

Issue: Broadband

Broadband & the Digital Divide

“The internet is not a luxury, it is a necessity” President Barack Obama, 2015

Virginia Broadband by the Numbers

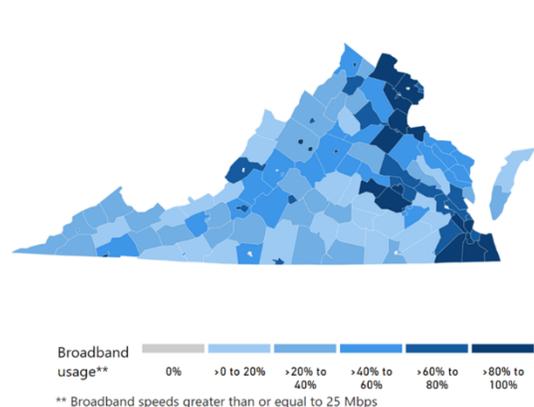
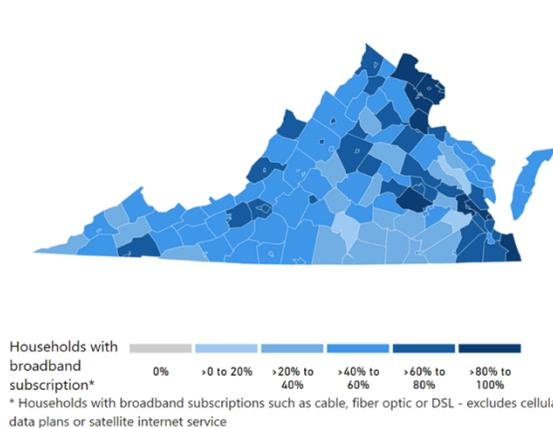
- 52%** have affordable internet service provider subscription plans defined as \$60/month
- 69.7%** have a monthly broadband subscription (such as cable, fiber, or DSL)
- 89%** of rural areas have access to the internet
- 70%** of farms have access to the internet
- 69.6%** have access to high-speed broadband connections > 25 Mbps.

Virginia’s digital divide has been widening for two decades. Broadband, once regarded as a luxury used by suburban kids to watch movies via BitTorrent, is now considered a necessity, an essential utility. As innovation in technology has advanced, many aspects of life have increased their reliance on access to broadband internet. The COVID-19 pandemic showed clearly how living without robust broadband means being cut off from remote work, online school, medical care, business opportunities and access to culture. Broadband access and adoption disparities exist among several demographic groups. For example, residents of rural communities have particularly low levels of broadband access. Furthermore, racial and ethnic minorities, people living on Tribal lands, older adults, and those with lower levels of education and income are also less likely to have broadband at home. Many urban families have broadband network infrastructure physically available but are unable to afford internet services. Although a larger share of rural households lack broadband (about 19% of rural households, as opposed to 14% of urban households), in absolute numbers about three times as many households without broadband are in urban areas.

Lack of broadband is impacting Virginia’s economy. A recent U.S. Chamber of Commerce report said improved broadband could increase revenues in Virginia by \$2.24 billion annually, add more than 9,400 jobs, and boost wages by more than \$450 million.

American Community Survey estimates that **69.7% of Virginia households have a broadband subscription (such as cable, fiber, or DSL)**

Microsoft data indicates that **69.6% of people use the internet at broadband speeds**



Sources 2019 American Community Survey 5 year estimate Table ID S2801 and Microsoft data from October 2020 <https://www.microsoft.com/en-us/corporate-responsibility/airband?rtc=1>

Hampton Roads Metro Area has seven cities on the National Digital Inclusion List of least connected cities in the U.S. with a population > 65,000

City	Percentage of households with no wireline broadband (cable, fiber, or DSL)	Percentage of households with no broadband of any kind including a cellular data plan
Chesapeake	21.77	8.59
Hampton	26.46	14.4
Newport News	31.2	14.18
Norfolk	31.52	17.14
Portsmouth	45.02	12.32
Suffolk	33.01	16.01
Virginia Beach	17.91	7.23

**FY22 COVID Relief Budget Broadband Appropriations
State Fiscal Recovery Funds from the American Rescue Plan**

- **Dept. of Housing and Community Development (DHCD)** - \$479 million, part of the \$700 million needed for universal broadband. The remaining funds—\$220 million—will come from **Capital Project Fund** dollars in the American Rescue Plan. This funding speeds up the completion date of universal broadband access from 2028 to 2024. Gov. Northam estimates 233,500 locations must still be connected. Broadband projects are to complete **last-mile** buildouts.
- **DHCD** - New Line Extension Customer Assistance Program (LECAP) to help extend broadband service to customers that cannot afford to pay for the cost of running lines from the transmission box to their homes. (Internet service providers only cover 150 feet); \$8,000,000
- **Dept. of General Services** - Additional support to coordinate land-use transactions involving broadband expansion projects on public land; \$500,000.

