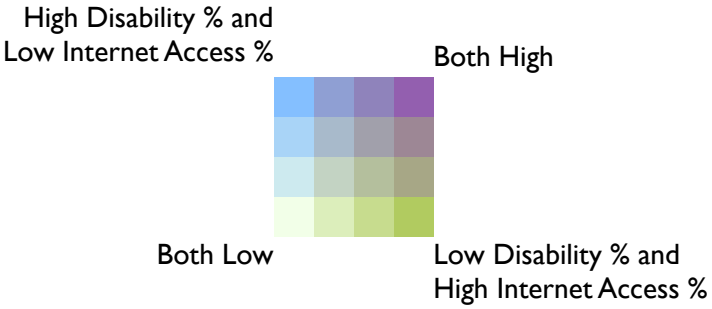
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



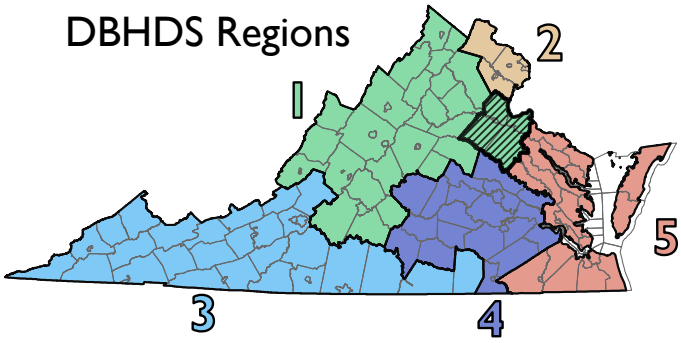
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

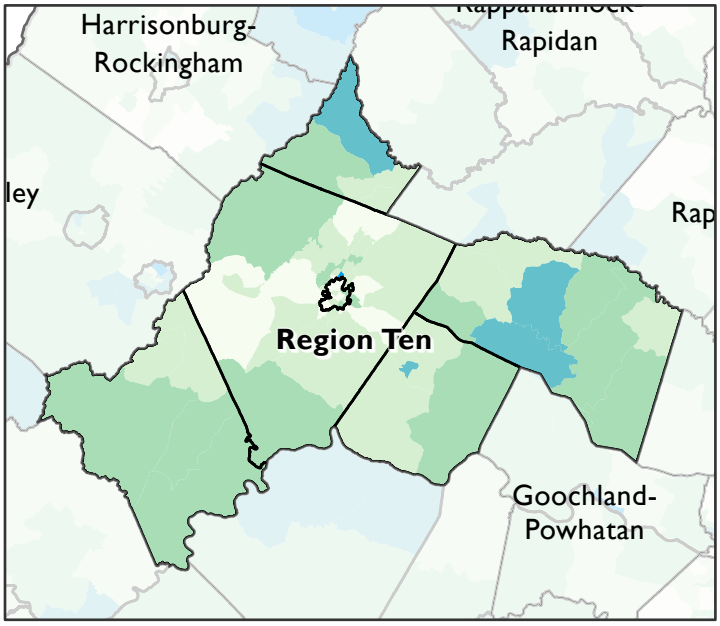


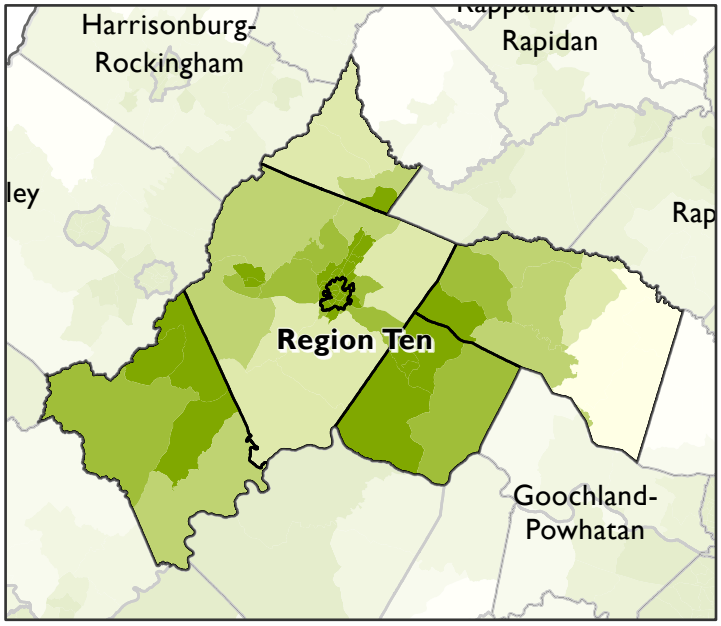
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

