CONNECTING THE REGION!

MUNICIPAL DIGITAL EQUITY PLANNING

BARRE, HARDWICK, NEW BRAINTREE, NORTH BROOKFIELD & WEST BROOKFIELD

March - April 2025

CMRPC
Central Massachusetts Regional Planning Commission

MBI
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Special thanks to the town staff & residents of Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield for their time, resources, and invaluable knowledge to contribute to the development and success of this report.

Prepared by the Central Massachusetts Regional Planning Commission

Cover photo: @atl_pariseau (Instagram)

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INTRODUCTION

In early 2020, the COVID-19 pandemic spread across the Commonwealth and around the world. In response to the onset of the pandemic, many institutions, including jobs and schools, were forced to adapt and reorient themselves to a virtual environment. As there was an increased shift to using digital platforms as a means to continue learning, working, and accessing healthcare, inequities in the digital environment were highlighted when it came to accessing tech-based resources and devices. While some adapted to the new circumstances, others faced challenges in the digital sphere.

As the Central Massachusetts Regional Planning Commission (CMRPC) has taken on several Digital Equity Plans, barriers commonly identified are related to unreliable internet connections in the home, navigating devices and applications with confidence, affordability of internet plans, tapping into community resources to fill in the digital accessibility gap, and scams that put non-tech-savvy users at risk. Although not an extensive list, these barriers contribute to disadvantages in job opportunities, education, receiving proper healthcare, and community participation. Municipalities recognize that they play a role in assuring that residents have access to reliable internet, affordable service, and access to devices, alongside the skills and resources to use that technology.

Barre, Hardwick, New Braintree, West Brookfield, and North Brookfield have taken on the charrette process with the support of the Massachusetts Broadband Institute (MBI). Through this process, CMRPC guided the communities through community engagement, data collection, an existing conditions report, and two public workshops culminating in this final report.

On March 27th, 2025, and April 23rd, 2025, CMRPC facilitated public workshops located at Merriam-Gilbert Public Library and Barre Woods Memorial Library. This report presents the findings from the regional charrette process and outlines recommendations and the next steps to support the advancement of digital equity.

Charrette Process:

MBI's Municipal Digital Equity Planning Program was created to begin engaging municipalities in understanding the current climate of internet access and how this affects residents in their community. The Planning Program aims to begin the process

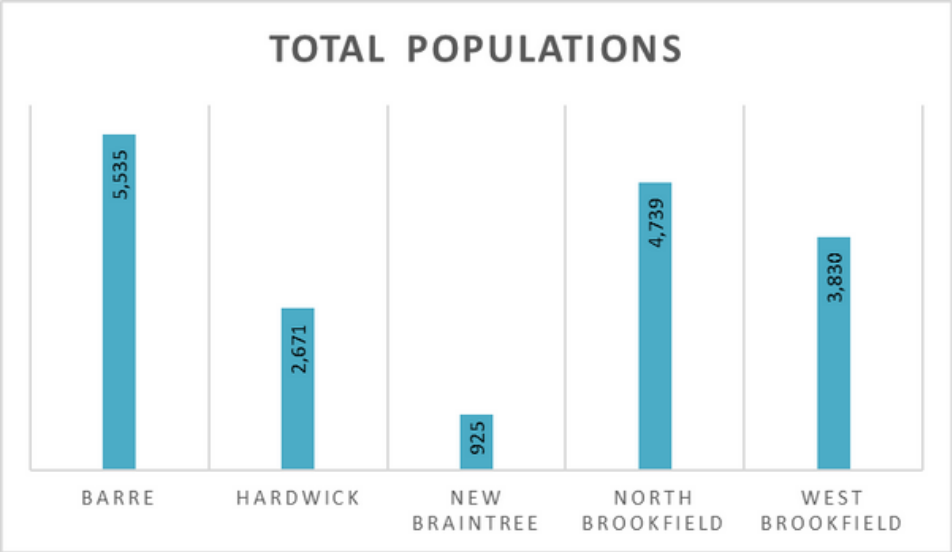
of engaging in planning activities related to digital equity and bridging the digital divide. The planning activities result in a final report, serving as a strategic document identifying the community's needs, interests, and key assets to provide an outline that will guide future municipal decisions and potential activities and investments to increase access and usage of the internet for populations most affected by COVID-19.

EXISTING CONDITIONS & COMMUNITY PROFILE

DEMOGRAPHICS

INCOME

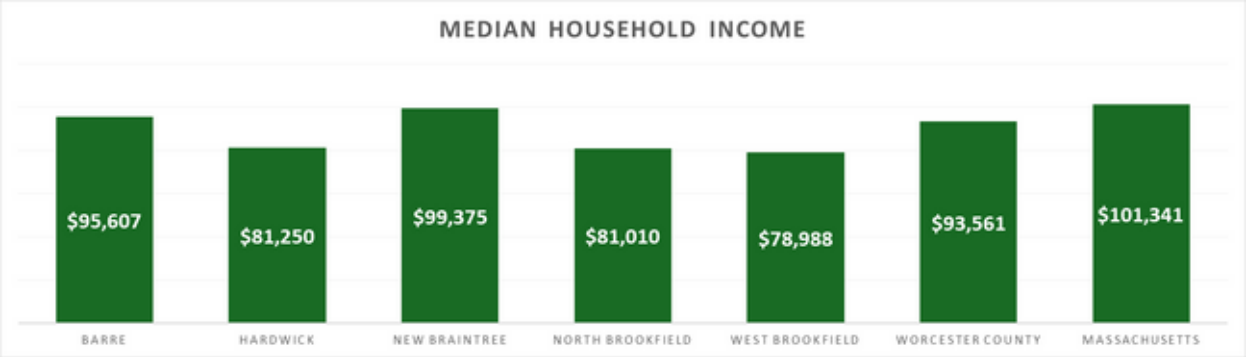
Barre, Hardwick, New Braintree, North Brookfield and West Brookfield, Massachusetts are characterized as rural communities, as their individual populations are less than 10,000 and have a population density of less than 500 people per square mile.[1]



2023 ACS 5-YEAR ESTIMATES (DP05)

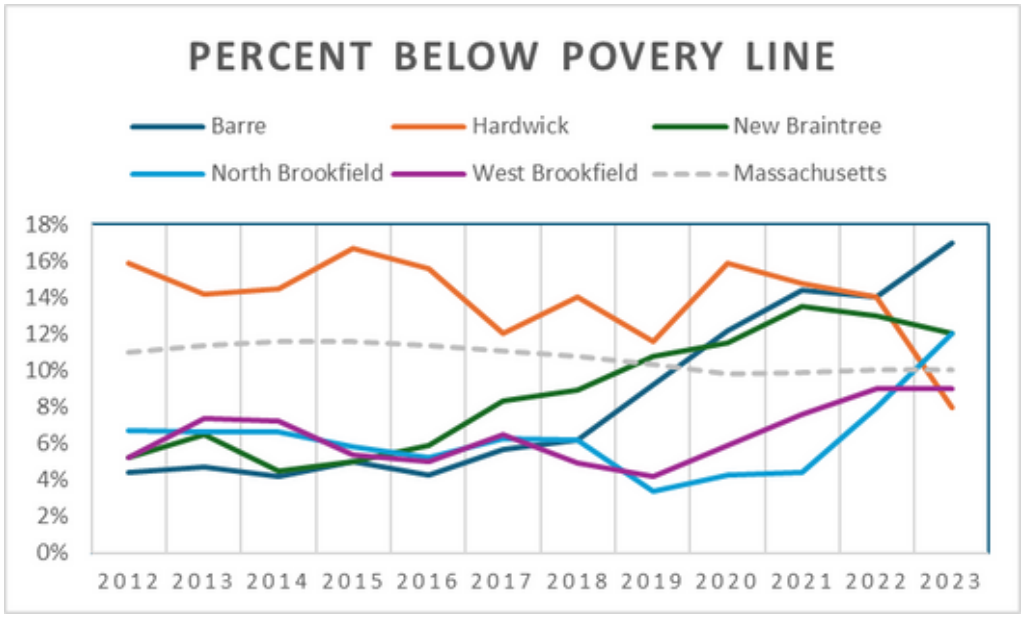
The median household income of these towns varies by approximately 20%; New Braintree has the highest ($99,375) and West Brookfield has the lowest ($78,988). Highlighted in the chart below, of these five towns, two have median household incomes that are higher than Worcester County's median household income

($93,561), and three that are lower.[2] Due to the geographic and other demographic similarities among these towns, these relative similarities in median income are expected.



2022 ACS 5-YEAR ESTIMATES (S1701)

Barre has the largest population among the listed areas (5,535) and the highest estimated poverty rate at nearly 17%, significantly higher than both the Massachusetts state average of 10.4% and Worcester County's at 11%. Other towns, such as New Braintree (11.8%) and North Brookfield (11.6%), also have higher poverty rates compared to the state and county. New Braintree maintains the smallest population, indicating that residents in the smallest community are facing persistent economic challenges. In contrast, Hardwick (8.2%) and West Brookfield (8.9%) have lower poverty levels.[3] The varying rates across these towns highlight potential economic disparities which may impact access to essential resources such as internet connectivity and digital devices.



