

# Haywood County Broadband Committee Activity Report July 2020 - June 2021

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## Haywood County Broadband Committee - Haywood County Economic Development

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## HCBC Purpose Statement

Work to increase access to broadband internet services to homes, community organizations and businesses throughout Haywood County. Partner with local, regional, and state organizations to promote opportunities to increase availability of broadband services.

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## Summary

This report summarizes the work performed by the Haywood County Broadband Committee (HCBC) for the year July 2020 to June 2021 and an assessment of the ongoing challenges to extend broadband access in the county. The committee developed a detailed map of the status of internet access in the county using several different public data bases, grant award data and citizen requests for broadband assistance. The committee assisted in two successful applications for \$1.3 M in state and federal grants that will provide terrestrial based broadband access to several hundred locations over the next years.

However, there are still many Haywood County residents without access to broadband today and without expectation of service in the near future. The challenges are: 1) to incentivize Internet Service Providers to expand broadband access for these residents especially considering inaccurate broadband maps from the Federal Communications Commission used for most state and federal grants and 2) the North Carolina State law prevents counties from providing broadband service or leasing county owned fiber to private Internet Service Providers. The committee believes the county may have exhausted the current state and federal grant opportunities to extend broadband in Haywood County due to these challenges. This may also mean most areas in Haywood County could be ineligible for any future federal and state infrastructure funding to extend broadband.

The committee continues to work with the North Carolina Broadband Infrastructure Office, the Southwestern Commission Council of Governments, and neighboring counties to share data and brainstorm ideas. The committee is looking at options for county locations to have access to internet service in the short term at less than broadband speeds (currently  $\geq 25/3$  Mbps) and service levels while working towards a long term future of universal access to broadband. Short term strategies include cellular hotspots, new frequencies and service levels from cellular providers, low orbit satellite service and some experimental technologies. New funding sources such as county level funded projects focused on community and neighborhood levels are also being explored.

## DETAILED DISCUSSION

### Definitions (Broadband Infrastructure Office, 2021)

- **Digital subscriber lines**, which transmit data to homes and businesses over traditional copper telephone lines, which are already installed. Not all copper telephone lines, however, are capable of transmitting data as DSL.
- **Cable modems**, which transmit data through the same coaxial cables that generate pictures and sounds on television sets
- **Fiber-optic cables**, which convert electrical signals carrying data into light and send the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds much faster than DSL and cable, typically tens and even hundreds of Mbps.
- **Wireless**, which can be mobile or fixed. Fixed wireless involves the wireless transmission of data from a local antenna to a permanent location such as a home or business. The service is similar to what is delivered over DSL or a cable modem, but the transmission is wireless. Mobile wireless connects users in temporary locations such as coffee shops. Mobile broadband is transmitted through technologies such as portable modems and mobile phones.
- **Satellite**, which is another form of wireless useful for serving remote or sparsely populated areas

### Broadband Data Mapping

The committee focused on understanding the available data for locations in the county that do and do not have broadband access, defined as greater than 25/3 Mbps wired or fixed wireless service. The committee worked with the county Geographic Information System (GIS) coordinator to visualize the data on a password protected broadband map, similar to the maps the county maintains to record land parcels (Haywood County Government, n.d.). The mapped broadband data includes the public Federal Communications Commission Form 477 (January 2019), public Growing Rural Economies with Access to Technologies (GREAT) grant data, and public Rural Development Opportunities Fund (RDOF) award data. Specific locations without broadband access as reported to the county are mapped. The broadband map is out of date and requires significant updates in order for the committee to continue to make data based decisions to promote broadband expansion.

Most of the data on the broadband map is at the census block level, the smallest geographical unit available reported by Internet Service Providers to the Federal Communications Commission on Form 477. Broadband data availability at the census block level was sufficient to make recommendations when many large areas of the county did not have broadband. Today, many of the locations without broadband access are areas within those census blocks identified as being served by an Internet Service Provider. The North Carolina Broadband Infrastructure Office developed a survey to collect data on the actual broadband status within census blocks. The North Carolina Broadband Infrastructure Office reported in a representative

survey that 68% (426 of 1055 survey respondents) of the locations in Haywood County do not have access to internet service of at least 25/3 Mbps. While this may overstate the number of locations somewhat, the state survey documents there still are many areas without broadband access throughout the county.