REGION TEN CSB



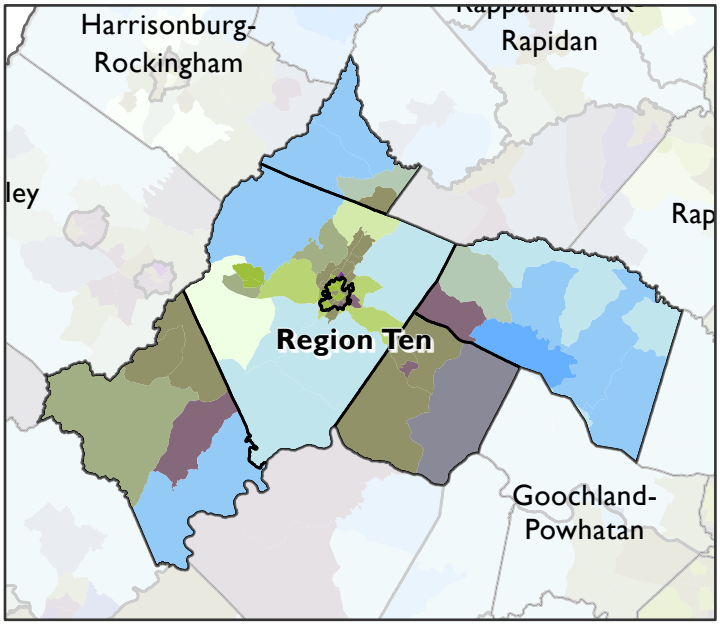


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

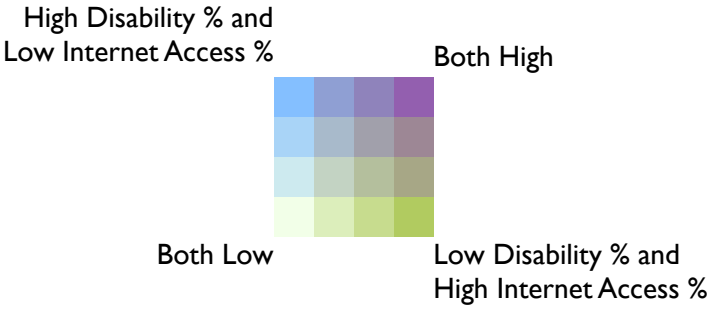
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



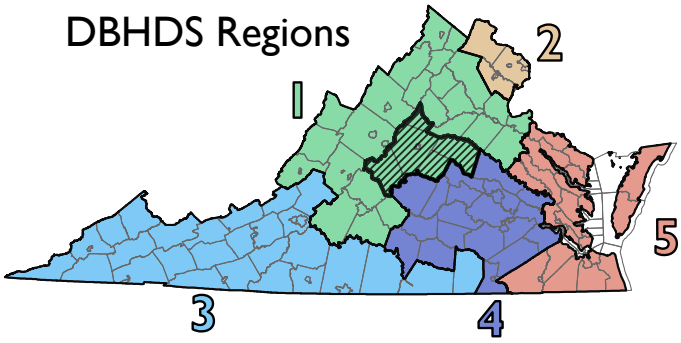
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

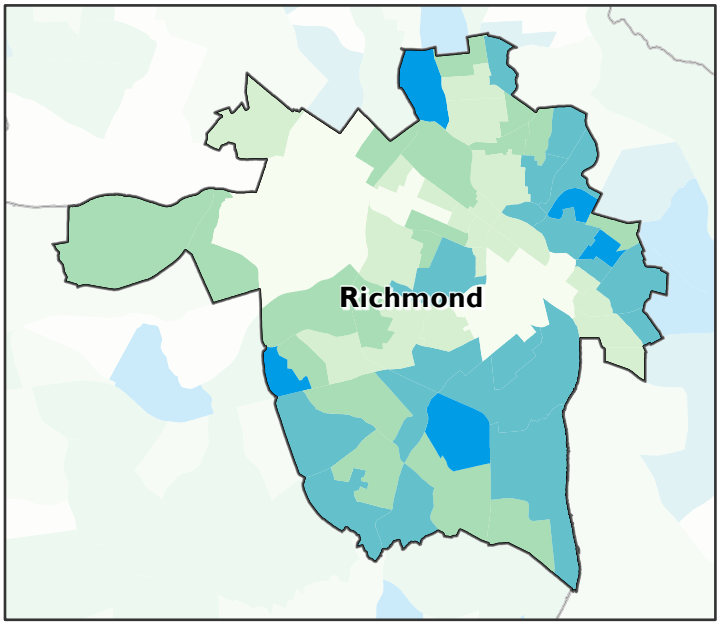


DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 4

RICHMOND BEHAVIORAL HEALTH AUTHORITY

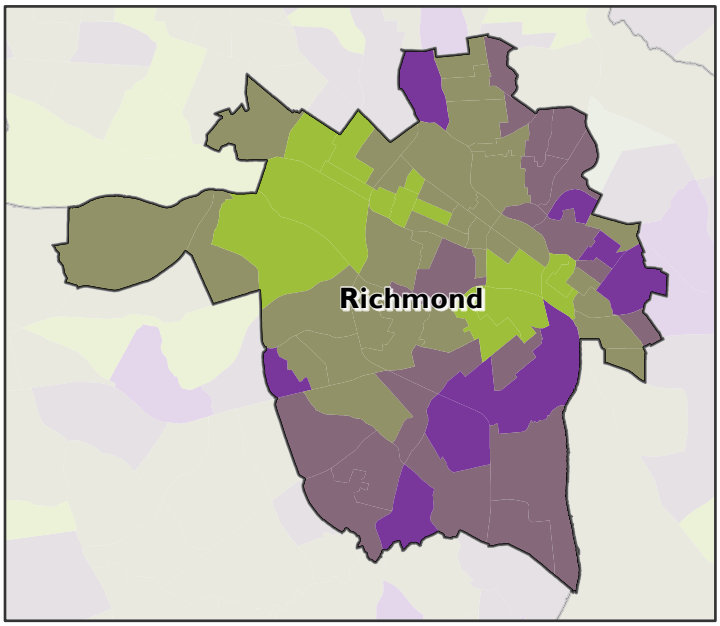


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

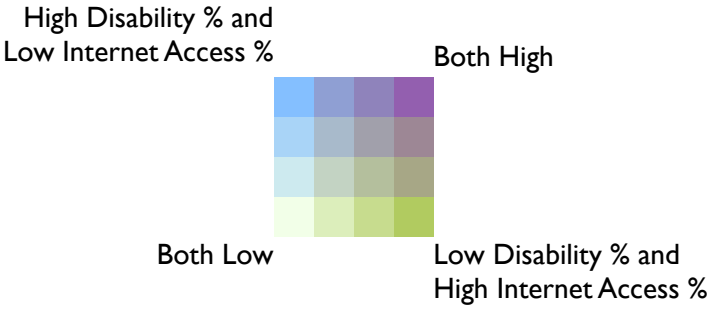
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



