

# Chapter L

## Broadband

### 1. Purpose

In its early years, the Internet was seen primarily as a convenience; more recently it has become a necessity upon which many people depend for their wellbeing and livelihoods. The purpose of this section of the Brooksville Comprehensive Plan is to provide a general assessment of the availability of adequate internet access, or “broadband”, in our community and to outline the steps the Town has taken and will hopefully take in the future to ensure that high-speed, reliable, and affordable internet is universally available to all residents and businesses that wish to subscribe, with minimal risk or expense to the municipality. Specifically, this chapter:

- a) describes the current status of internet service in Brooksville;
- b) assesses future needs and demands for internet services, and;
- c) seeks solutions and strategies to improve internet services.

### 2. Key Findings & Issues

The United States economy is becoming increasingly networked. The Internet is no longer a luxury, but must be considered an essential component of infrastructure, just like electricity, telephones, and roads. Commerce; employment; business opportunities; health care; access to information; primary, secondary, and higher education; remote monitoring; communications; entertainment and other major social and economic functions of our society too numerous to mention are rapidly moving to, and dependent upon the internet.

The increasing range of applications and the sheer volume of internet traffic have made access to high-speed internet carriers, broadband providers, and processing centers essential for participation in this rapidly changing world of communications. One critical component is the availability of high speed, reliable, affordable service at the local level.

By this measure, Brooksville is woefully underserved and disconnected. The shortcomings of Brooksville’s current level of internet service have been underscored recently by the COVID-19 pandemic, which has resulted in most students struggling with virtual classes, and many employees juggling work on-line from their homes. Seventy-five percent of Brooksville residents are dissatisfied or highly dissatisfied with their current internet providers according to recent polling. Additionally, about 20% of households report having no internet service of any form, either by choice or unavailability. Internet usage is likely to accelerate in the years ahead, suggesting that the future prosperity of Brooksville and general wellbeing of the community depends upon access to high-speed internet for all community members, businesses, and public facilities.

Internet development has languished in rural areas due to the current general reliance on the private sector for building and managing the systems. Low population densities have made it unprofitable for companies to operate in rural towns. However, in the past few years, state and

federal governments have come to recognize the need for public funding to close the gap between what rural customers can afford to pay for service and what internet service providers feel they can afford to spend to expand networks in rural areas. As a result, loans and grants are becoming increasingly available from government sources to supplement private sector investment in rural internet services.

In Maine, the institutional framework supporting internet expansion in rural areas seems to be improving as well. A bipartisan bill in the Maine legislature, supported by Governor Janet Mills and recently signed into law, creates a Maine Connectivity Authority with funding and a legal status to promote public/private partnerships in a variety of forms. The mission of this new authority is to advance rural broadband expansion across a wide front. Maine was allocated \$128 million of federal funding under the 2021 American Recovery Act, which will be deployed by this new Maine state agency. In addition, the American Rescue Plan Act of 2021 allocated funding to states, counties, municipalities, and tribal governments for investment in broadband expansion. There is a prospect of more funding from additional federal infrastructure legislation likely to be passed by Congress in the next few years. In Augusta, there is talk of state appropriations for internet expansion as well. In short, there has never been a better time for Brooksville to move proactively to improve its internet service by taking advantage of new funding and technical resources.

Although the Brooksville Broadband Committee recognizes that there are a variety of emerging technologies that might be used to keep up with the Brooksville's requirements and demands, a consensus has emerged that the town should focus on securing and maintaining access to fiber optic internet service for all locations through whatever arrangements will produce the most timely, reliable and affordable outcome for the community, at the least financial risk to the Town of Brooksville.

### **3. Key Findings & Issues from 2006 Plan**

The 2006 version of the Brooksville Comprehensive Plan barely mentioned the internet. The library had two public access computers with internet services. However, the 2006 Plan also noted that there would likely be an increase in the number of businesses and people who would connect electronically to a distant employer through the internet. The 2006 Plan also recommended, "encouraging the development of broadband internet and other infrastructure to promote telecommuting and other entrepreneurial endeavors."

