

Expanding and Improving Internet Access for residents of Fayette, Leeds, Mount Vernon, Readfield, Vienna, and Wayne

For almost two (2) years, the WKLCBA has been researching and studying ways to provide the rural communities of Fayette, Leeds, Mount Vernon, Readfield, Wayne, and Vienna with Broadband Internet access for all business, residents, and community members. This effort was supported by Casco Bay Advisors (a technical consultant) and included consultation with a variety of other communities, non-profits, and technical personnel.

In the short term (over the next five to ten years), there are only two internet service technologies which will realistically be able to provide Broadband internet service (as defined by the FCC) to the WKLCBA communities. Specifically, these two technologies are coaxial cable (the existing local cable network is owned and managed by Spectrum, which is a subsidiary of Charter Communications) and fiber to the home (which is not currently offered in the area). It is important to note that next-generation satellite internet service technologies (like Starlink) appear somewhat promising, but as of this writing are not commercially available. Additionally, some residents and businesses may be able to gain service from fixed wireless technologies (like Redzone and cell phone internet) however this will be somewhat opportunistic based upon specific property locations (i.e. line of sight to a tower).

Over the long term, there is only one proven technology that can provide reliable Broadband internet service. This is fiber to the home (FTTH). It is notable that existing coaxial cable networks, wireless networks, and satellite networks all utilize fiber optic cables as the backbone of their network construction.

Any substantial investments in internet service infrastructure should be focused on FTTH construction and technologies. However, new network construction can be expensive and some minor expansions to the existing cable networks, if possible, can provide some short term benefits. Each community in the WKLCBA may have a somewhat customized approach to their improvement strategy, based upon the current composition of their internet service networks, specifically their current cable coverage. Additionally, economic factors, such as financing, ownership, and availability of grants will be important points to consider.

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Fayette, Leeds, Mount Vernon, Readfield, Wayne and Vienna have cooperatively joined together to form a coalition- the Western Kennebec Lakes Community Broadband Association. The towns created this coalition to extend affordable internet access for all, because internet access is needed to:

- help students get an education
- work from home
- access information and services
- reduce isolation by connecting with family and friends, and accessing health and other supports
- increase employment and encourage business development
- save time and money by replacing older technologies and services.
- and encourage our young people to stay or return to our communities

Internet access will affect the financial and demographic future of our communities by encouraging people to move here. This is an especially important issue in our rapidly aging towns.

In the words of residents of our towns:

- *“Internet is a utility like electricity, phone, and roads.”*
- *“Robust broadband is long overdue for rural Maine. We are increasingly dependent on Internet services for our daily living. As our population ages, health and safety concerns necessitate fast reliable connectivity.”*
- *“Just like electricity and phones, Internet access is a necessary utility. Everything I do needs an Internet connection.....working from home during the pandemic, tv, news, movies, weather, Telehealth appointments, communicating with family, etc.”*
- *“Lack of good internet service in [our town] is a major roadblock to growth.”*
- *“Without internet access at a reliable speed/connection it slows down my ability to work from home and when the kids are going to do remote school work it becomes impossible.”*

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Our coalition has worked together since February 2019. We have used grant money to map out current internet services, and have met with a range of experts in this field to gather knowledge and explore options, including:

- Technology Review and Inventory via Casco Bay Advisors Report
- Vetro FiberMap services
- Consolidated Communications
- Spectrum cable
- A former Time Warner Executive
- An independent Internet Services Provider
- Islesboro Community Network
- Chris Mitchell from the Institute for Local Self Reliance

In addition, we have held virtual community meetings in each town and have surveyed residents through SurveyMonkey.

More about our efforts can be found at www.wklcba.org

Each town has appointed people to work together on our coalition. Working with consultant Brian Lippold of Casco Bay Advisors, we have studied our options and have identified three paths to increasing access:

1. Working with existing service providers to extend or improve reliable, high speed service.
2. Working with a new internet service provider to build an area- wide internet network and offer service throughout the towns.
3. Working to build a network owned by the town or towns and operated by an internet service provider.