The definition of broadband service may be increasing to 100/20 Mbps in the future (Dawson, 2021a). This change will increase the percentage of locations in Haywood County without broadband access at the new standard.

### **State and Federal Grants Awards for Haywood County (summarized in Table 1)**

The Haywood County Broadband Committee (HCBC) worked with the Engineering and Research Consortium (ERC) of the Western Carolinas, Inc. to apply for an Appalachian Regional Commission, 2021 Area Development grant on behalf of Haywood County. ERC was awarded the grant and selected Skyrunner, Inc. as the awardee of its Request for Proposal (RFP) to expand broadband with fixed wireless service for several hundred locations in the Fines Creek and Crabtree communities in Haywood County ("Skyrunner receives contract for expanding Haywood broadband internet," 2021). Fixed wireless service is expected to be available in these areas by the end of the 2021 year.

The HCBC worked with the Southwestern Commission Council of Governments and Skyrunner, Inc. to apply for a Growing Rural Economies with Access to Technology (GREAT) grant from the North Carolina Broadband Infrastructure Office. The initial grant application to serve 1,447 locations was challenged by another Internet Service Provider, and Skyrunner subsequently resubmitted it's proposal with the challenged areas removed (Hyatt, 2021a). The GREAT grant eligible areas were those with less 25/3 Mbps service based on the current FCC 477 data. The challenge was believed to have been based on data an Internet Service Provider (ISP) reported to the NC Broadband Infrastructure Office, for the ISP's actual service levels not yet reflected in their FCC 477 report. Skyrunner, Inc. was awarded the resubmitted project to add fiber to serve to 304 Haywood County locations (Vaillancourt, 2021). The Haywood County Government was a partner on the grant and supplied some of the required matching funds through a Request for Proposals process (Hyatt, 2021b). The Haywood Electric Membership Cooperative, as allowed by state law, is working with Skyrunner (and other ISPs) to lease the HEMC fiber network, but not provide broadband directly to customers.

In early 2021 Charter reported a national initiative for a,

multibillion-dollar broadband buildout initiative to deliver gigabit high-speed broadband access to more than 1 million unserved customer locations, as estimated by the Federal Communications Commission (FCC) and awarded to Charter in the Rural Digital Opportunity Fund (RDOF) Phase I auction. Charter expects to invest approximately \$5 billion to support its buildout initiative - offset by \$1.2 billion in support won from the RDOF auction (Charter Communications, 2021).

In Haywood County, Charter was awarded 5,479 locations and \$7,121,025 in federal funds to provide broadband access, and final approval is still in progress (Cooperative Network Service, 2021). The RDOF is not so much a grant as a monthly reimbursement to Charter over ten years for building out and serving these locations within the next six years. The census blocks of the RDOF award locations may be disqualified for other state and federal grants with shorter implementation timelines.

Table 1  
Broadband grants awarded July 2020 – July 2021 serving areas of Haywood County

Haywood County Area	Funding Source - Awardee (Amount)	Technology	# Locations Served	Timeline for Broadband Service to Begin
Fines Creek & Crabtree	ARC 2021 Area Development – Skyrunner (\$95K award for \$384K project)	Fixed Wireless	200+	End of 2021
Fines Creek, Lake Logan, limited Johnathan Creek	GREAT grant 2020 – Skyrunner (\$1.2M award for \$1.7M project)	Fiber	304	2 years from the effective date of the grant agreement (approx. 6-1-21), but no later than December 30, 2022
North and south areas of HC	RDOF – Charter (\$7.1M award for unknown cost of project)	Cable and Fiber Hybrid	5479	6 years beginning after project plans approved (not approved as of July 2021).

### Additional Broadband Access Developments in Haywood County

Two national telecommunication companies with existing service in Haywood County, Charter and AT&T, are making changes that may impact broadband access positively and negatively in the county. Smaller regional telecommunication companies such as Skyrunner and Carolina Mountain Cablevision are extending their services to new areas of the county.

