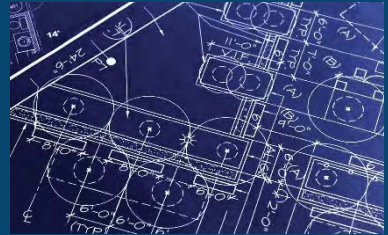


Hanover County

Blueprint to Broadband Internet

Strategies for Implementation



Broadband Advisory Committee
Approved 10-22-2020



Goal

Hanover County understands the need for universal broadband internet access is essential for our community. It is necessary to support business, education endeavors, public safety, and everyday life. Therefore, we support the development and implementation of a Broadband plan to extend the broadband network to the unserved and underserved areas of the County consistent with goals set by the Governor's Chief Broadband Advisor.



Speed

The preferred speeds, at a minimum, are 25Mbps / 3Mbps speeds for broadband service. This is the industry standard for fixed broadband speed published by the Federal Communications Commission (FCC) in the 2019 Broadband Deployment Report. It is also the minimum broadband speed recognized by most federal and state broadband funding opportunities.

Where satellite and mobile wireless (cellular) broadband are the only option for the purposes of this initiative they are not solely considered as sustainable broadband/internet options.



Delivery Methods

We envision a diverse network delivery consisting of fiber and fixed wireless options dependent on existing infrastructure, geography and cost.



Cost

The most attractive proposals for broadband service will be ones that provide services at market rate or other reasonable price points that will take into account the underserved and lower income needs of some Hanover citizens. Consideration will also be given for customer choice and options for various service levels.