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What we have learned about existing services:

We have learned that we need reliable, affordable, high speed internet service throughout our towns. Depending on where people live, they may have access to:

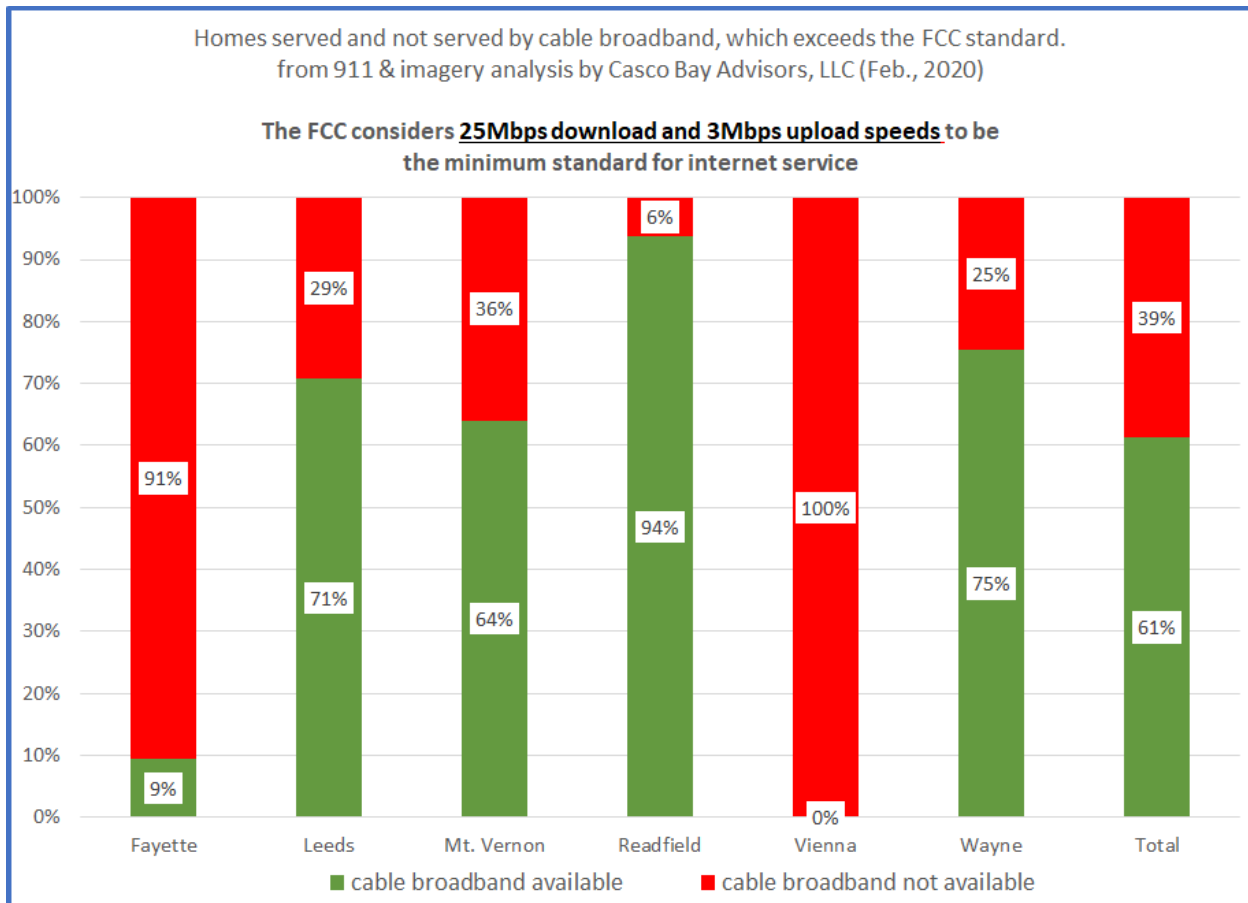
- Spectrum cable internet.
- DSL (phone line) internet.
- Cell phone internet or other wireless access.
- Or no internet service at all.

One way to compare these services is to compare the speed of information transfer from and to the internet. Cable has the fastest speeds of existing services; DSL is slower and affected by a household's distance from the telephone company's location. For more information about these different technologies, see