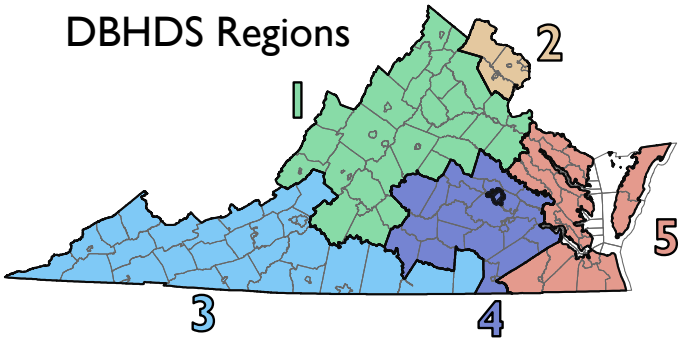
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

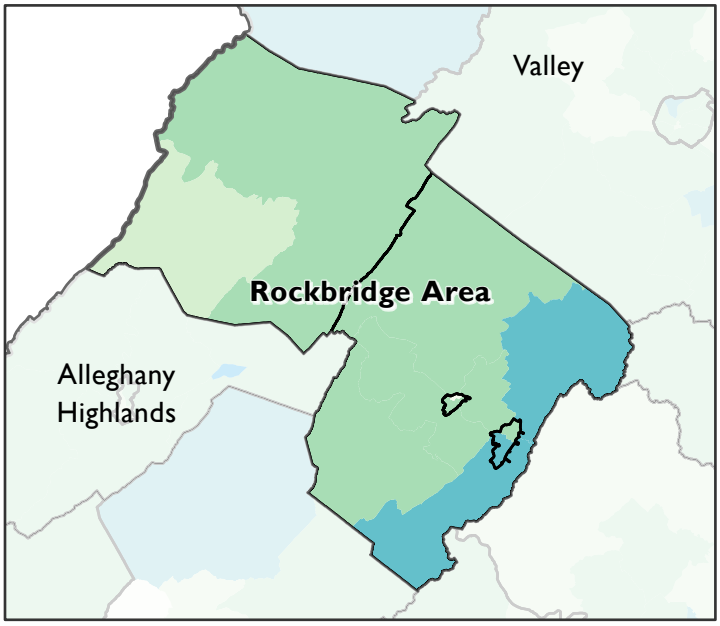


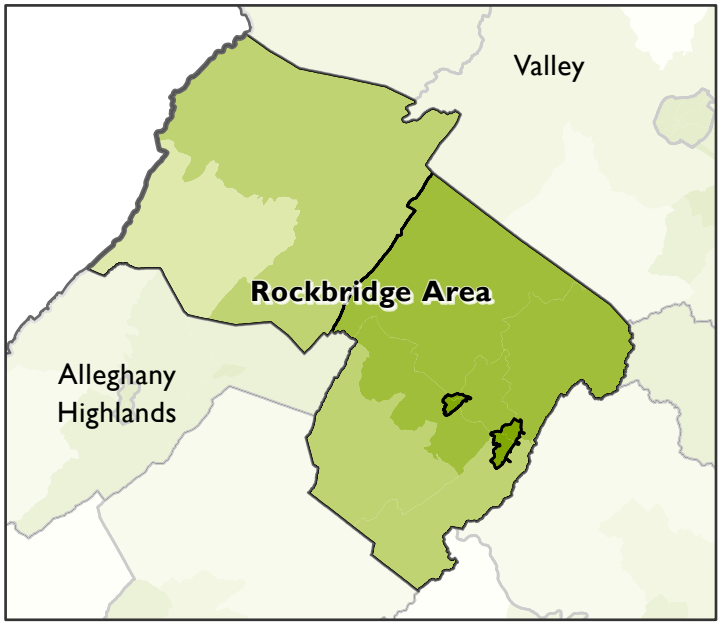
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