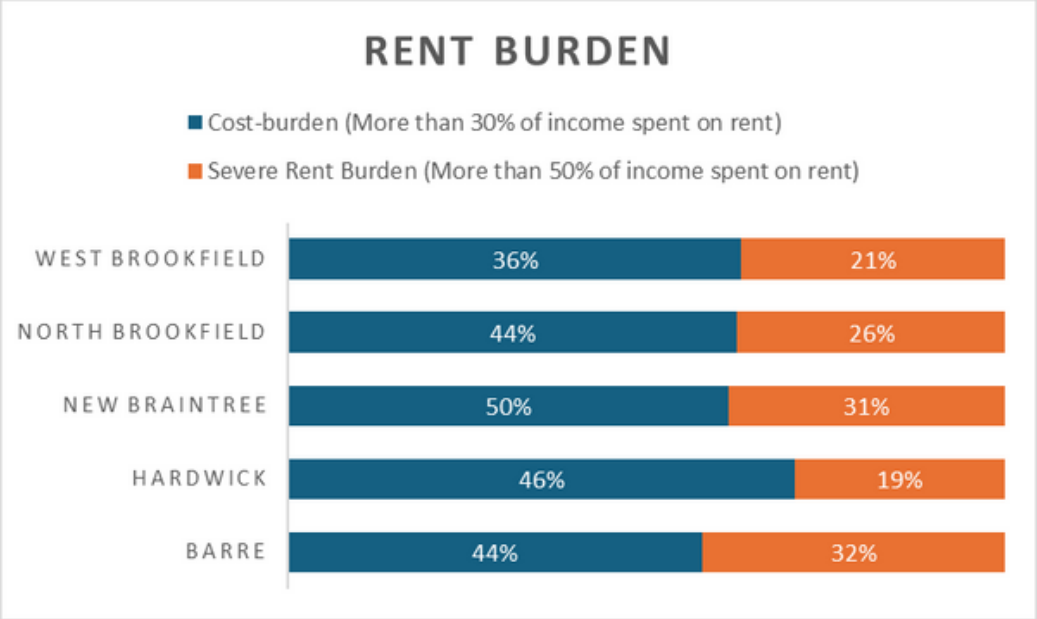
2023 ACS 5-YEAR ESTIMATES (S1701)

As seen above, there is a noticeable rise in poverty rates across multiple towns beginning in 2019. The increase continued until 2022, possibly due to the economic impacts of the COVID-19 pandemic. Barre and New Braintree demonstrate the steepest increases in poverty rates since 2018, with the town of Barre experiencing an exceptional rise in 2023. The increase in poverty rates among the towns suggests likely challenges in digital access, as lower income residents may struggle to afford internet subscriptions and tech-based devices.

HOUSEHOLD CHARACTERISTICS	BARRE	HARDWICK	NEW BRAINTREE	NORTH BROOKFIELD	WEST BROOKFIELD
Households with one or more people under 18 years	25%	27%	27%	22%	18%
Households with one or more people 60 years and over	46%	54%	51%	51%	61%
Households with one or more people 65 years and over	32%	38%	40%	37%	49%
Householder living alone	19%	30%	23%	26%	25%
65 years and over	6%	15%	13%	11%	18%
HOUSING TENURE					
Owner-occupied housing units	73%	69%	86%	71%	79%
Renter-occupied housing units	27%	31%	14%	29%	21%

2023 ACS 5-YEAR ESTIMATES (S1101)

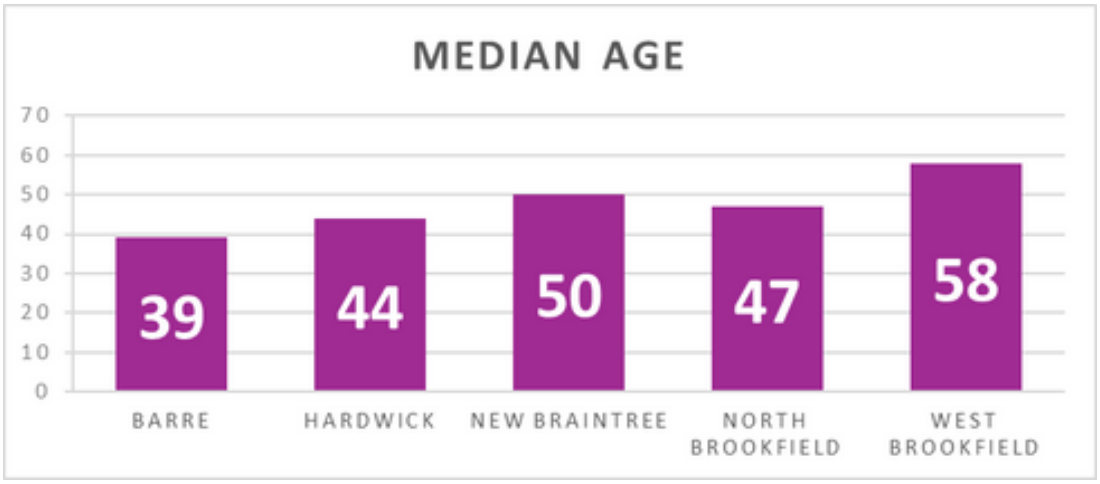
While over 70% of homes in these towns are owner- occupied, an average of approximately one quarter of housing units are occupied by renters.[4] Rent burden (when 30% or more of income is allocated to rent[5]) varies across the towns. In West Brookfield, 36% of renters allocate more than 30% of their income toward rent, making it the least burdened area among the ones considered.



2023 ACS 5-YEAR ESTIMATES (B25070)

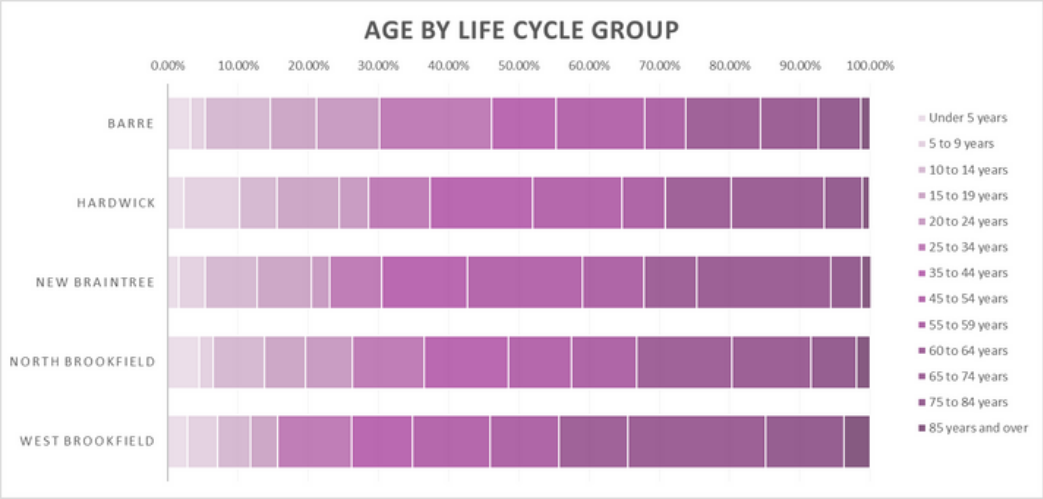
New Braintree sees a significantly higher rent burden, with half of renters (50%) spending over 30% of their income on housing, and 31% facing severe rent burden by dedicating more than half of their income to rent. Similarly, in Hardwick, 46% of renters experience cost burden, with 19% in severe rent distress. Barre and North Brookfield have a 44% rate of rent burden, however larger numbers - 32% and 26% respectively - face severe hardship. [6]

OLDER ADULTS



2022 ACS 5-YEAR ESTIMATES (S0101)

Over 20% (21.8%) of combined residents are age 65 and older, with the median age varying across towns. Barre residents have the lowest median age, at 39, while West Brookfield's median age is the highest at 58. With the exception of Barre, all towns' median age is above the state median of 40 and Worcester County median of 40.3.[7]



2023 ACS 5-YEAR ESTIMATES (DP05)

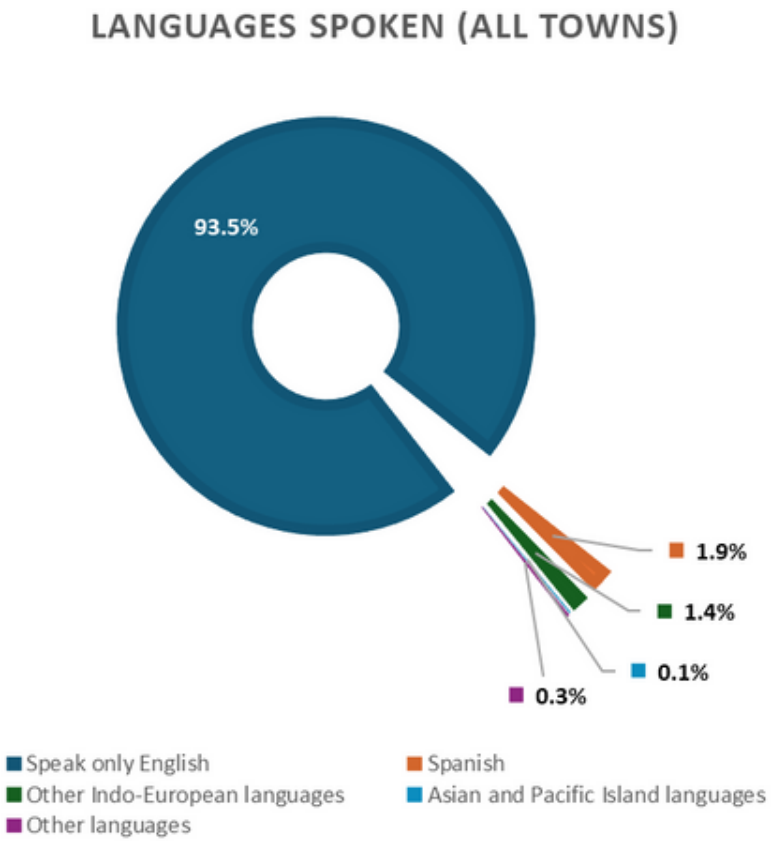
The age distribution across towns varies, with younger age groups (under 10 years) making up a small percentage, ranging from 5% to 10%. The 25 to 34-year age group is more prominent in Barre (16%) and West Brookfield (10.5%), while middle-aged adults (45 to 64 years) account for a significant share, peaking at 25% in New Braintree. Older residents (65+ years) are most concentrated in West Brookfield (35% in the 65+ range) and New Braintree (24%).[8]

These demographic differences could impact access to digital services and internet access. Older adults typically have lower levels of tech adoption and may have concerns about trusting information online. Despite challenges to access and/or digital literacy skills, older adults rely on the internet for telehealth appointments, accessing information, social connections, civic engagement opportunities, entertainment, and more.