<https://broadbandnow.com/guides/dsl-vs-cable-vs-fiber>

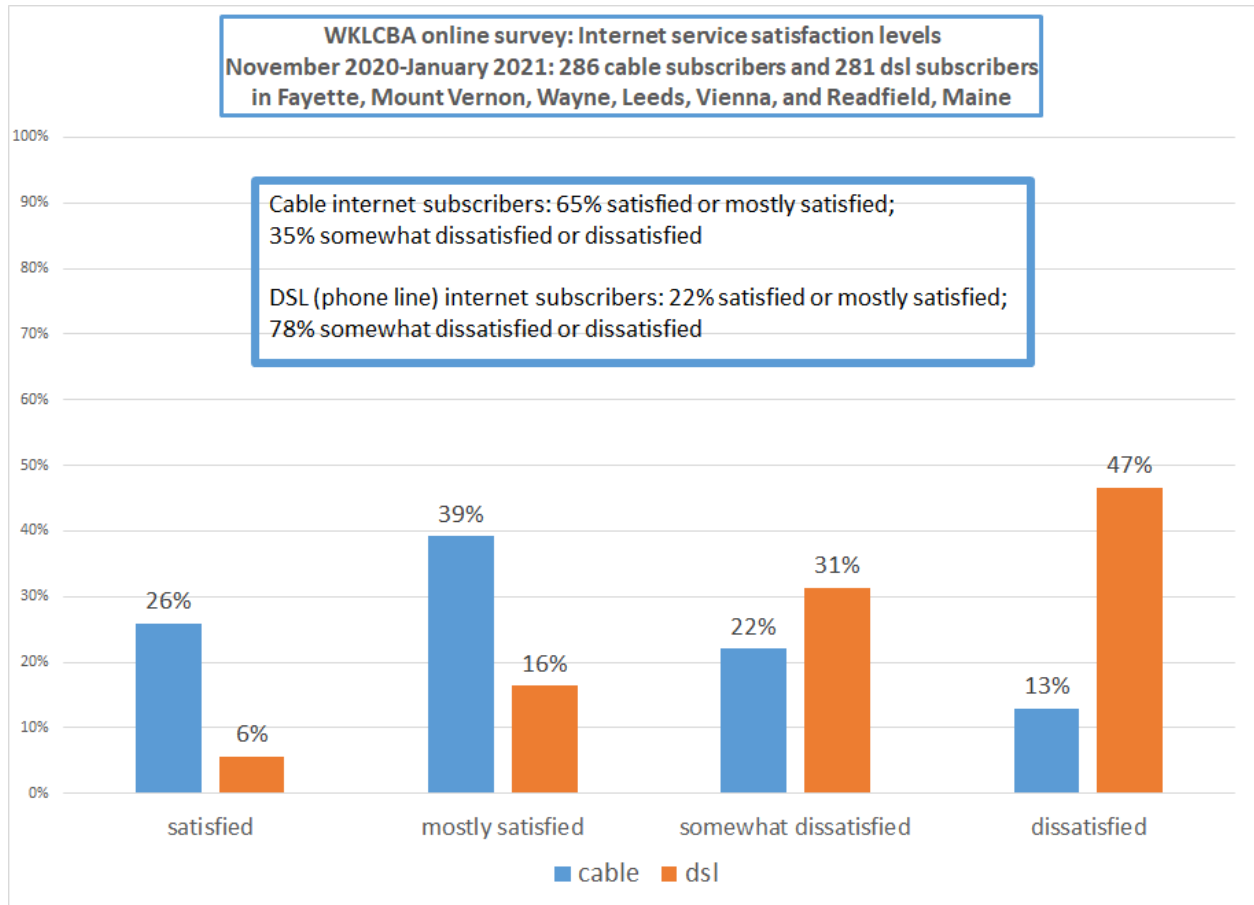
and <https://www.wklcba.org/faqs>

This graph shows the levels of access to cable broadband internet in our towns:



In surveying residents of our towns, we asked about their satisfaction with their existing Cable and DSL internet services. This is what we found:

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In the words of our residents:

“We have the ability to work from home- however our lack of high speed connection prevents using it. We have considered moving because of lack of access. ... I also lose my connection regularly “your internet is unstable” and have to reconnect or reboot my modem and there’s a chance I’ll never get back into the meeting.”

*“It’s slow, unreliable, goes out in wind or storms, uploads are too slow if they even work because of interruptions, bandwidth on ***** Rd is way too narrow. What we have now is primitive compared to states south of us. And nowhere near what is possible these days. We need a big upgrade. Soon. With connectivity for all.”*

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This table summarizes what we have learned about internet service options:

Type of internet service	Advantages	Disadvantages
Wireless (including cell phone, satellite)	No need for a network of wires or fiber optic cable. Available everywhere the wireless signal reaches.	Low speed. Affected by weather and location. Expensive. Unreliable at present. Current technology will not meet future needs.
DSL (phone line)	Available in many places not served by cable internet.	Speeds can be slow based on location and distance from facilities. Unreliable for most users. Unlikely to meet future needs.
Cable internet	Meets current FCC broadband standard. Relatively fast download (TO user) speeds. Relatively reliable. Currently available to some homes.	Speeds can slow if surrounding homes are using the service. Relatively low upload (FROM user) speeds. Not available in many locations in our towns. Existing cable company has not expressed interest in extending service further.
Fiber to the home	Exceeds all current speed standards. Consistent high download and upload speeds. Has capacity for future uses. Speeds do not depend on use by surrounding homes.	Not presently available in our area. Will require some kind of public private partnership to build out a network that serves all.