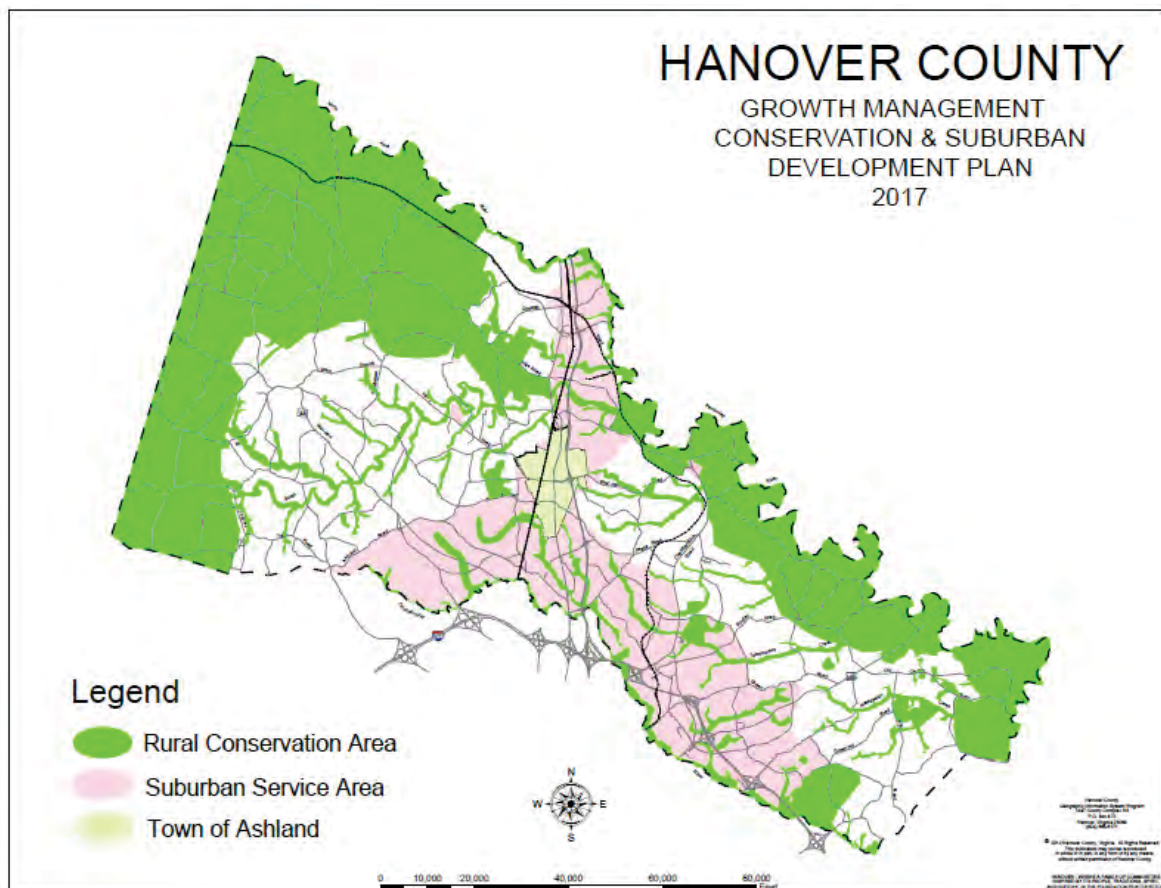


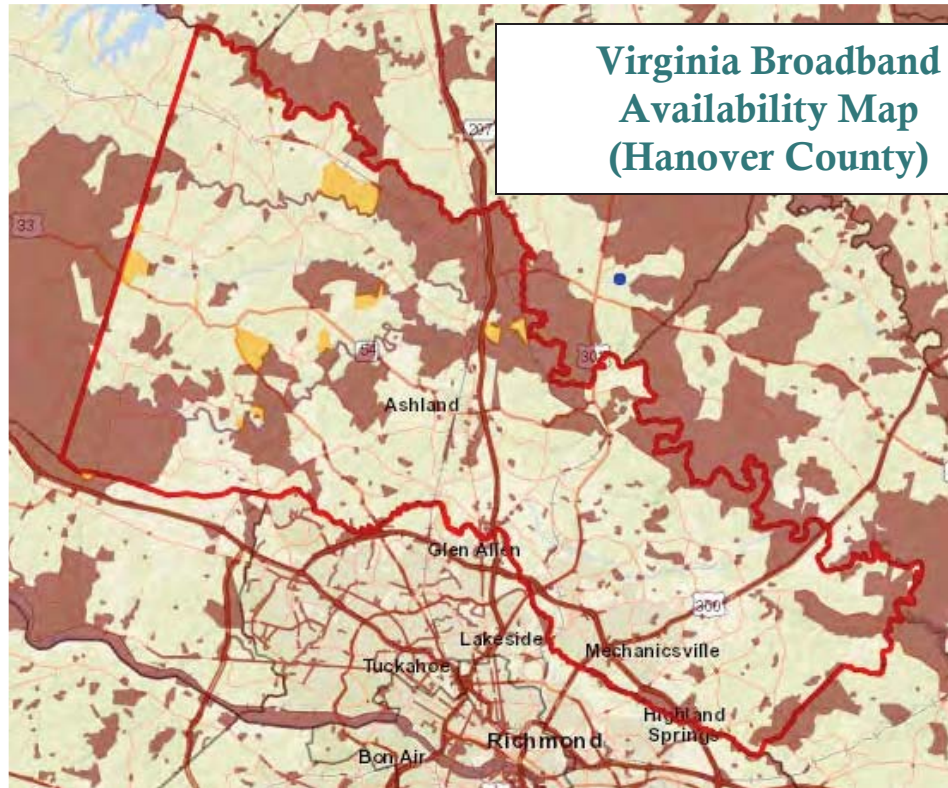
Introduction



Hanover has a number of unserved pockets with no reasonable broadband internet options available. In addition, many areas are considered underserved with substandard service for our residents. However, the majority of the residents have access to broadband internet service. This is due to the fact that the vast majority of residents live in the suburban area with higher densities and more commercial businesses where broadband internet is available. There are also areas within the designated rural/agricultural portions of the County that have access. The unserved population is in the mostly rural/agricultural areas that are generally along the borders with surrounding counties although there are exceptions

The Growth Management Conservation and Suburban Development Plan map is below. The pink area represents the suburban portion of the County, green is rural conservation and the white is planned to remain agricultural.