LANGUAGE SPOKEN AT HOME

According to the 2023 ACS 5-year estimates[9], languages spoken at home in the five towns of our study area include English, Spanish, Indo-European languages, and a very small number of Asian and Pacific Island and "Other" languages. An overwhelming 93.5% of the area's population speaks only English, and about 4% of residents speak a language other than English. Among those who speak a language other than English, about 84% speak English "very well" and about 16% speak English less than "very well." According to the Department of Elementary and

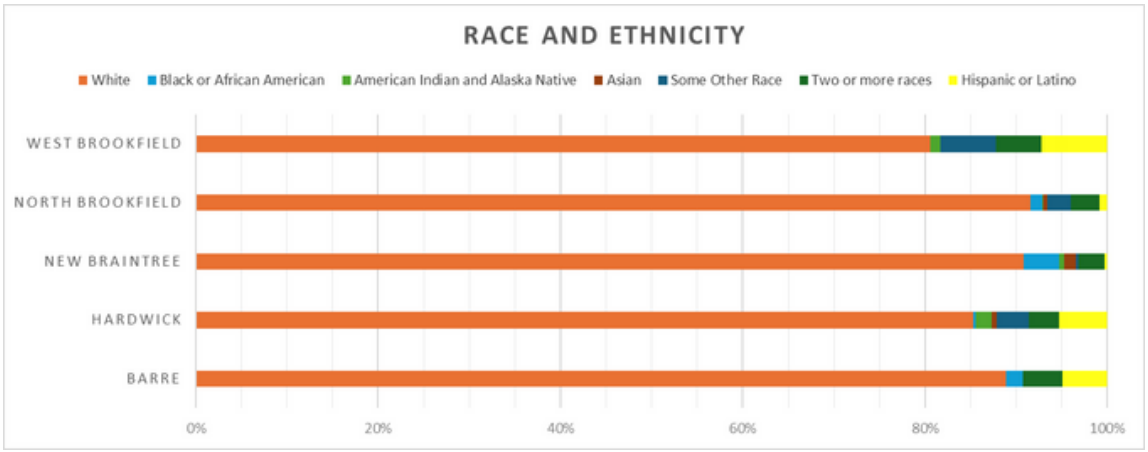
Secondary Education (DESE), an average of 2.1% of students in the school districts that serve the study area are English Language Learners.[10] It should be noted, however, that these districts also serve towns not included in our study.



2023 ACS 5-YEAR ESTIMATES (S1601)

RACE AND ETHNICITY

In these five towns, 94% of residents identify as White, with 92% of residents identify as White alone, not Hispanic or Latino. This is followed by just under 5% identifying as Hispanic or Latino (of any race), and 0.85% identifying as Black.[11] Studies have found significant gaps in broadband access for Black and Hispanic or Latino households in comparison to white households nationally.

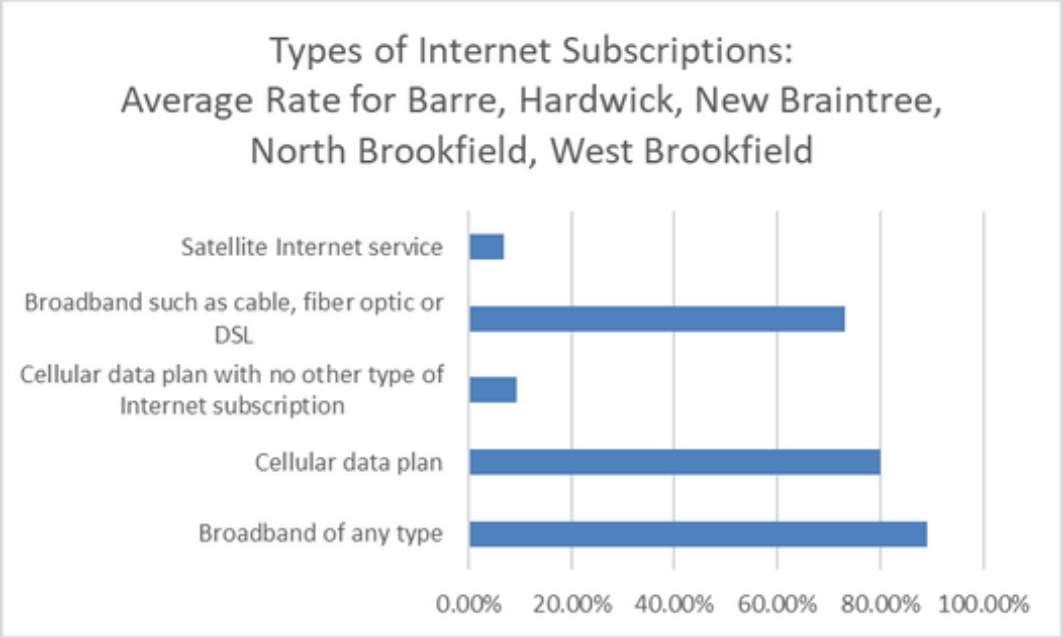


2023 ACS 5-YEAR ESTIMATES (DP05)

CONNECTION

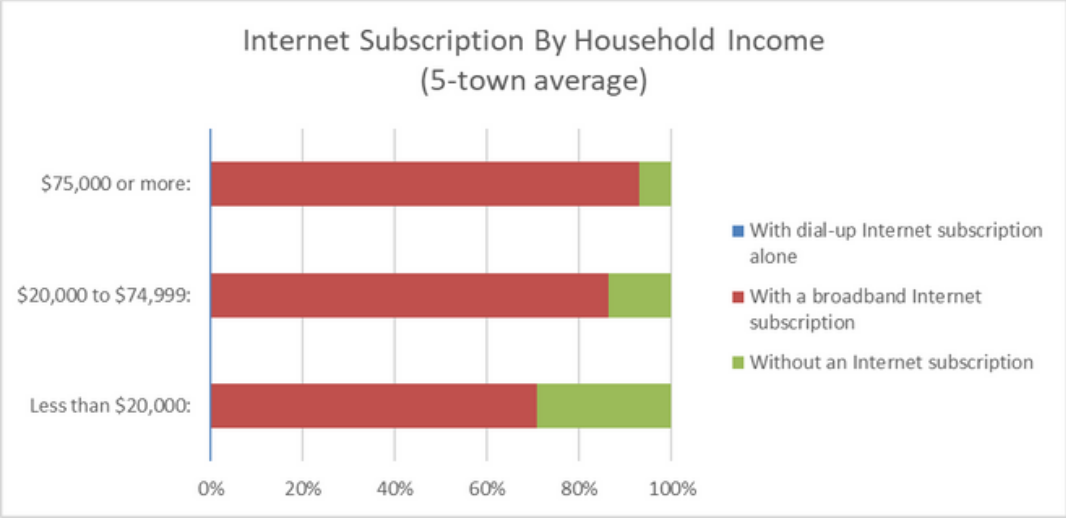
When looking at household internet connection, the five communities covered in this report are similar in many respects but differ significantly by some metrics. According to the 2023 ACS 5-year estimates, an average of 89% of households across all five towns have a broadband internet subscription, with an average of 9.5% served only by a cellular data plan. Broadband subscriptions may include cellular, cable, fiberoptic, DSL, and satellite. 80% of households have cellular data plans, which indicates that around 70% have both cellular and another broadband service. An average of 10.9% of households have no internet service at all.

Levels of internet service based on income varies among towns. While an average of around 92% of households with incomes over $75,000 and 86% of households with incomes above $20,000 have broadband internet subscriptions, a greater disparity is noticeable in those with incomes under $20,000. In Barre, New Braintree, and West

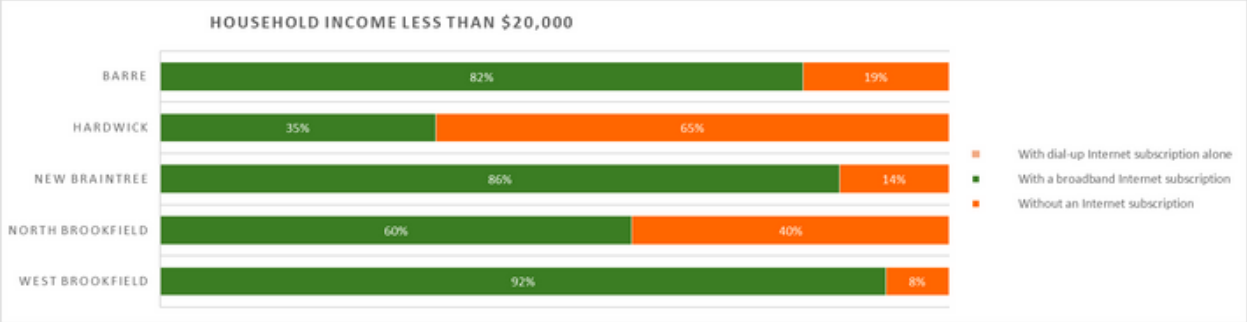


2023 ACS 5-YEAR ESTIMATES (S2801)

Brookfield, at least 82% of households with an income below $20,00 have broadband service. North Brookfield and Hardwick, however, have rates of only 60% and 35%, respectively.