ROCKBRIDGE AREA CSB



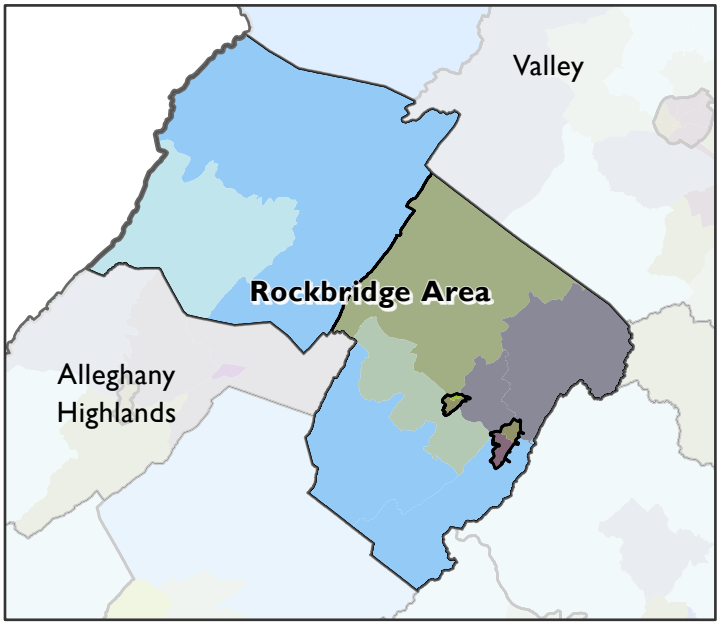


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

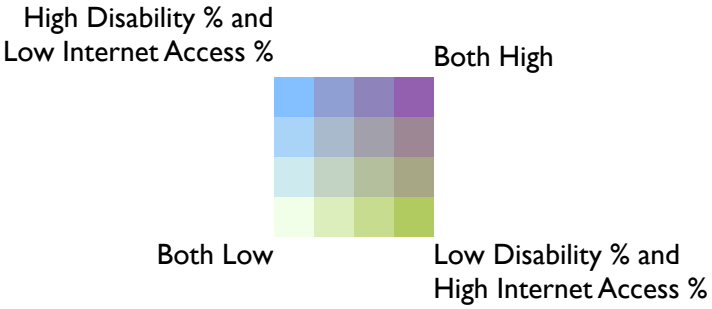
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



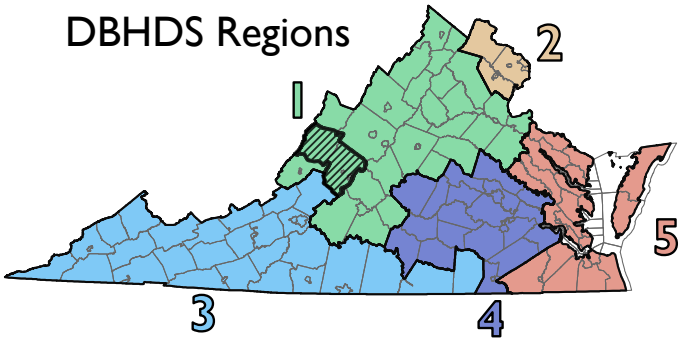
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

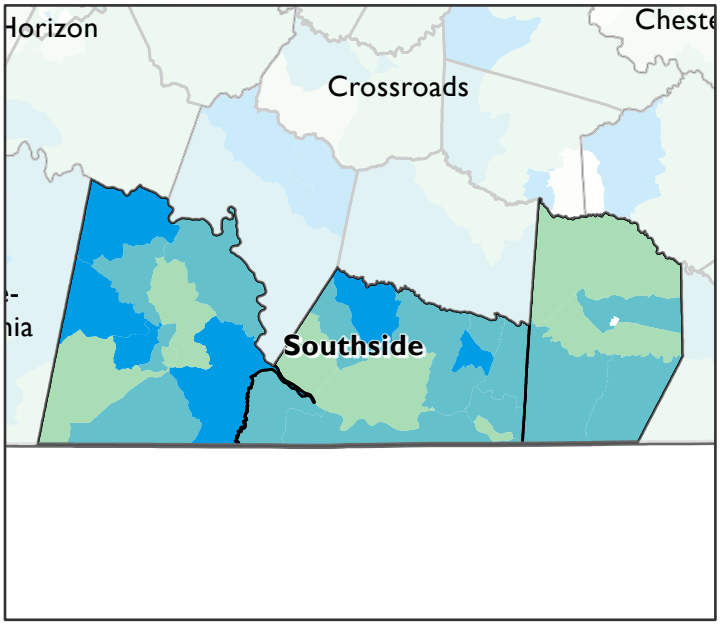


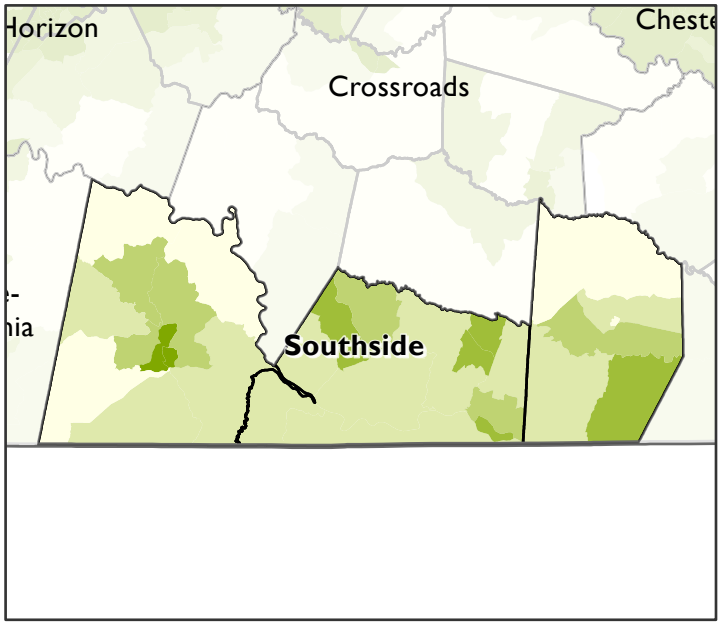
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 3