Digital Divide Terminology

Digital Equity

A condition in which all individuals and communities have the information, technology, and capacity needed for full participation in our society, democracy, and economy. Digital Equity is necessary for employment, education, healthcare, access to essential services as well as cultural and civic participation.

Digital Redlining

Failing to build out fiber optic cable in Black and Latinx neighborhoods. Continuing to build out fiber optic cable in wealthier white neighborhoods.

Rate-Tier Flattening

Over the past few years telecom giants AT&T and Verizon have been upward “rate-tier flattening.” Specifically, this means they have been eliminating their low and

Access vs Adoption

Access (or availability) refers to physical infrastructure to carry broadband signals.

Adoption includes three underlying issues: ability to afford the cost of a monthly internet service provider subscription; possession of laptop, tablet, or desktop computer; computer literacy skills.

middle speed price tiers except at the very slowest speeds. Customers are paying the same basic fee of around \$65 per month (following first year discounts) for 100 Mbps down to the slowest service that falls under the definition of high-speed internet (<25 Mbps). Rate-tier flattening raises the cost of internet for urban and rural ATT and Verizon customers who only have access to the slowest, oldest broadband infrastructure. Affordability is the greatest barrier to home broadband subscriptions.

Digital Divide and Structural Racism

Considering rate-tier flattening within the context of redlining, the effects are compounded. Black and Latinx neighborhoods are billed the same monthly fee for broadband as wealthy white neighborhoods, while being provided subpar broadband of less than 25 Mbps. The public health and economic crises of COVID-19 disproportionately impacted Black and Latinx neighborhoods in part because of the lack of broadband, the very service needed to facilitate online education, working remotely, and telehealth medicine.

Examples of Virginia's Digital Divide

Education

- ❖ One in five Virginia K-12 and college students lack either a broadband subscription or a computer in the home.
- ❖ Urban students make up nearly 40 percent of students without broadband at home.
- ❖ Half of urban students lack a computer at home. Black and Latinx students are twice as likely as white students not to have a computer in the home.
- ❖ Students with access limited to cell phones perform on par with students without broadband at home.
- ❖ Students without broadband at home have lower GPAs on average, 2.81 versus 3.18, and are less likely to attend post-secondary school (47% versus 65%). The long established Homework Gap is now thought to be part of a broader lifelong Performance Gap, whereby people are less likely to pursue post-secondary education or STEM careers, have lower digital literacy skills, and more.
- ❖ Students in parts of Norfolk and Suffolk lack home broadband at higher rates than students in rural areas around Franklin, Henry, Patrick, and Pittsylvania Counties.

Agriculture

- ❖ Connecting farmers to broadband is essential for their ability to competitively farm.
- ❖ Agriculture innovation is largely dependent on farmers having access to broadband.
- ❖ Agriculture is Virginia's largest private industry. Agriculture and forestry together provide 334,000 jobs and have an economic impact of \$91 billion.
- ❖ The USDA reports that 30 percent of Virginia's farms do not have internet connection (as defined as 25 Mbps or greater).
- ❖ Only 20 percent of Virginia farmers purchase agricultural inputs (anything needed for business, seeds, fertilizer, equipment, etc.) online and only 11 percent conduct agricultural marketing over the internet.

- ❖ Technologies such as tractor guidance systems that rely on global positioning systems (GPS), and GPS soil and yield mapping help farmers gather information on changing field conditions.
- ❖ Farm equipment is also connected to broadband to allow telematics monitoring. This optimizes field preparation, precision planting, water optimization, and harvesting.

Healthcare

- ❖ Access to broadband has increasingly been described as a “super-determinant” of health because it affects many other significant determinants of health such as education, employment, and ability to access healthcare online.
- ❖ Broadband at home increases access to healthcare in rural and urban medical deserts.