2023 ACS 5-YEAR ESTIMATES (S2801)

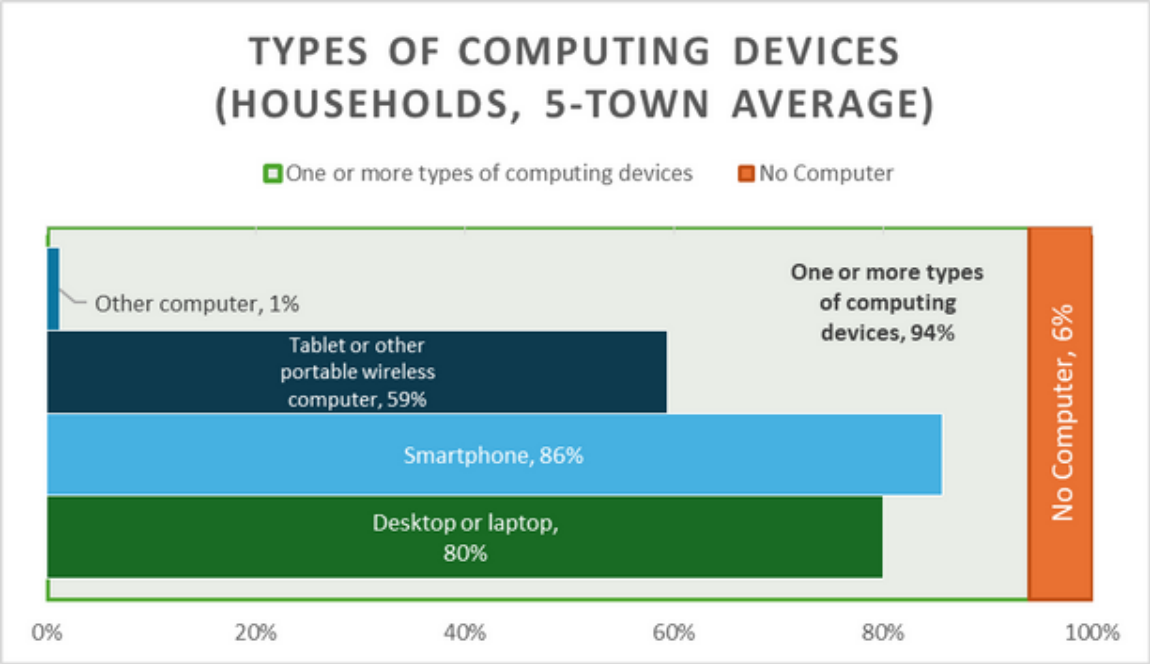


2023 ACS 5-YEAR ESTIMATES (S2801)

Additionally, the reliability and quality of service varies throughout each town. In sparsely populated areas, residents have reported poor cellular service and connectivity issues.

DEVICE ACCESS

Access to a computing device is necessary for utilizing the internet. An average of 6% of households in Barre, Hardwick, New Braintree, North Brookfield and West Brookfield have no computer at home. An average of 94% of households have at least one computing device (including a desktop or laptop, smartphone, tablet, or other computer)[12]



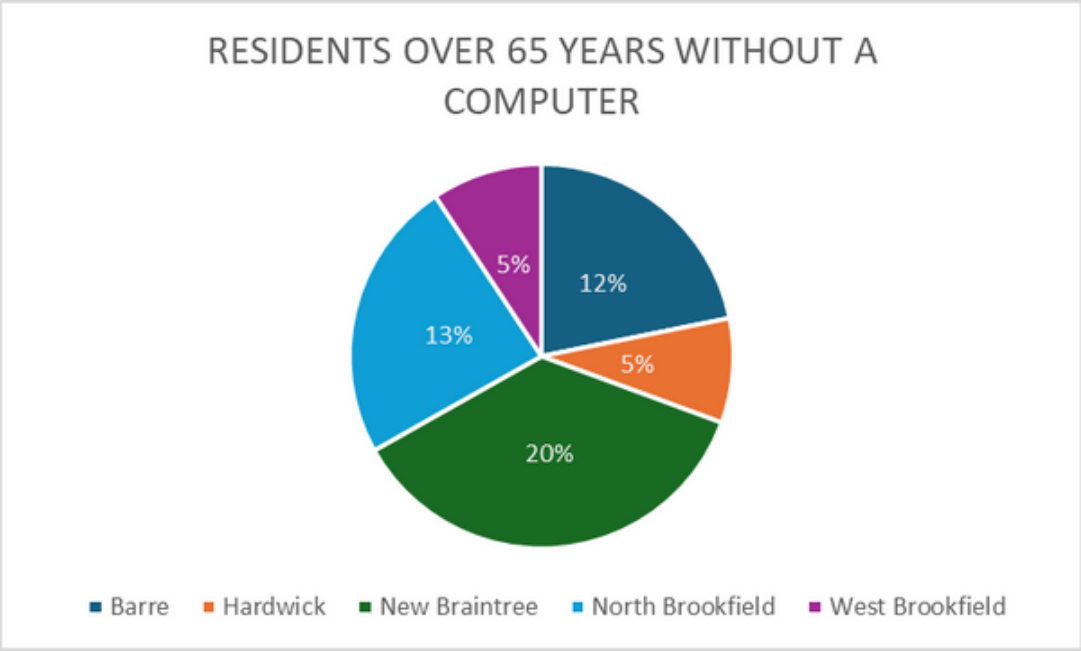
2023 ACS 5-YEAR ESTIMATES (S2801)

While most households in the area's five towns are equipped with at least one digital device, over 500 households have a smartphone only with no other digital device. While a smartphone provides some online access, there are limitations to the capacity of a smartphone in comparison to a device with a larger screen with broadband connectivity, including constraints with data caps and compatibility issues for applications for learning and work.

AGE	Barre	Hardwick	New Braintree	North Brookfield	West Brookfield
Under 18 years	**894**	**571**	**163**	**848**	**593**
Has a computer	894	571	163	848	593
No computer	0	0	0	0	0
18 to 64 years	**3621**	**1540**	**528**	**2949**	**1891**
Has a computer	3484	1527	528	2902	1865
No computer	137	13	0	47	26
65 years and over:	**815**	**526**	**230**	**933**	**1151**
Has a computer	719	501	185	813	1093
No computer	96	25	45	120	58

2023 ACS 5-YEAR ESTIMATES (B2805)

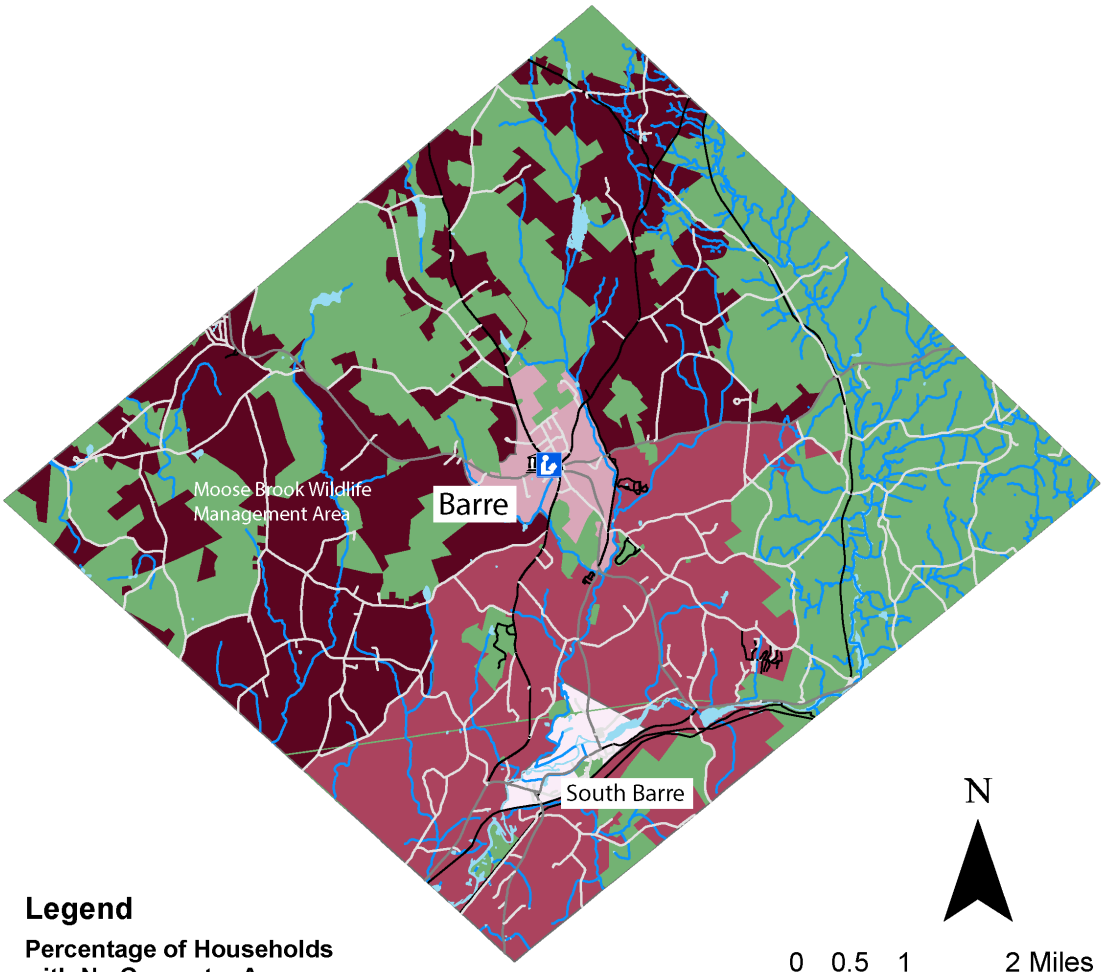
ACS census data estimates on device access by age suggests that the majority of individuals with no computer are 65 years and over. In fact, 20% of adults 65 years and over in New Braintree have no computing device, followed by 13% in North Brookfield and 12% in Barre. Hardwick and West Brookfield's 65+ populations have a higher rate of device accessibility.[13]



