

What is Broadband?

Broadband is the infrastructure technology that enables high speed internet. The term 'broadband' refers to the telecommunications system with a greater bandwidth, allowing for higher capacity for internet traffic. It includes the devices, networks, and applications that digitally connect communities and businesses to the world. Technology for broadband connections includes fiber optic cable networks, wireless access points, data centers, and other infrastructure elements. The minimum capabilities of a broadband connection is 4 megabytes per second for download and 1 megabyte per second for upload, allowing for high speed, digital transmissions that dial-up is incapable of matching². Broadband is a dramatic improvement over previous internet and telecommunications systems, which featured predominantly dial-up connections over telephone wire with speeds usually only 56 kilobytes per second.

New broadband networks connect pivotal institutions like schools, libraries, and hospitals to help ensure sustainable community growth and provide enhanced household and business services. Broadband projects focus on increasing the availability of access in rural and underdeveloped areas where internet technologies have been largely underutilized.

"Building a nationwide broadband network will strengthen our economy and put more Americans back to work. By connecting every corner of our country to the digital age, we can help our businesses become more competitive, our students become more informed and our citizens become more engaged."

- President Obama

What are the advantages of Broadband?

- Provide job training to the unemployed or under-employed
- Increase upload and download speeds
- Help students access the materials they need to learn
- Allow rural doctors to connect to more specialized medical centers
- Increase data accessibility – Access information, shop, and surf
- Provide alternative communication technologies, like Voice of Internet Protocol (VoIP)
- Allow small businesses to offer their services to national and international markets
- Enable greater long distance communications

Potential Funding Sources

- Virginia Department of Housing and Community Development (DHCD)¹
 - Community Development Block Grant Program-Virginia Rural Broadband Planning Initiative
- Appalachian Regional Commission (ARC)
 - Area Development Telecom Initiative
- United States Department of Agriculture (USDA): Rural Utilities Service
 - Broadband Initiative Program (BIP)
- National Telecommunications and Information Administration (NTIA)
 - Broadband Technologies Opportunities Program (BTOP)
 - State Broadband Initiative (SBI)
- Private service providers
- Local government entities

State Support and Planning Services

- Virginia Broadband Advisory Council
- Advanced Communications Assistance Fund
- Office of Telework Promotion and Broadband Assistance
- Center for Innovative Technology

What can a PDC do?

Planning District Commissions are a vital resource in broadband development. They can take a leading role in the planning process by facilitating communications between localities and private service providers, providing staff to local/regional broadband authorities, conducting environmental reviews, developing feasibility studies and coordinating regional efforts. In addition, PDCs can locate and apply for grants on behalf of their localities and administer state and federal project funds.

1. Parent funding from ARRA, USDA, NTIA and other sources is largely managed and distributed by separate state and federal agencies.

2. Recommended speed threshold from 2010 National Broadband Plan (FCC)

Current Projects:

Eastern Shore of Virginia Broadband Authority, Accomack-Northampton Planning District Commission: public authority over an open-access, high-speed network created following Virginia Wireless Service Authorities Act.

<http://www.esvabroadband.net/welcome>

Funding provided by: Virginia DHCD, NASA

The Wired Road, Mount Rogers Planning District Commission: regional open access, multi-service telecommunications operated as a digital road system. Local governments will build and maintain the digital road system, but private businesses will use the digital road to deliver goods and services to customers.

<http://www.thewiredroad.net/>

Funding provided by: Virginia DHCD, NTIA - BTOP

The Rockbridge Area Network Authority, Central Shenandoah Planning District Commission: installation of 134 miles of new fiber in the Rockbridge County, Buena Vista, Lexington area to bring broadband services to community anchor institutions in support of improved healthcare, education, and public safety in the region. The project also includes a data center on the campus of Washington and Lee University.

<http://www.ranabroadband.net/>

Funding provided by: NTIA - BTOP

Southwest Virginia Middle Mile Project, Cumberland Plateau Planning District Commission and Mount Rogers Planning District Commission: Bristol Virginia Utilities Authority; a 388-mile fiber addition to its existing network that would bring up to 10 Gbps middle mile service to a rural, eight-county region of Appalachia in Southwest Virginia.

Funding provided by: NTIA - BTOP

Nelson County Virginia Broadband Project, Thomas Jefferson Planning District Commission: 31 miles of new fiber and four new wireless tower sites, and directly connecting 13 community anchor institutions. The network will pass approximately 262 businesses and 1505 residences directly with fiber or wireless.

<http://nelsoncounty.com/>

Funding provided by: VADHCD, NTIA - BTOP

Page County Broadband Authority, Northern Shenandoah Valley Regional Commission: combination microwave and fiber network to bring high-speed connections to 25 anchor institutions including four K-12 schools, three public libraries, eight health care facilities, eight governments and public safety institutions and two business office complexes.

<http://pageforbusiness.com/>

Funding provided by: NTIA - BTOP

New River Valley Rural Open Access Network, New River Valley Planning District Commission: 186 miles of middle-mile fiber from Wythe County to Botetourt County. The project will connect more than 50 community anchor institutions including Virginia Tech, Radford University, and government facilities with internet access speeds between 10 Mbps and 10 Gbps through the network.

<http://citizens.coop/index.shtml>

Funding provided by: NTIA - BTOP, ARC, CGIT, Virginia Tobacco Commission

ConnectArlington, Northern Virginia Regional Commission: upgrades to the County's Intelligent Traffic System (ITS), connect six public safety radio towers with a new fiber backbone, local electric provider Dominion Virginia Power will be upgrading its power grid. The County will co-locate dark fiber with Dominion's fiber, saving even more on installation.

Quick Facts:

- 50% of today's jobs require technology skills, and this percentage is expected to grow to 77% in the next decade¹
- Closing the broadband adoption gap will create \$32 billion in annual economic value, or about \$100 for every American, every year¹
- Virginia is ranked #38 in statewide internet speeds²
- 75% of rural Virginia has internet uploads speeds greater than 3mgp/s, 8.8% less than the national average²
- The Department of Commerce's National Telecommunications and Information Administration (NTIA) has awarded over \$293 million in grants, with each of the 56 states and territories receiving funding³

For more information on Virginia projects, see <http://www2.ntia.doc.gov/virginia>

1- FCC and "Connect to Compete" - <http://www.fcc.gov/document/>

2- "Broadband Availability in Rural vs. Urban Areas" - <http://broadbandmap.gov/>

3- BroadbandUSA, Connecting America's Communities - <http://www2.ntia.doc.gov/>