### **4. 2018 Public Opinion Survey Results & Supplementary Survey Data**

By 2018, it was impossible to ignore the importance of the internet to rural Maine, or the desire for better service in Brooksville. The Selectmen appointed a Broadband Committee to address the issue and find options for improvement. That same year, work on updating the Comprehensive Plan began in earnest. In summer 2018, the Comprehensive Plan Committee, partnering with the Hancock County Planning Commission, conducted a survey of residents to determine the need for internet services. That same year the Broadband Committee also surveyed community members.

Response to these surveys was high, with almost all households participating in one or more of the surveys. The combined survey results were as follows:

- Of those surveyed by the Comprehensive Plan Committee, 84% had internet service, but 116 respondents had no internet. Reasons for “no internet” included cost, slowness of connection, and unavailability of service, as well as “not applicable” for 70 of the respondents.
- The Broadband Committee survey had a total of 352 respondents. A question was asked if respondents were "happy" with their current internet service. There were 280 respondents who answered this question, of which 211 (75%) said they were dissatisfied with their current service. Reasons cited included slowness, unreliability, and even unavailability of service. Some respondents were quite emphatic in their unhappiness.
- Eighty percent of respondents to the Broadband Committee survey were willing to pay \$50 to \$75 per month for improved service. Twenty percent were willing to pay more than \$75 a month for service.
- Fifty-seven percent of 70 businesses surveyed by the Broadband Committee said they would benefit from improved internet service.
- The Comprehensive Plan public opinion survey asked whether respondents used the internet to do work from home; 58% of 311 respondents responded in the affirmative.

It is reasonable to assume that if this last question were asked today during the COVID-19 pandemic, the proportion would be far higher. In the three years since the surveys were conducted, many of the recent complaints to the Broadband Committee have been from exactly those “telecommuters” who work from their Brooksville homes, likely a rising trend.

Better internet bandwidth is vitally needed by more people in order to send and receive larger digital files that include textbooks and homework for students, architectural drawings and medical imaging for professionals, and billing and accounting for businesses. The dramatic increase in the number of live video meetings by Zoom and other vendors for online conferencing, virtual doctor appointments, webinars, workshops, and projects also requires increased bandwidth.

In the past year alone, the Brooksville Broadband Committee has received reports from parents of primary and middle school students who are now behind in their studies or missing classes due to slow or interrupted internet. Private consultants have reported that significant contracts have been lost due to unreliable internet. Families hoping to connect with parents, grandparents, and children during COVID too often get the message “your internet is unstable” just before it freezes and shuts down. And for people quarantined in their homes hoping to watch movies, many face buffering issues.

In the future, the absence of adequate internet service will restrict business development, education and employment opportunities, and health care as tele-medicine becomes a norm. In addition, real estate agencies report that poor internet throughout our region is already depressing property values, with many customers unwilling to even consider locations without good internet. There is considerable anecdotal evidence that many people who wish to live, rent or work in Brooksville do not do so because of the lack of adequate internet service. Many community members who lack sufficient internet service at their homes rely upon internet service at public facilities, such as the school and library.

The 2018 Broadband Committee survey results determined that, with the exception of the Brooksville School and Library, no other locations in our town had reported internet access at speeds that met or exceeded performance minimums established by the Federal Communications Commission (FCC). These are internet speeds of 25 megabits per second (Mbps) download and 3 megabits per second upload, written as 25/3 Mbps. Most speeds reported by Brooksville residences and businesses were substantially

lower. Furthermore, the 25/3 standard has recently been upgraded by the State of Maine to 50/10, which nobody in Brooksville has, except for a few customers (< 6) who have, in desperation, paid enormous sums for private “business fiber” lines. Until a month ago, when the library received a significant upgrade, people attempting to transmit large documents and work-related videos overtaxed its relatively “fast” connection (which, although faster than 25/3, still did not meet the new 50/10 standard). During summer months, as part-time residents return, the already slow residential internet service slows down even more as additional people sign-on and use available bandwidth.