2023 ACS 5-YEAR ESTIMATES (S2801)

MAPS

Barre Percentage of Households with No Computer Access



N

0 0.5 1 2 Miles

Legend

Percentage of Households with No Computer Access

By Census Block Group

- 1.56%
- 1.77%
- 1.88%
- 2.74%
- Rivers and Streams
- Lakes and Ponds
- Open Space

Roads

- Other Roads
- Local Road
- State Route
- SC Senior Center
- Library
- Town Hall

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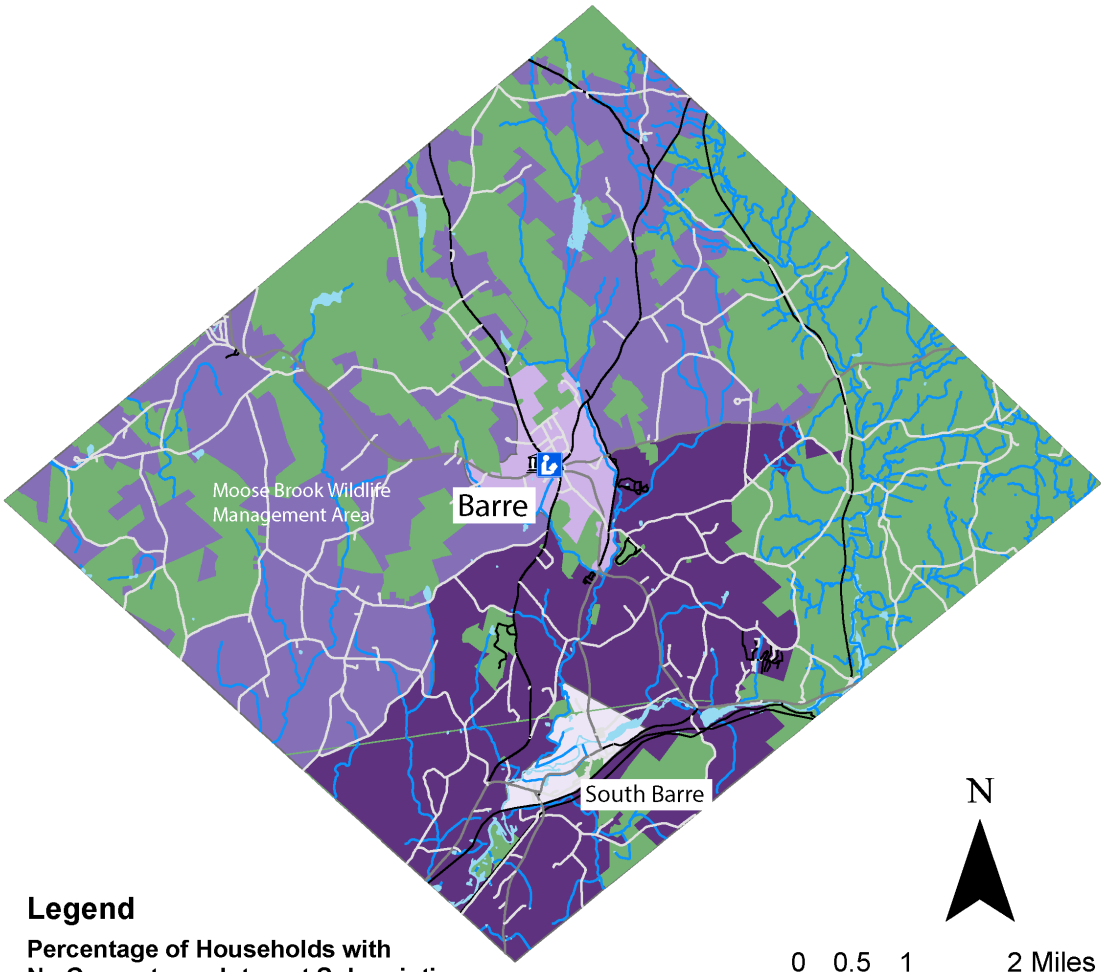
Barre Percentage of Households with No Computer or Internet Subscription



N

0 0.5 1 2 Miles

Legend

Percentage of Households with No Computer or Internet Subscription

By Census Block Group

- 1.56%
- 1.77%
- 2.74%
- 2.90%
- Rivers and Streams
- Lakes and Ponds
- Open Space

Roads

- Other Roads
- Local Road
- State Route
- SC Senior Center
- Library
- Town Hall

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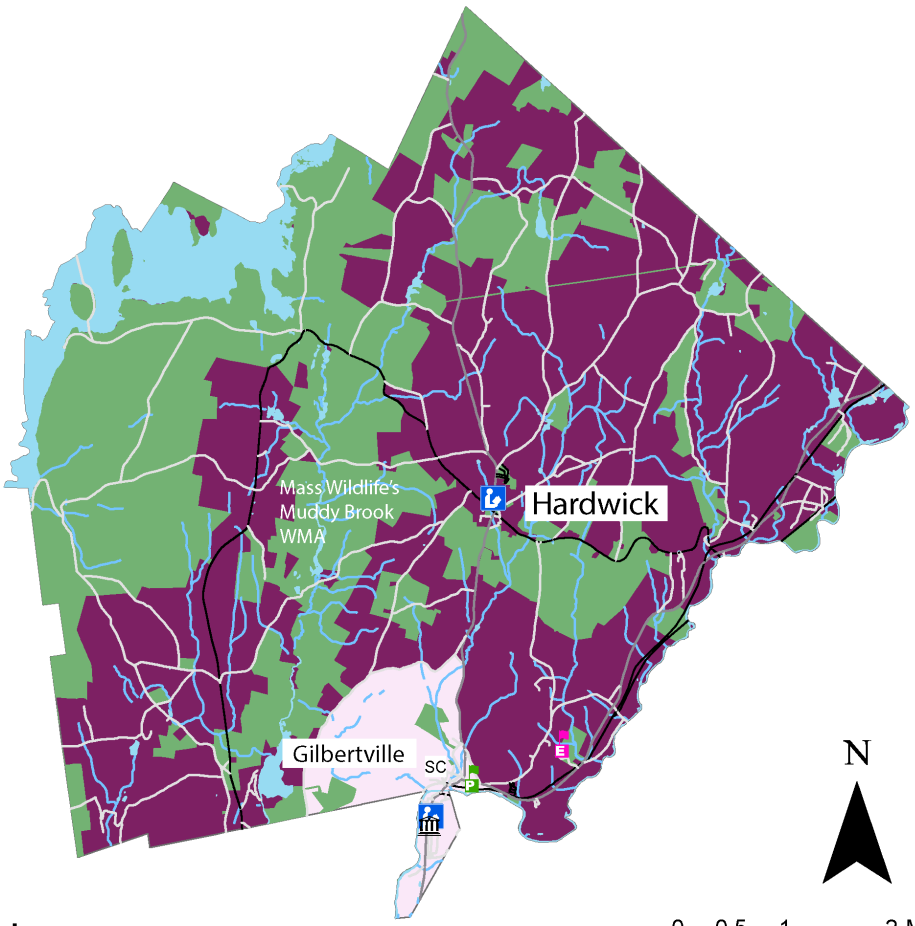
Hardwick Percentage of Households with No Computer Access



N

0 0.5 1 2 Miles

Legend

Percent of Households with No Computer Access
By Census Block Group
- 0.5%
- 3%

- Rivers and Streams
- Lakes and Reservoirs
- Open Space
- Library
- Town Hall

Schools
- Private
- Public Elementary
- SC Senior Living Centers

Route System
- Local Road
- State Route
- Other Roads

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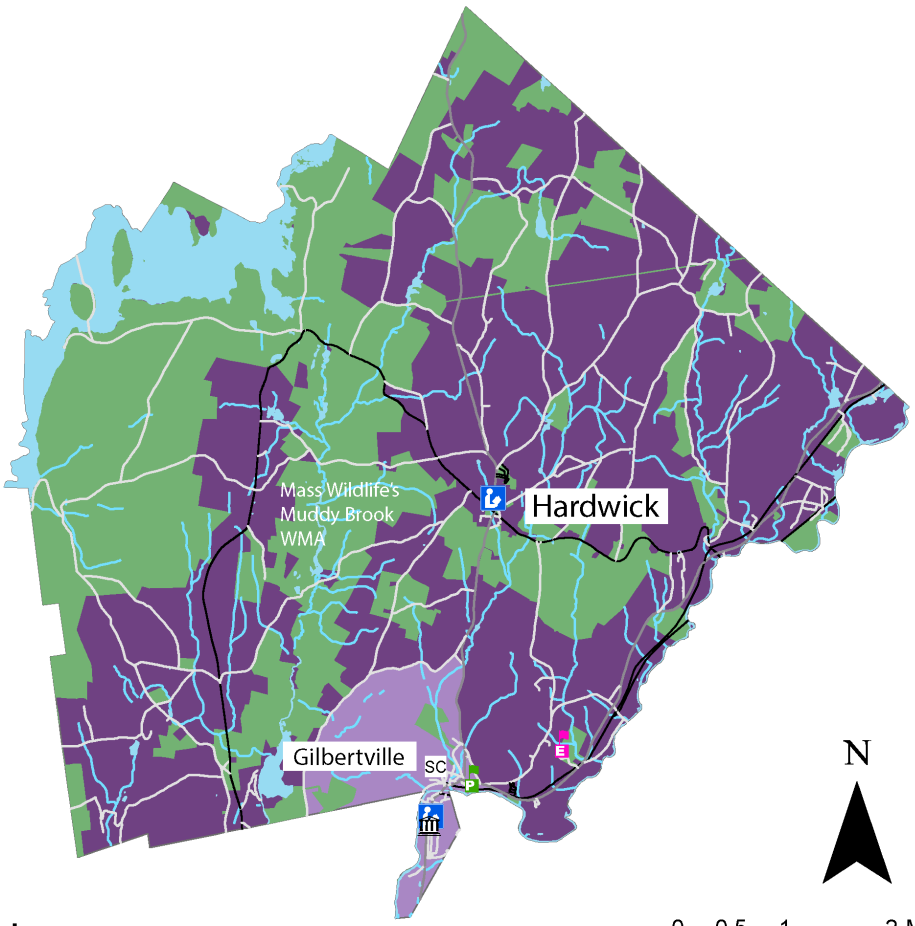
Hardwick Percentage of Households with No Computer or Internet Subscription