Charter’s broadband plans for Haywood County using RDOF funding are described in the previous section of this report. Charter may be expanding service outside of the RDOF areas, but no public information on those locations is available. AT&T announced it would not sell digital-subscriber-line (DSL) internet service to new customers after October 1, 2020 (Pegoraro, 2020). DSL uses a copper line to the home system (the same copper line used for land line telephone service), and generally provides less than 6/1 Mbps. DSL is considered an obsolete technology, but it is the only internet service access for possibly thousands in Haywood County. Although AT&T has not announced it will discontinue DSL service to existing customers, local

experience has shown that when customers lose DSL service due to equipment deterioration, maintenance may not be performed, and the service may not be restored (Dawson, 2021b).

Skyrunner, Inc. and Carolina Mountain Cablevision have made investments and increased their service areas in Haywood County, but the specific addresses are not public information. Skyrunner is expanding fixed wireless and fiber service as reported earlier in this report. Carolina Mountain Cablevision continues to extend service in the county and is actively working in the Cruso area with locations in and around the Springdale Country Club.

Internet is available to some in the county from cellular providers using a cell phone as a hotspot and using some newer home based products to receive cellular internet. The download and upload speeds available in Haywood County with cellular hotspots are usually under the 25/3 Mbps broadband threshold, but this may be changing. The Haywood County Broadband Committee has not worked directly with cellular companies on these applications. The committee is aware of experiments with low orbit satellites, such as Starlink from SpaceX, in Swain County, but does not have enough data to report on the potential for Haywood County.

The HCBC partnered with the Haywood County Library on their applications for two successful library grants to purchase and loan out hotspots to library patrons. In July 2020 the Haywood County Library applied to the State Library of North Carolina to establish a hotspot lending program. Hotspots provide a temporary service for library patrons to receive cellular based internet but often at less than broadband speeds. The library currently has 10 hotspots for loan. Survey results from library patrons using the hotspots reported high satisfaction with the program, ease of use and likelihood to recommend the program to others. The Haywood County Library applied for a second grant from the State Library of North Carolina for additional hotspots and was awarded the grant in July 2021. The library expects to receive 10 additional hotspots in the near future.

### **Communities, Property/Homeowners Associations and Individual Locations**

The HCBC responded to and reached out to several communities in Haywood County to learn about their broadband needs. The Springdale Country Club area residents established a homeowner led broadband committee to secure an Internet Service Provider for existing and future homes in conjunction with the club owners. The area homes have underground utilities. There is not a formal property owners association. The HCBC helped to reconnect the committee with Carolina Mountain Cablevision (CMCV) which already had some broadband service in the area. The Springdale residents' broadband committee developed a partnership with the owners of the Springdale Country Club to share the construction costs of trenching and laying the cable. Individual homeowners will pay traditional connection and monthly fees to CMCV. The Springdale Broadband Committee reported by email in July 2021,

The project is still in the construction phase. Installation of the underground conduit is nearing completion. Carolina Mountain Cablevision is gearing up to install the fiber optic

cabling in the conduit and install the pedestals and other equipment. We're happy with the progress thus far and the contractors are meeting expectations. However, early in the process we may have been a little ambitious with the timetable. We currently have 45 homes that have paid the connection fee and are waiting on the completion of construction... Once the initial 45 are hooked up, we expect more. The total number of homes is 75 (including the 45), plus we have 40 vacant lots (Boss, 2021).

Approximately 60% of the existing 75 Springdale homeowners paid an early adopter connection fee. The remaining homeowners will be eligible in the future, but their connection fee will be greater. The Springdale Country Club is the fiduciary in this case because the homeowners do not have a property owners association to assess fees. This is truly a resident led effort, in a defined community. The flooding from tropical storm Fred in September 2021 slowed the installation and the hookups are expected to begin in October 2021. The Springdale broadband committee reported that Carolina Mountain Cablevision worked tirelessly to quickly repair any flood damaged broadband service in the area.