The Virginia Broadband Availability Map of Hanover County shows the unserved areas (brown) and underserved areas (yellow). As noted above they are generally within the rural conservation and agricultural areas. It has generally been acknowledged that this map understates the size of the unserved and underserved areas but that should not affect the general location.





-  Unserved - below or equal to 10 Mbps download and 1 Mbps upload
-  Underserved - greater than 10 Mbps download and 1 Mbps upload and less than 25 Mbps download and 3 Mbps upload

Hanover is primarily served by two wired internet service providers, Comcast and CenturyLink. These providers do not overlap even though there is no regulatory requirement that they not overlap. The providers report it is not cost effective to make the sizable infrastructure capital investment and incur the ongoing operating expenses in an area that already has a service provider. Furthermore, broadband expansion grants are not available for areas that already have internet service.

Hanover partnered with Comcast in 2019 to apply for a Virginia Telecommunications Initiative (VATI) grant, which was unfortunately unsuccessful. In 2020 Hanover partnered with CenturyLink and Comcast to submit two VATI grant applications. As of the preparation of this report the awards had not been announced.

Hanover also worked with two fixed wireless internet service providers (WISP) that were willing to install the necessary equipment at no cost to the County. It was the Board of Supervisors' policy that tax payer funds were not to be expended on providing internet service. Unfortunately, these no-cost providers were both unsuccessful due to being undercapitalized and lack of the business and technical expertise necessary. The lesson learned was that the selected internet service provider partner must be well capitalized, have a proven business model, successfully executed projects and demonstrated ability to secure and administer broadband internet service grants.



Delivery Models

Board Policy Item: Options are as follow:

1. The State and/or Federal Government could define the need, develop the solution and then implement it.

Pros, the governments are providing considerable funding and by contracting directly with the service providers they are cutting out additional bureaucratic levels and reducing administrative costs.

Cons, not likely to happen. Both State and Federal governments have established funding opportunities for private broadband internet service providers such that the governments do not need to be directly involved.

2. Private service providers independently implementing broadband solutions.

Pros, purely a private service provider effort and the provider responsible for securing grants.

Cons, private service provider not likely to independently enter into a locality without some involvement by the local government. And, as we have experienced, private providers will expect a financial contribution by the government.

3. Establish a Broadband Service Authority/Service District with taxing authority with authority to partner with a service provider to implement solutions.

Pros, the service authority/Service District does not necessarily have to be countywide, it could be limited to a specific geographic area where the broadband service will be provided with the taxes assessed to those areas. This also reduces the involvement of the local government officials.

Cons, residents are all in or all out of the service authority/service district. If a district is created all residents are taxed whether they have service or not.

4. Develop a local government utility like structure for delivery of broadband internet services.

Pros, the local government would be in complete control of the service.

Cons, developing a utility from the ground up is an expensive and time intensive endeavor with a large capital investment up front. Would likely not be cost effective given the limited size.

5. Establish a public/private partnership with third party private broadband internet service providers to encourage expansion of broadband service area. The private broadband internet service provider must demonstrate it is well capitalized; possess sufficient resources to provide design, implementation, operation and maintenance services; have a demonstrated record of success and have been successful obtaining and managing State and Federal grants.

Pros, ability to leverage the expertise of the private providers while still having local government involvement yet with less staff time. The most widely used model in Virginia.

Cons, will need a local government funding source in addition to grant funds to make applications competitive.



Recommendation: Select Delivery Model 5, public/private partnership, and proceed with process to secure and enter into the necessary agreement(s).

Strategies to Facilitate Achievement

A. Administrative Resources – Investment of Dedicated Staff Resources

- A Deputy County Administrator and the Director of Information Technology have been assigned the responsibility to facilitate grant applications, build coalitions, foster relationships with providers, and conduct data collection, etc. In addition, the County Administrator, the Deputy County Administrator for Internal Services, and other County technical staff will support county efforts to educate, encourage, and facilitate the expansion of broadband solutions to our residents.
- The county will continue to pursue legislative advocacy efforts with our state and federal representatives to increase resource availability for providers to expand broadband infrastructure.
- Work with regional partners to identify mutual needs and benefits of collaboration.
- Work to date by County staff is summarized in **Appendix 1**.