Legend

Percent of Households with No Computer or Internet
By Census Block Group
- 3.4%
- 6.5%

Rivers and Streams
Lakes and Reservoirs
Open Space
Library
Town Hall

Schools
- Private
- Public Elementary
- SC Senior Living Centers

Route System
- Local Road
- State Route
- Other Roads

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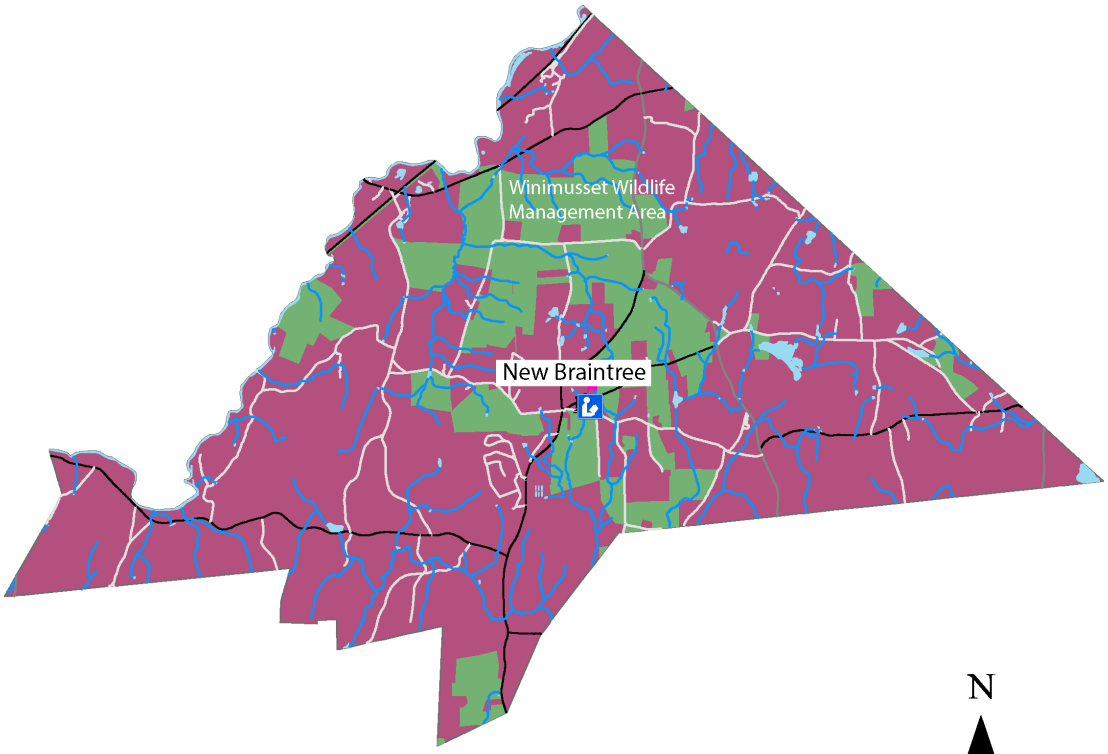
New Braintree Percentage of Households with No Computer Access



N

0 0.5 1 2 Miles

Legend

Percent of Households with No Computer Access

New Braintree (Only One Census Block Group)

7.46%

Rivers and Streams

Lakes and Reservoirs

Open Space

Library

Town Hall

Schools

Private

Public Elementary

SC Senior Living Centers

Route System

Local Road

State Route

Other Roads

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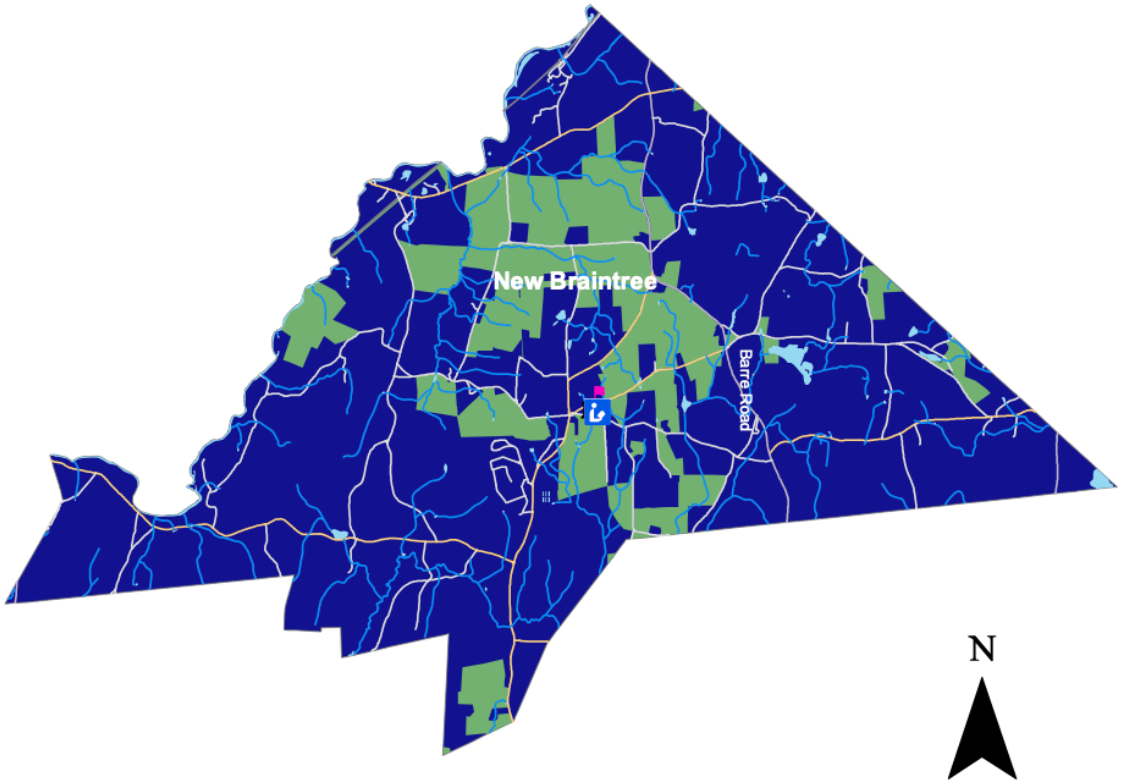
New Braintree Percentage of Households with No Computer or Internet Subscription



N

0 0.5 1 2 Miles

Legend

Percent of Households with No Computer or Internet Subscription

New Braintree (Only One Census Block Group)

18.16%

NorthBrookfield_Rivers

Lakes and Reservoirs

Open Space

Library

Town Hall

Schools

Private

Public Elementary

SC Senior Living Centers

Route System

Bicycle/ Pedestrian

Interstate

Local Road

State Route

US Highway

Other

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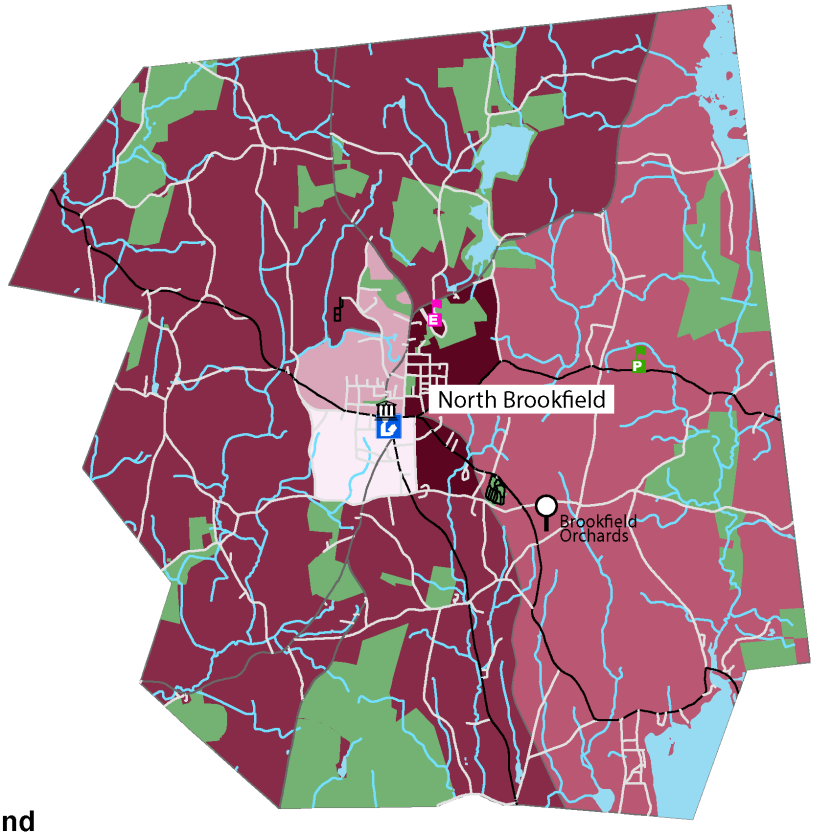
North Brookfield Percentage of Households with No Computer Access