SOUTHSIDE BEHAVIORAL HEALTH



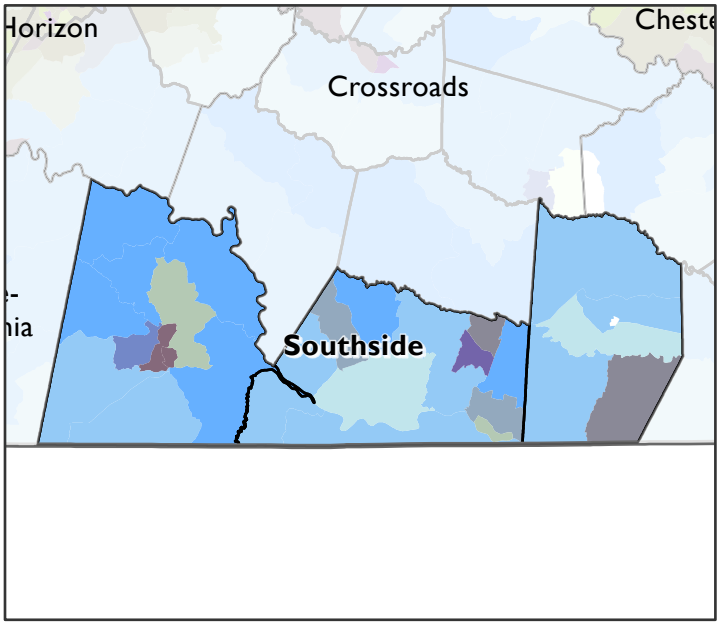


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

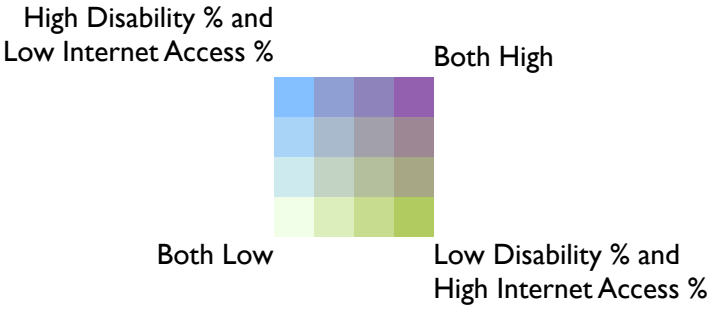
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



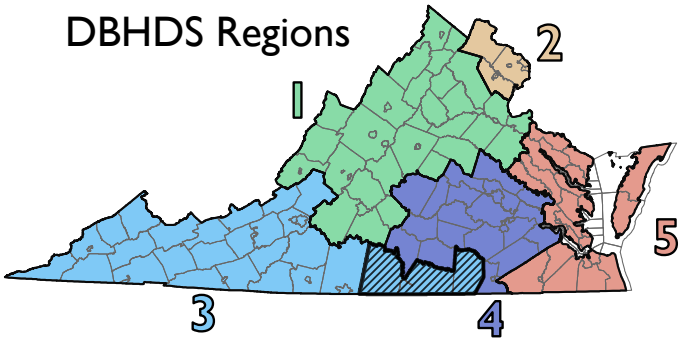
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

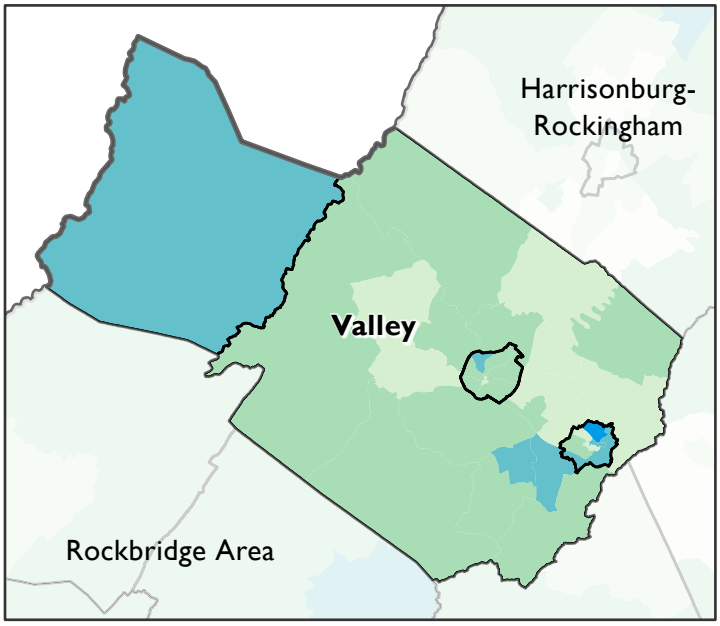


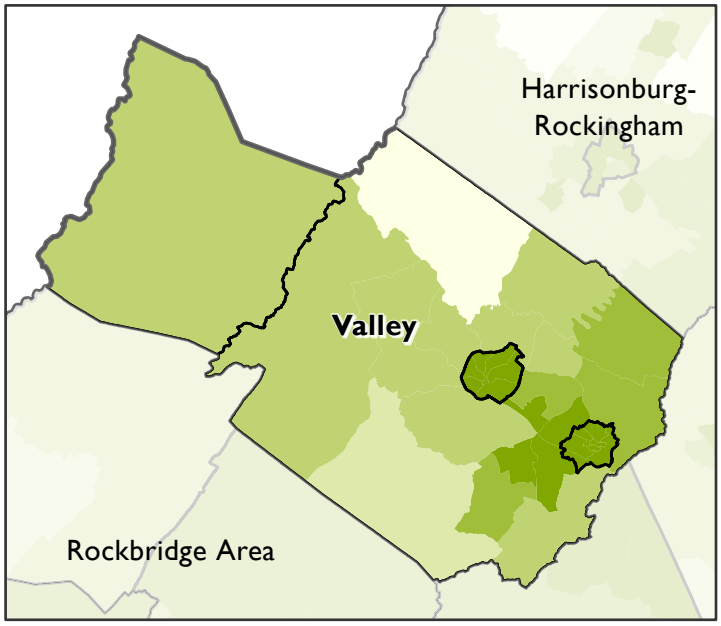
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 1

