

Whitefield

Whitefield has a robust and active broadband committee that have been gathering information and meeting with a number of providers over the past few years. The difficulty in Whitefield may be the lack of political will to move a project forward. With the majority of the community covered by Spectrum, most residents can get good internet service. However, there are areas that are unserved and those areas that have been most concerning to the broadband committee.

Spectrum Service Areas

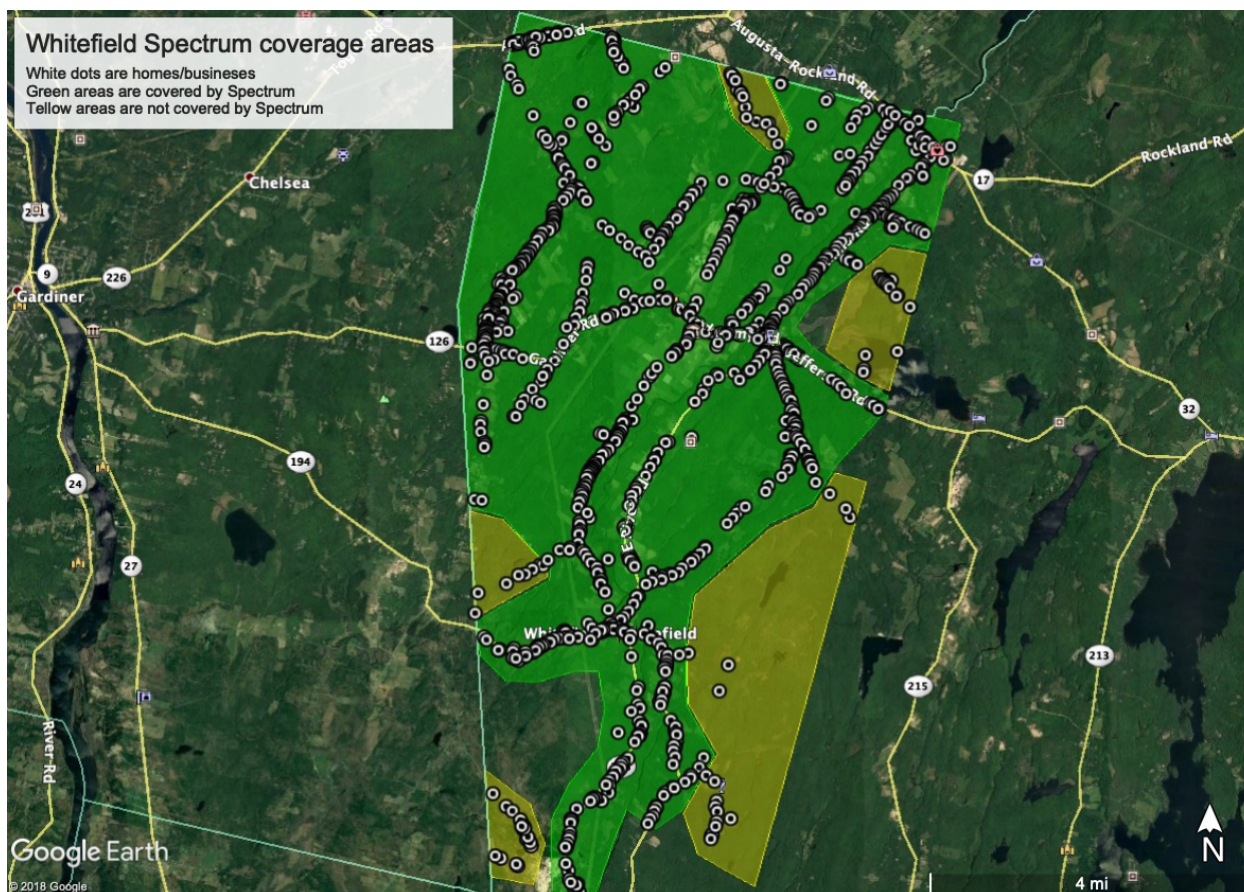


The Committee has had ongoing conversations with Spectrum about expanding their service. A conversation recently with a Spectrum representative and Axiom indicates Spectrum is willing to move a project forward. This is the most cost efficient and viable way forward. It is likely that some of the uncovered areas would be eligible for a ConnectME grant that would cover part of the cost. If the Committee is serious, its next step would be to obtain pricing from Spectrum for specific areas of coverage.

Shelly Winchenbach is the primary contact to continue conversations at Shelley.Winchenbach@charter.com.

Is a Fiber optic solution feasible?

Because there has been so much talk of fiber optic service being the gold standard, we did some investigating into the possibility of fiber service being provided either to those areas currently not served by Spectrum or a full build out of fiber over the entire town as an alternative competitor to Spectrum service. Both options are not viable without significant public subsidy.



The yellow areas are the parts of the community not covered by Spectrum. We count approximately 75 homes across these areas. There are several issues with building a fiber solution to serve these areas. In those areas unserved, we would expect a 70% take rate for service, suggesting that just over 50 homes would take service. This is a small number of homes.

First, the areas are not contiguous, and would require attaching them with fiber cable across areas that are covered by Spectrum. Technically, this is not an issue at all, and it would increase the number of homes passed, possibly increasing the take rate for service, if the cost of that internet service was comparable with Spectrum. However, by having to connect all of the areas, the cost increases exponentially, and with the likely initial take rate in the Spectrum areas low, this is not an optimal solution.