N

0 0.5 1 2 Miles

Legend

Percent of Households with No Computer Access

By Census Block Group

- 0%
- 0.32%
- 1.07%
- 2.41%
- 3.21%

- NorthBrookfield_Rivers
- Lakes and Reservoirs
- Open Space
- Library
- Town Hall

Schools

- Private
- Public Elementary
- SC Senior Living Centers

Route System

- Local Road
- State Route
- Other Roads

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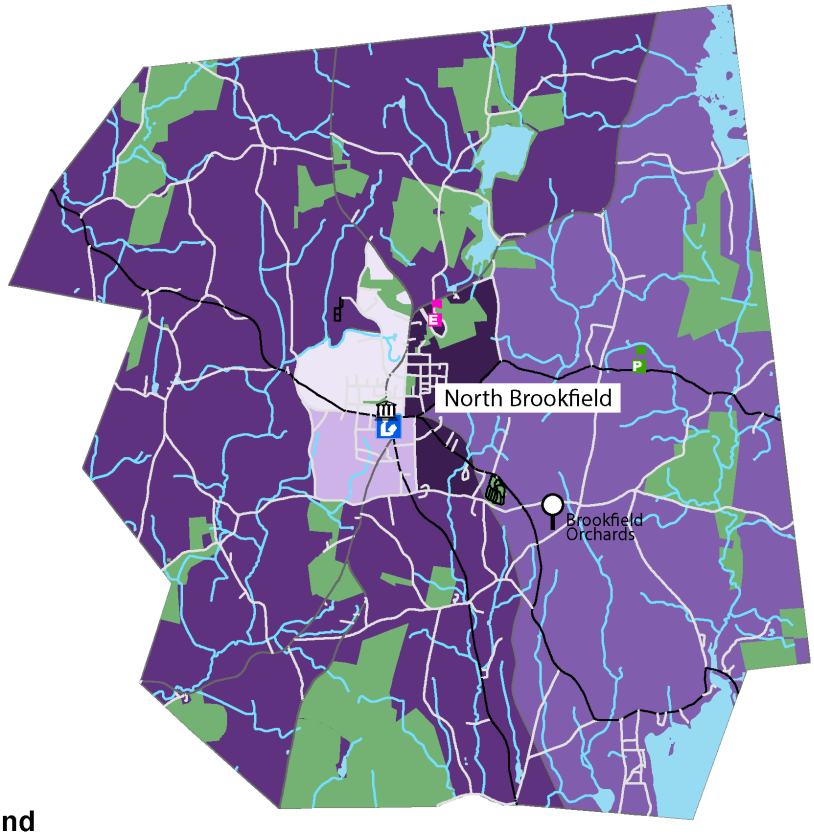
North Brookfield Percentage of Households with No Computer or Internet Subscription



N

0 0.5 1 2 Miles

Legend

Percent of Households with No Computer or Internet

By Census Block Group

- 0.32%
- 0.37%
- 2.99%
- 3.05%
- 10.42%

- NorthBrookfield_Rivers
- Lakes and Reservoirs
- Open Space
- Library
- Town Hall

Schools

- Private
- Public Elementary
- SC Senior Living Centers

Route System

- Local Road
- State Route
- Other Roads

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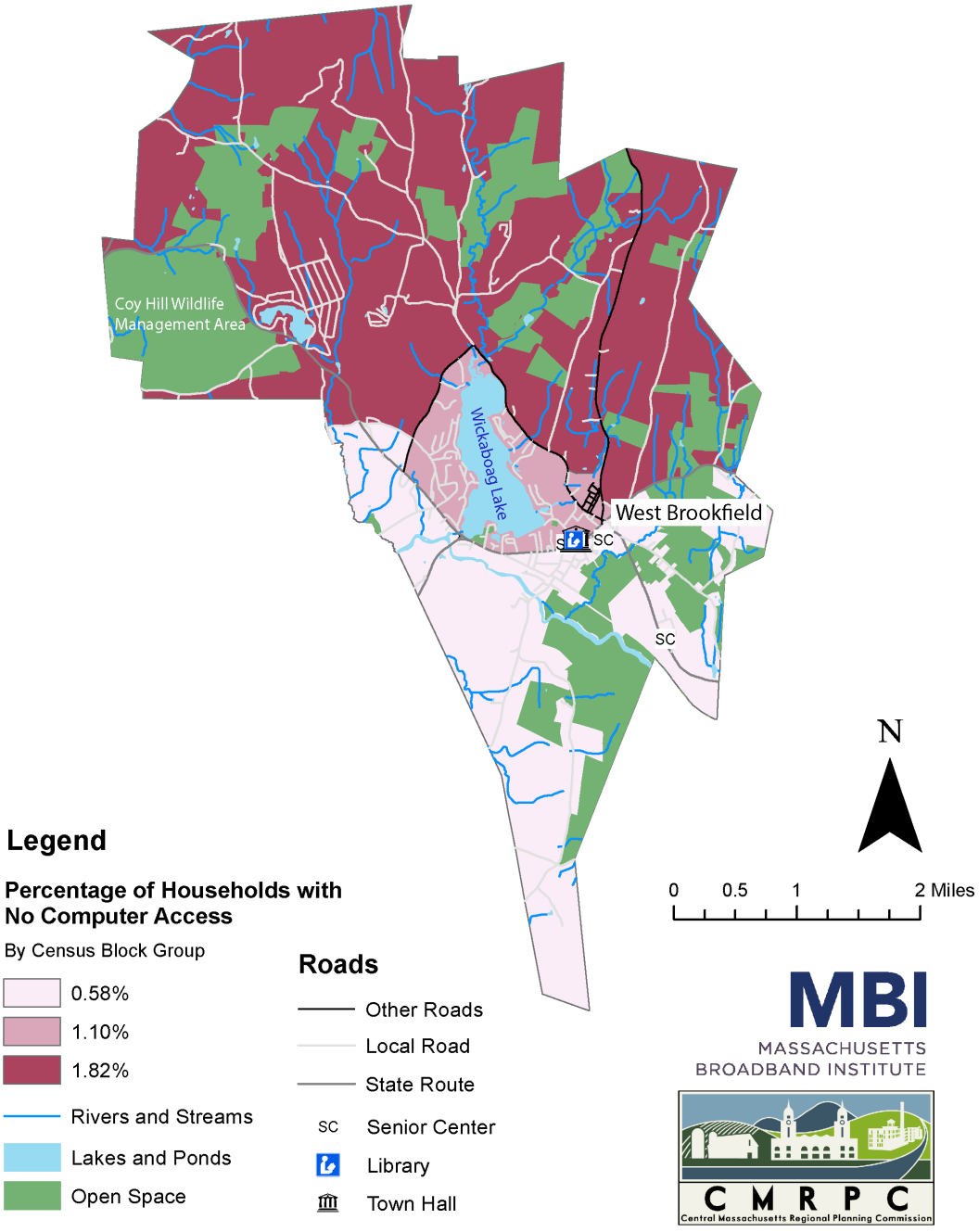
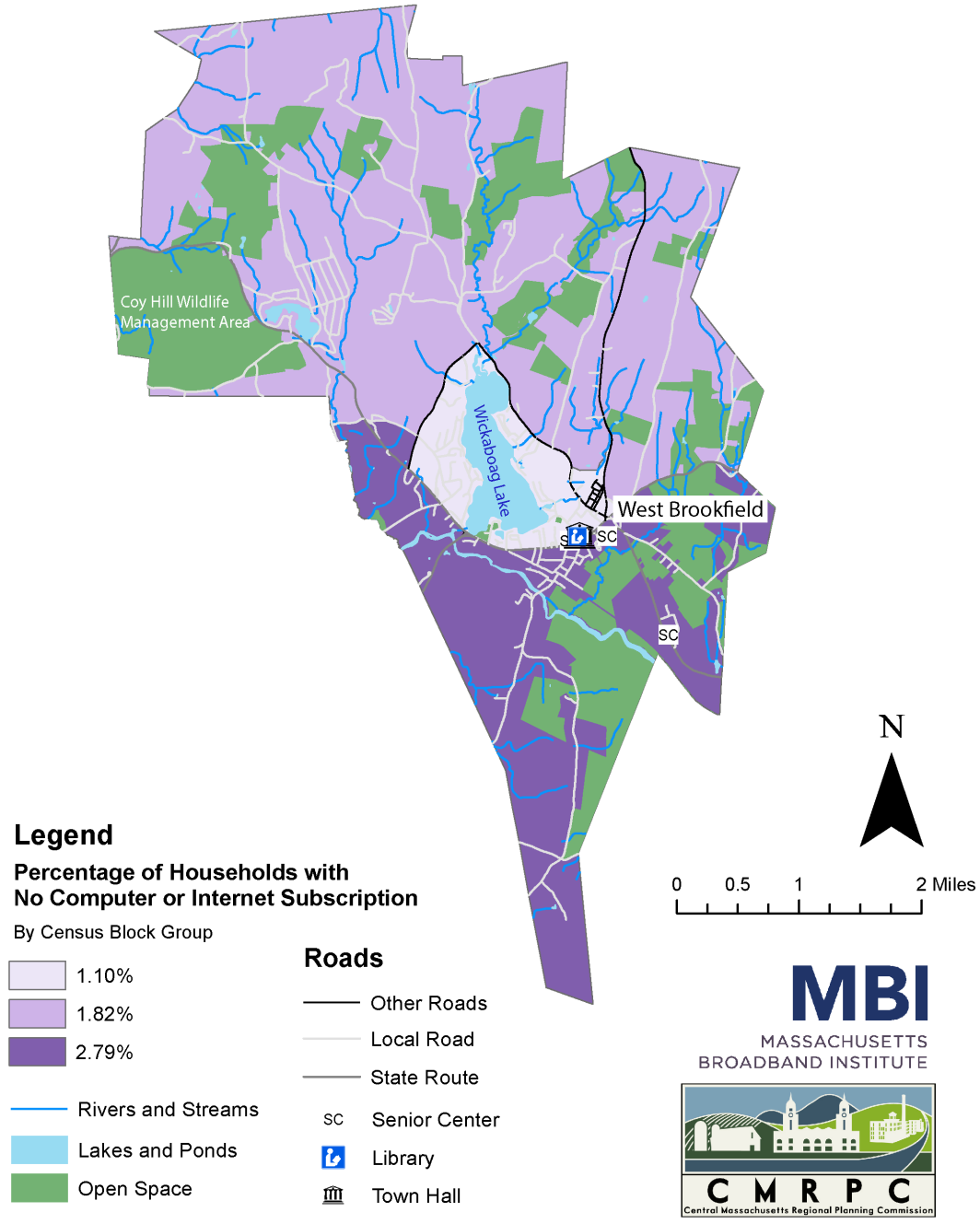
West Brookfield Percentage of Households with No Computer Access



West Brookfield Percentage of Households with No Computer or Internet Subscription



DIGITAL SKILLS & LITERACY

Digital technology has implications for a person's access to opportunities and overall prosperity in the current digital age. Not only is access to a digital device and the internet important, but a quality connection to the internet is vital for civic participation and education. Also, the skills and ability to navigate the device are essential to attain full access to the digital world.