VALLEY CSB



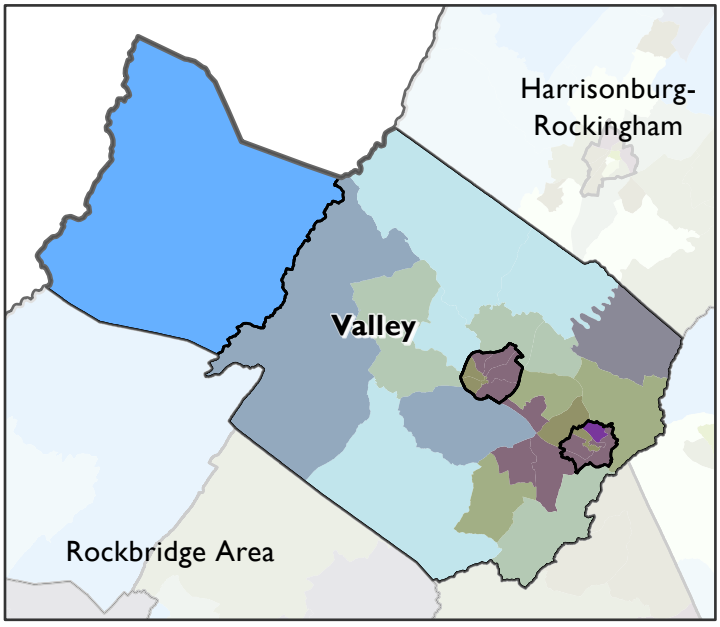


Disability Prevalence

- 0 - 8%
- 8.01 - 12%
- 12.01 - 18%
- 18.01 - 24%
- > 24.01%

Residential Broadband Coverage

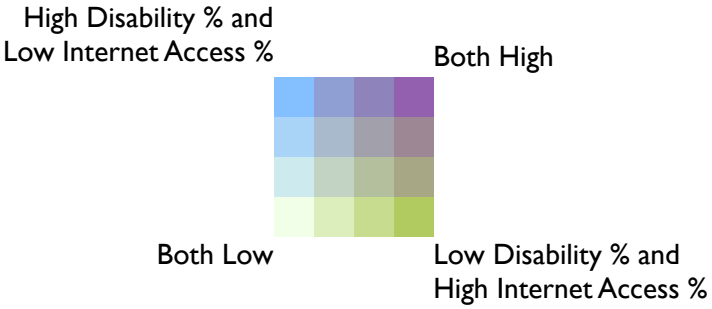
- 0 - 25%
- 25.01 - 50%
- 50.01 - 75%
- 75.01 - 90%
- 90.01 - 100%



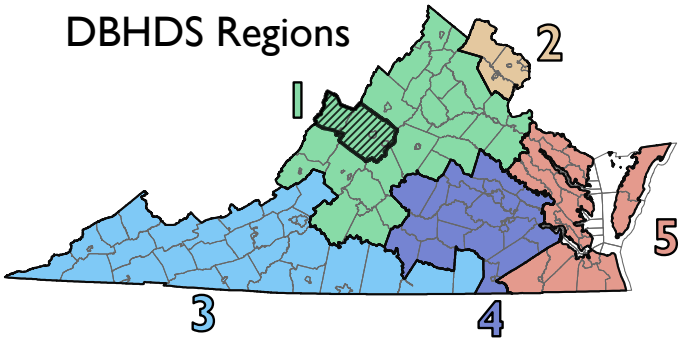
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

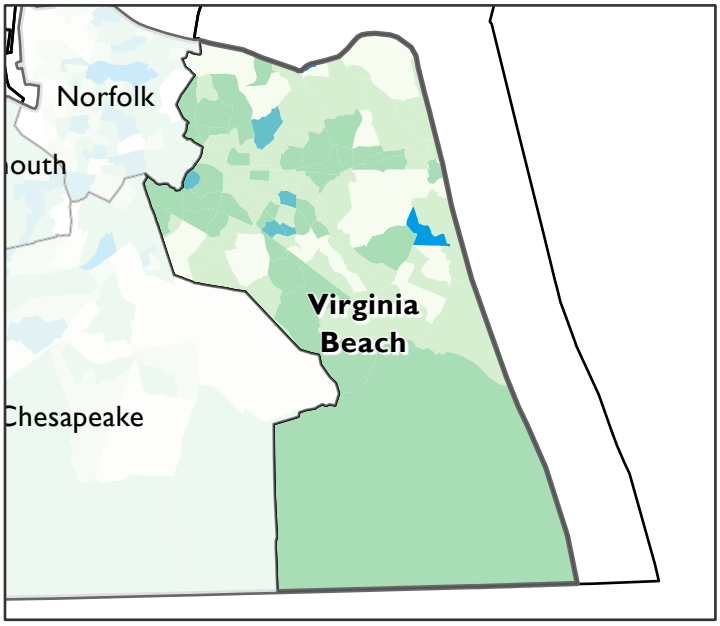


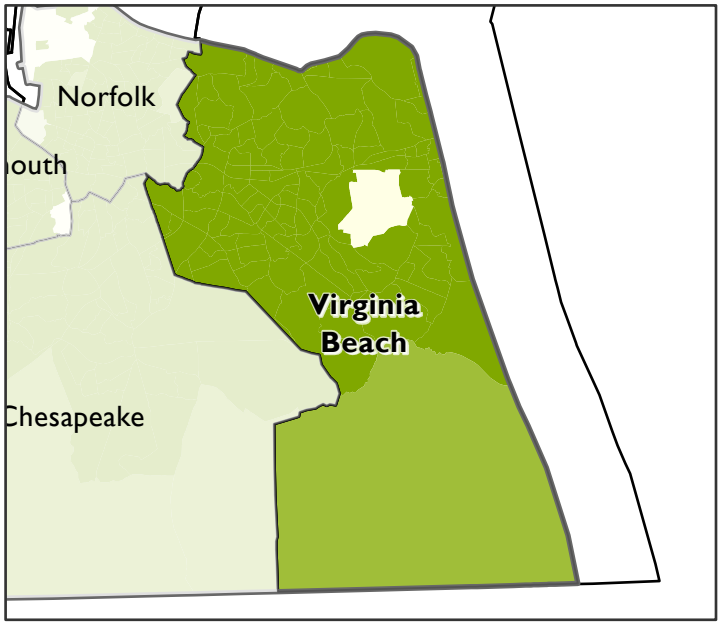
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