Second, the areas in yellow cover only about 75 homes. This is not enough scale to attract an internet provider, even if there was public money to build out to all of these homes.

Third, this would exacerbate the inequity in service levels, essentially giving those in the yellow areas better service than those in the Spectrum service areas, reversing the current situation. These types of partial solutions do not fare well at town meetings or with decision makers at the select board.

HotSpots

Community HotSpots are open access networks that allow citizens in your downtown or other public spaces access to the internet. This is a simple, straightforward way to get your community connected.

Axiom is a leader in deploying HotSpots and working with communities to get the most of these low-cost investments and have installed and supported deployments in over 10 communities. Communities continue to install HotSpots across the state and have found them to be utilized extensively, attracting 1000s of users a month.

- ◆ Allow people to access email and other smartphone tools in a faster, more efficient manner-without using their cellular data plan
- ◆ Supports connectivity to computers and tablets, not just cell phones
- ◆ Allows the community to advertise important community amenities
 - Public Restroom locations
 - Marina or portage locations
 - Food and tourism related attractions
- ◆ Supports citizens that do not have ready access to the internet
- ◆ Great for local sponsorships to defer cost

Cost of Installing a HotSpot

Axiom charges \$3500 for the first HotSpot and \$3000 for each additional HotSpot. Beyond the engineering and mapping of possible sites, this includes a one year equipment replacement warranty, unlimited phone and on-site technical support and monthly usage reports.

What is not included in this fee is the cost of the internet connection, estimated to be \$65-\$110/month, the electrical cost to power the HotSpot, estimated to be less than \$10/month. Also not included would be any electrical work necessary to bring power to the location of the network equipment.

After the first year, Axiom management services are \$1250/year. This fee includes unlimited repair or replace of equipment and monthly usage reports.

In many of our installations the community was able to attract grants and sponsors to defer the cost of installation or the cost of ongoing support that start in the second year.

Most recently, Monson was awarded a \$7000 grant from the Maine Community Foundation to install downtown Hotspots, in Millinocket they attracted a local foundation and GWI gave them free internet in exchange for a contract to serve the town office. In Biddeford, there was a bank and a local business that sponsored the HotSpots. There are lots of possible options to help defray the cost. Axiom would be happy to investigate this option further with you, if this is something that the community is interested in.

We have been amazed at how many users these free connections to the internet have supported- helping community leaders understand how important the internet is to the daily lives of its visitors and local citizens.

High Capacity Corridor

Some communities focus on a particular area to increase economic activity or business attraction. In order to help attract businesses, or increase economic activity communities invest in industrial parks or incubator spaces where infrastructure is provided by the community (three phase power, shared industrial kitchens, workspaces for entrepreneurs, etc.). Increasingly these areas of focus are demanding strong internet leading communities to set up Gig Networks, where users can come and connect to a network that offers very high internet connectivity, typically up to 1000Mbps (1 Gig). These types of networks can be delivered into an industrial park, down a high density business area or to a building where internet connectivity supports entrepreneurs or other activity that requires significant internet speeds and reliability.

In Whitefield, Route 17, which is heavily traveled and developed, and has fiber, would be an area to explore. Or there may be others. What is important to remember is that the presence of fiber is important and necessary, even more important is to secure and make available low cost access to that fiber. This is key to any successful project. Exploring this concept in any area of Whitefield would require significant engagement with the Select Board and a list of possible locations should be developed with the pros and cons, which would start with the availability of fiber on or near each proposed site.

One other option would be to connect all municipal buildings to a private fiber loop that is owned by the town. In small communities these include the Town Office, Public Works, Library and Fire Station. There may be others, but depending on the locations of these buildings, a fiber network can be built then offered to businesses or residents along the way for low cost hookups. Creating a space for disadvantaged citizens to get free or low cost internet can be achieved through the HotSpots or a location that would allow citizens to come to where fiber would be available, such as a library or the town office. This concept was attempted in the town of Greenbush that was looking to allow citizens to come to a dedicated room at the Town office to access the internet.

Final Thoughts

- Working with Spectrum to build out their service footprint is a sound strategy
 - Investigate current franchise agreement for potential leverage to build out service
 - Look to a potential partnership on a infrastructure grant from ConnectMe Authority in March-April
 - Likely a project between \$150,000-\$200,000 would be competitive
- LCI is an alternative provider in the area, and may have interest in supporting any of these strategies, they have worked with Axiom to install HotSpots and have high capacity fiber in the region that, if extended could support a high-capacity Gig corridor
 - Work with LCI to identify areas where increased fiber connectivity would be helpful to reach committee and Town goals
- Axiom could provide a full-scale fiber buildout to all homes, but this does not seem like a viable solution
 - A significant amount of subsidy needed- likely in the neighborhood of \$1M

- Difficult to achieve take rate targets competing against Spectrum service
 - Unclear on position of town officials- but unlikely to fund a large-scale project
- A partial fiber buildout to areas currently unserved by Spectrum is not viable
 - The minimal number of homes that need better service is not enough to attract another provider
- HotSpots in key areas to act as a stopgap measure for unserved or underserved homes
 - Low-cost, low-risk opportunity
 - Helps support citizens with limited means
 - Can be a building block to highlight need for better connectivity