Board Policy Item: Consider establishment of a new position (Director- Broadband and Technology Development) would have expertise and knowledge of broadband internet technology, understand FCC, be very knowledgeable on and experienced with grants, experience working with a broadband internet service provider(s) and perform advocacy on behalf of the County.

B. Focus Efforts of Regional Workgroup

In 2017 a Regional Broadband Workgroup was formed including Ashland, Charles City, Chesterfield, Cumberland, Fluvanna, Goochland, Hanover, Louisa, New Kent, Powhatan, and PlanRVA. Hanover has actively participated in the regional meetings since the group was formed. Previous meetings have included discussions with providers, representatives from the Governor’s Office, Commonwealth of Virginia’s Broadband Team, Center for Innovative Technology, and the United States Department of Agriculture (USDA) Rural Development office.

Hanover will continue to participate on the Regional Workgroup and in addition will work directly with adjacent localities when considering broadband deployment strategies.





C. Citizen & Business Resources

- Website containing plans
- Updates on county progress
- Improved Maps
- List of providers offering service
- Community Survey – broadband availability/need
- Speed test opportunities for residents to share speeds of existing service
- Brochure with Frequently Asked Questions (FAQ's)
- Economic Development staff will discuss broadband availability/needs during business visitations



D. Increased Local Access (\$100,000 Investment)

Establish enhanced opportunities for citizens to access broadband internet at local access points through expanded Hot Spots on and within public facilities and include parking lot coverage.

- Pamunkey Regional Libraries – Hanover Branches
- Parks & Recreation Community Centers
- Hanover County Public Schools
- Hanover County Fire Stations
- Hanover County Courthouse Complex
- Support Hanover County Public Schools and the Pamunkey Regional Libraries initiatives to provide students and residents in rural unserved areas with local access via mifi hot spots.

Develop partnerships with the business community to promote additional hot spot sites and expand internet accessibility.

- Business community partnerships to promote initiative
- Highlight business hot spot locations
- Local partnerships for expanded service



E. Commission Engineering and Implementation Plans

Board Policy Item: The County should consider partnering with one or more internet service providers and commit funding for necessary engineering, implementation plans and support for preparing and submitting grant and other necessary applications. The plans will define focus areas, appropriate technology, cost estimates and time frames to accomplish expansion efforts. The benefit of the engineering and implementation plans is they will allow the County to target the focus of implementation consistent with goals set by the Governor’s Chief Broadband Advisor. The effort will also provide the County with improved data and more accurate broadband availability maps to



facilitate provider expansion and support future funding requests. In addition, it will identify where additional middle mile fiber installations would expand opportunities for greater citizen access to broadband.

The agreement with the selected internet service provider partner should allow the partner to pursue State and Federal broadband expansion grants as the grants require the involvement of an ISP, the County cannot be the sole applicant. (See item VIII for details).

Prior to completion of a study, the County will continue to refine its mapping of the unserved and underserved areas. The underlying data will include miles of both public and private roads, and the number of potential connections. Maps in **Appendix 2** show the unserved areas more precisely defined by the County.

F. Open Door – Private Providers

All providers are welcome and encouraged to expand broadband internet service to Hanover citizens. We support and encourage private enterprise success and given that the county is not positioned to serve as an internet service provider nor are there County, State or Federal regulation that limit the ability of internet service providers to expand or enter into Hanover.

G. Foster Partnerships – Focus on Providers

Hanover will focus on fostering partnerships with providers in order to facilitate expansion of service to unserved & underserved areas of the county. Pursuit of state grant and funding opportunities require partnerships between local governments and private providers. Other federal or private funding opportunities may be more successful with similar partnerships.