VIRGINIA BEACH HUMAN SERVICES





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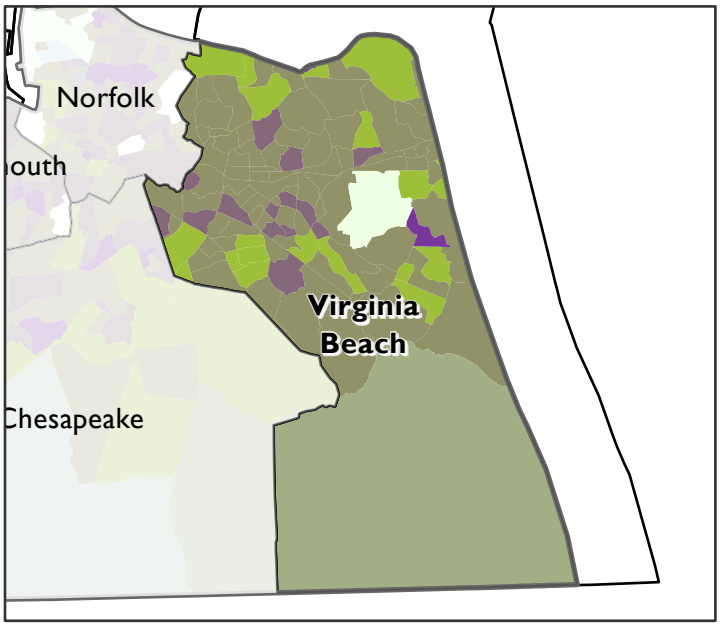
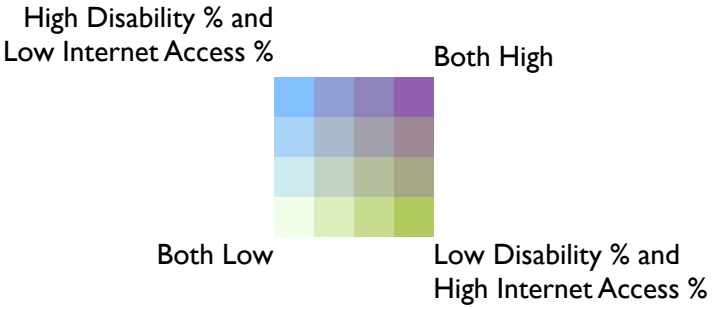


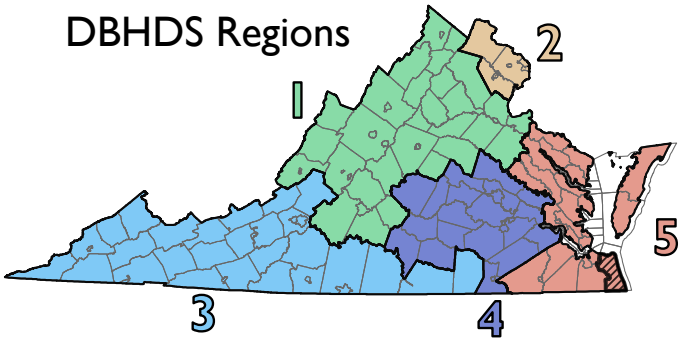
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions

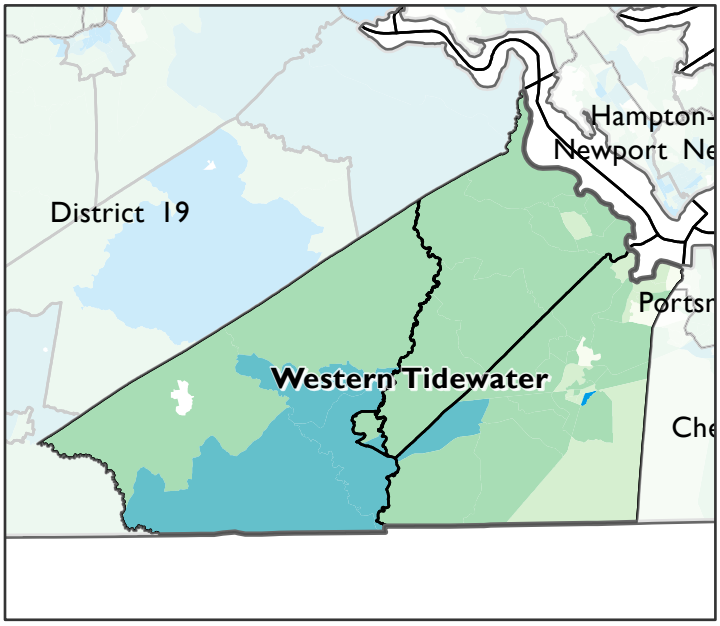


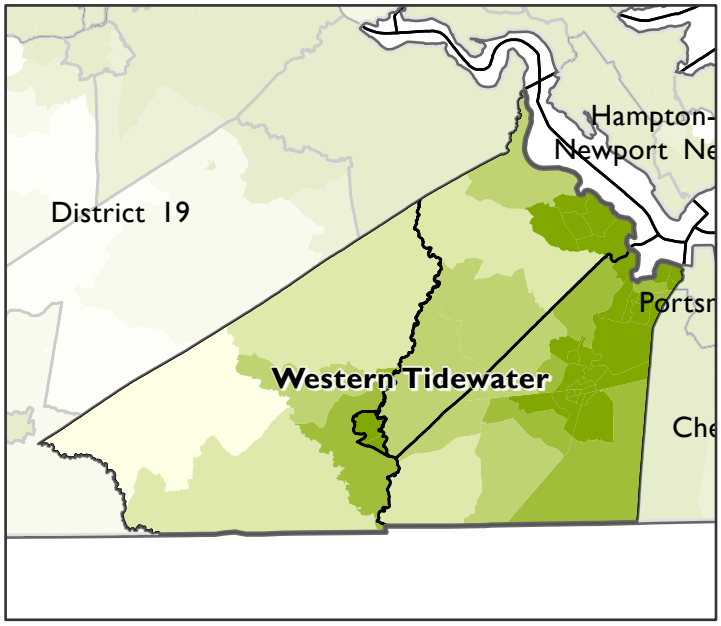
DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

DISABILITY AND HOMES WITH INTERNET ACCESS

REGION 5

WESTERN TIDEWATER CSB





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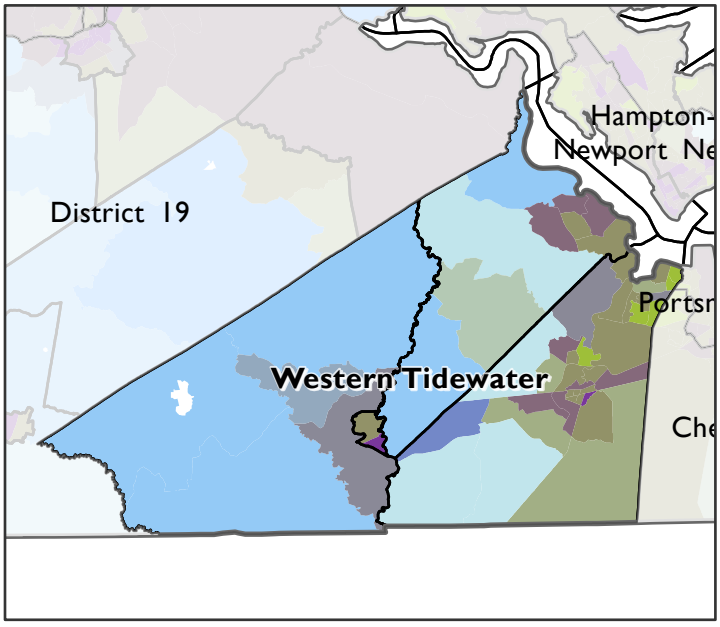
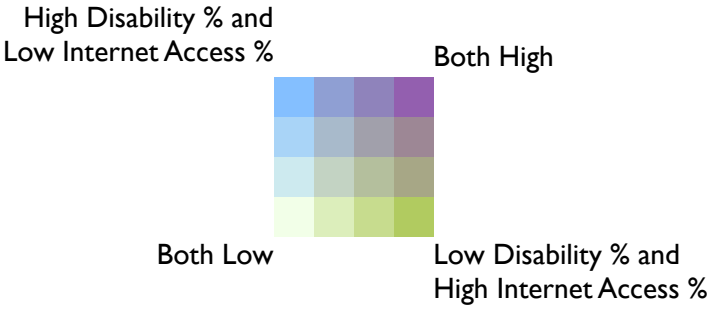


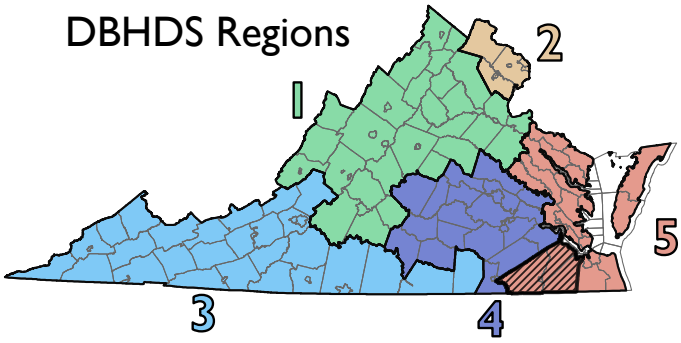
Data Overlay

% People with a disability

% Homes with Internet access at 100/20 speeds



DBHDS Regions



DATA: U.S. Census Bureau; 2017-2021 American Community Survey 5-Year Estimates, Table S1810; FCC Broadband Data Collection Dec. 2022

Appendix B: Acknowledgements

Stakeholders Interviewed

Heather Anderson, Director; Kandi Chamberlain, Program Manager; and Brandon Rivenbark, FLEX/SHIP Program Manager, State Office of Rural Health, Office of Health Equity, Virginia Department of Health

Kathy H. Wibberly, PhD, Director, Mid-Atlantic Telehealth Resource Center

Lisa Richard, Regional Network Coordinator/Rural Outreach Specialist, Center for Family Involvement, Partnership for People with Disabilities

Mary Ochsner, Executive Director and Donna Dittman Hale, Executive Consultant, Bay Rivers Telehealth Alliance

Robin Clair Cummings, MSHA, Deputy Advisor, Virginia Telehealth Network and Virginia Telemental Health Initiative.

Tamarah Holmes, Ph.D., Director Office of Broadband, VA Department of Housing and Community Development

Consultant

Brandon Herndon, Director, Virginia Polytechnic Institute and State University, Center for Geospatial Information Technology

Chelsea Sobien, Research Associate, Virginia Polytechnic Institute and State University, Center for Geospatial Information Technology

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1100 Bank Street, 7th Floor
Richmond, VA 23219
804-786-0016
info@vbpd.virginia.gov

www.vbpd.virginia.gov