The HCBC met with other Home/Property Owner Associations including The Glades, Mountain Cove Estates and Brannon Forest. The Glades Property Owners Association and Mountain Cove Estates Homeowners Associations received quotes from Charter and Skyrunner to extend service to their communities with a lump sum payment from the community. Not enough residents agreed to pay the fee, and no new service was provided in these areas. Brannon Forest Property Owners Association worked with several Internet Service Providers but were not offered a community wide solution. In these three cases, the Home/Property Owner Association covenants did not have a clause to assess individual owners for broadband. The lump sum fees for the community projects required a high percentage of member participation and the association to be billed, rather than individuals. Generally, the associations are only organized to assess fees for road maintenance and to maintain community standards. The Home/Property Owners associations would have to change their by-laws, with a vote of the owners, to assess new fees to cover broadband related projects. Internet Service Providers will generally meet with organized groups such as Home/Property Owner Associations to discuss potential projects. The majority of locations without broadband access do not have an organized association or the clout to get Internet Service Providers to consider extending service to their areas with or without additional funds.

The HCBC continues to log internet requests and problems identified by individuals and use that data to identify areas in the county without broadband access. Twenty-one addresses without broadband access were added to the committee data base. Addresses were added to the log from citizen communication to the county commissioners or directly to the HCBC. The citizen communications to the county commissioners were answered by the committee with information on the current status of broadband at the location and with some suggestions for the homeowner to investigate. In most cases, the addresses without broadband access were located in census blocks claimed by Internet Service Providers on the FCC 477 report or by Charter in their recent RDOF award.

## **New Technologies**

The HCBC continues to learn and investigate applications of experimental work to extend broadband in rural areas. The NCSU Friday Institute is experimenting with different technologies including low orbit satellites such as Starlink, television white space, and citizen broadband radio service to serve rural students (Zeisz, 2021). Cellular companies have introduced some new home internet solutions which may provide more immediate access wirelessly.

## **Challenges**

Internet Service Providers may not extend service upon request, or the ISP requests thousands or tens of thousands of dollars from individual homeowners or homeowner/property associations to extend service, in the census block claimed by those providers on federal broadband maps. The low population density and the mountainous terrain in many parts of the county have made extending broadband not profitable for the ISPs, no matter how badly the service is needed by county citizens. The HCBC and individual citizens do not know if an ISP plans to extend service in the near or far future, or never.

Significant challenges remain to assure future broadband access in many areas of the county, most of which are outside the scope and ability of the committee to change.

1. The first challenge is the lack of accurate data on broadband availability. Most federal and state broadband availability data is truncated at the census block level and does not extend to the street and individual address level. The HCBC broadband map includes some individual locations based on citizen communication to county officials or the Haywood County Broadband Committee. Even though broadband funding is expected to be included in future federal infrastructure legislation, the current federal broadband mapping methodology may exclude most of Haywood County from utilizing those funds.
2. A second challenge is North Carolina state legislation prevents the county from providing broadband service directly to consumers, even though the county has fiber in parts of the county for county business. The county cannot step in to share or lease county owned fiber internet to interested internet providers as long as this legislation is unchanged.

## **Future Work**

The committee continues to work with the North Carolina Broadband Infrastructure Office, the Southwestern Commission Council of Governments, and neighboring counties to share data and brainstorm ideas. The committee is looking at options for county residents to have access to internet service in the short term at less than broadband speeds and service levels while working towards a long term future of universal access to broadband. Short term strategies include cellular hotspots, new frequencies and service levels from cellular providers for home internet, low orbit satellite service and some experimental technologies. New funding sources

such as county level funded projects focused on community and neighborhood levels are also being explored.

## Conclusions

Many households and businesses in Haywood County will not have access to broadband in the foreseeable future. There is very little an individual can do to gain access to broadband or even know when or if access will ever be available. Changes are needed at the federal, state, and local levels to make broadband more widely available.

There are actions we can take locally to provide more broadband access in the county. The Haywood County Broadband Committee recommends the county develop and fund a local broadband incentive program, hire a GIS coordinator to work with the committee, and provide additional resources from the county IT office to support the committee.

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