H. Leverage Federal & State Funding Opportunities

The County is generally not eligible to apply on its own for broadband grants. The grants reviewed to date require the applicant to be an internet service provider or an internet service provider in partnership with the local government. As such the County will work with internet service providers to evaluate federal and state grant or loan opportunities to determine if it is in the best interest of the county to pursue as a funding opportunity. It is important to leverage federal and state funding opportunities, but requirements including partnerships, maps, plans, restricted service areas may make it impossible to pursue.



- Community Development Block Grant (CDBG) – Broadband Planning Grant – Virginia Department of Housing and Community Development
- Virginia Telecommunication Initiative (VATI) – Virginia Department of Housing and Community Development
- Rural eConnectivity Pilot Program (ReConnect Program) – United States Department of Agriculture
- Federal Rural Digital Opportunity Fund – United States Federal Communications Commission

Information for the grant programs is included in **Appendix 3**

I. Infrastructure Support – Leveraging Tower Network

- County allows access/lease of space on County assets such as emergency communications towers, water tanks and other suitable facilities, and to work with providers in a manner that is encouraging, flexible, cost effective, and values the investment of broadband providers.
- County has a staff liaison for all necessary permits and approvals for broadband infrastructure.
- County understands that more than one third-party provider may be interested and involved in the provision and expansion of broadband services but is mindful to avoid a detrimental effect on the service through frequency conflicts.
- To the extent feasible, the County is open to assisting broadband providers with pursuing federal or state broadband funding opportunities to help offset the capital costs of broadband access and capacity.



The maps provided in **Appendix 4** depict the County’s communication towers along with propagation maps for a typical fixed wireless broadband installation.

Board Policy Item: Investigate the ability/authority of the County to establish requirements that new developments extend existing broadband internet infrastructure and/or install new infrastructure for new developments. Could include the inclusion of spare conduits for use by others.



J. Existing Infrastructure

- In addition to the County's tower resources there are a large number of other vertical assets. The map provided in **Appendix 5** depicts all of the vertical assets in Hanover.
- There are a variety of existing private fiber operators in Hanover. **Appendix 6** includes mapping of the existing fiber assets. Please note the maps do not show the existing Comcast and CenturyLink facilities.

K. Financial Incentives

Board Policy Item: Consider the investment of local resources to leverage private, State &/of Federal funding to support the expansion of broadband internet service as follows:

- The County should evaluate the potential of providing tax increment incentives to providers in-partnership with the Hanover County Economic Development Authority (EDA).
- County should consider a partnership with the EDA to establish a fund to provide grants, matches, low interest loans or other incentives to providers.

L. Legislative Advocacy

- The county will continue to pursue legislative advocacy efforts with our state and federal representatives to increase resource availability for providers to expand broadband infrastructure.

Board Policy Items

1. Consider and select the most feasible preferred method of providing broadband internet service.
2. Consider establishment of a new position (Director- Broadband and Technology Development) would have expertise and knowledge of broadband internet technology, understand FCC, be very knowledgeable on and experienced with grants, experience working with a broadband internet service provider(s) and perform advocacy on behalf of the County.
3. The County should consider partnering with one or more internet service providers and commit funding for necessary engineering, implementation plans and support for preparing and submitting grant and other necessary applications.
4. Investigate the ability/authority of the County to establish requirements that new developments extend existing broadband internet infrastructure and/or install new infrastructure for new developments. Could include the inclusion of spare conduits for use by others.
5. Consider the investment of local resources to leverage private, State &/of Federal funding to support the expansion of broadband internet service



Next Steps Toward Universal Coverage

The County should continue to partner with incumbent internet service providers to apply for grants to cover the costs to provide for the logical expansion of their existing networks into unserved and underserved areas. As it is anticipated the incumbent providers will be unable to provide countywide coverage the County should also proceed with the recommended delivery model. As discussed in the Delivery Models section, this model is to establish a public/private partnership with third party private broadband internet service providers to encourage expansion of broadband service area. The private broadband internet service provider must demonstrate it is well capitalized; possess sufficient resources to provide design, implementation, operation and maintenance services; have a demonstrated record of success and have been successful obtaining and managing State and Federal grants.