## **5. Inventory & Analysis**

Regular speed tests received by the Brooksville Broadband Committee in 2020 showed that the situation had not significantly changed. This conclusion is confirmed by the Maine State Government’s internet authority, ConnectME, that set up a statewide speed test website which it encourages residents to use. While this survey is ongoing, March 2021 results confirmed that virtually nobody in Brooksville has “adequate” internet speeds, as defined by the FCC and described above, let alone the new statewide minimum acceptable speeds. A new townwide survey is currently underway.

Even what is currently considered “adequate” speed by the FCC lags behind recent developments in much of the country where “symmetrical” speeds of 100 Mbps, both uploading and downloading, are becoming common on optical fiber networks. Even speeds of 1,000 Mbps (“Gigabit” speeds) are already available in some metropolitan areas.

The need for speeds of 100 to 1,000 Mbps may seem far-fetched from the perspective of what most people in Brooksville require today. However, Brooksville is home to architecture and design companies, which require expansive internet data usage, along with many other businesses and professions. In addition, the regular user will need to access embedded high quality multi-media contents on nearly any given webpage.

Research and analysis done by the Broadband Committee concludes that for Brooksville the best available technology is optical fiber which will be able to provide "gigabit" speeds in the future with very little, if any, additional investment after the initial fiber is installed. With fiber, any future system upgrades are likely to be located at network centers and not involve-replacement of the fiber cables running throughout the town. The useful life of optical fiber is measured in decades, not years. Recent industry experience shows that fiber optic networks are proving to be far more reliable and less costly to maintain than the older copper telephone networks through which many Brooksville residents currently receive inadequate internet service over phone lines.

## 6. Goals & Objectives

<b>GOAL: Ensure all residents of Brooksville who wish to do so can access reliable, affordable, high-speed internet services, with minimal risk or cost to the Town and taxpayers.</b>			
<b>Objective</b>	<b>Strategy</b>	<b>Responsible Party(ies)</b>	<b>Timeframe</b>
Secure available grants from Federal, State, and private organizations that fund improved rural internet access, and find best corporate provider that meets Brooksville and the region's needs.	Regularly monitor and apply for grants and funding opportunities, communicate with various internet service providers regarding costs and capabilities, and analyze success stories from other Maine rural towns.	Select Board, Brooksville Broadband Committee	On-going
Increase awareness and understanding of high-speed internet benefits.	Hold public information sessions on the importance of fiber optic internet services to our community.	Brooksville Broadband Committee	On-going
Seek and secure the benefits of high-speed internet access on a regional basis at the lowest possible cost.	Coordinate with neighboring towns to promote broadband access and awareness. Continue regional cooperation	Select Board, Brooksville Broadband Committee	On-going
Provide technical assistance regarding internet usage to any interested community member.	Implement provisions of Digital Literacy Project already funded by Maine Community Foundation	Brooksville Broadband Committee	On-going
Continue to seek and secure outside funding for internet related education and technical assistance	Maintain relationship with Maine Community Foundation and similar funders.	Brooksville Broadband Committee	On-going
Continuously monitor economic and social impacts associated with inadequate internet services.	Regularly survey residents to collect pertinent information and opinions and access State level data as required.	Brooksville Broadband Committee	On-going
Establish in detail the required physical infrastructure information of Brooksville required by various funding agencies and providers.	Gather and analyze all required geospatial and environmental data, along with population data required by the various parties involved in funding and providing high-speed internet service.	Brooksville Broadband Committee	On-going

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<b>Objective</b>	<b>Strategy</b>	<b>Responsible Party(ies)</b>	<b>Timeframe</b>
Advance appropriate installation of a fiber optic network in Brooksville.	Evaluate proposals in response to RFP and select preferred provider: negotiate contract and determine financing options	Brooksville Broadband Committee, affiliated towns	Immediate, within three years
Keep monthly subscriber rates for basic services between \$50 – \$75 (adjusted for inflation), with a lower sliding-scale structure for persons / households with low-income and also households /persons with special needs.	Work with ConnectME. Maine Connectivity Authority and or other funding sources to secure construction subsidies to minimize subscriber costs over time.	Brooksville Broadband Committee, affiliated towns	Immediate, within three years