Numerous reports identify the importance of digital connection and skills to job readiness, social inclusion, and well-being. Recent findings from the National Skills Coalition and the Center for Workforce and Economic Opportunity at the Federal Reserve Bank of Atlanta highlight the demand for digital skills in 92% of jobs across industries.[14] A 2020 report[15] examined the role of digital equity in the context of the COVID-19 pandemic, finding that individuals who are not connected to the Internet are experiencing exclusion at higher rates. It also concluded that proper digital education, access to devices, and consistent Internet connection have all become vital for full participation in society, and without it, social inequities can be reinforced.

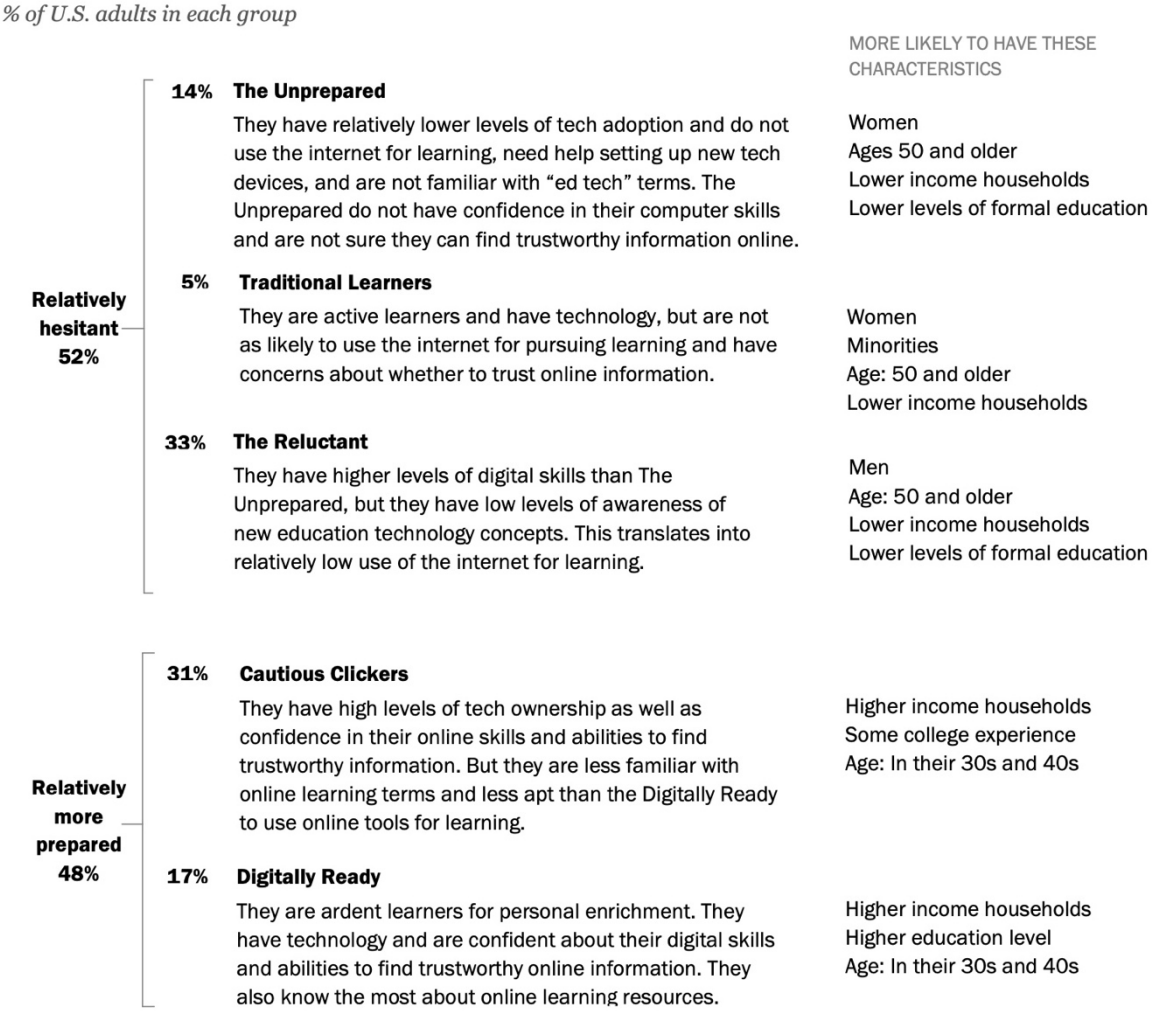
We are unaware of digital literacy data available that is specific to this study area; however, broader patterns and demographic data can be used to identify strategic solutions to meet the digital needs of these communities. A 2021 Pew Research Center study[16] found that 26% of adults require assistance from someone else to set up a new digital device or show them how to use it. 10% of American adults said they are not at all or only a little confident using digital devices to complete the tasks they need to do online.

Additionally, a Pew Research Center survey from 2015 (see below) found that there are levels of readiness to both learning and adoption of digital technologies that corelate with age, gender, and education level. While adoption rates have increased since this study, it highlights some of the underlying mindsets which still pose barriers to adoption today: lack of trust in online services, lack of familiarity with terminology, and lack of confidence to find trustworthy or accurate resources.

Acknowledging these obstacles is an important step in developing solutions and increasing levels of digital literacy.

Digital readiness: The five groups along a spectrum from least ready to most ready

% of U.S. adults in each group



Source: Survey conducted Oct. 13-Nov. 15, 2015.
"Digital Readiness Gaps"

PEW RESEARCH CENTER

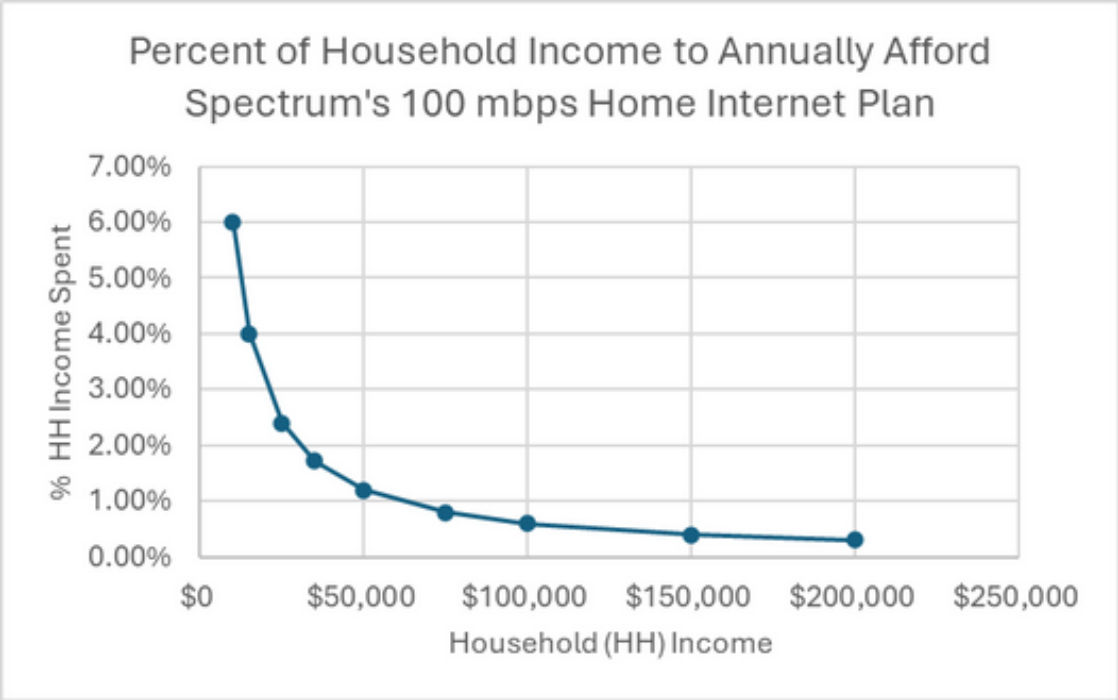
Although lack of device skills and lack of digital literacy is not limited to the aging population, older adults tend to experience more difficulty with setting up and using new devices. Connecting vulnerable populations, such as older adults, with trusted

individuals to assist with technical support is one way to address the current gaps in digital equity.

AFFORDABILITY

While internet and device access are generally available in the region, affordability likely still poses a challenge for many residents, especially those households that earn lower incomes. Seniors in each of the region's five towns fall into this category; the median income for householders 65 years and older is lower than the overall median income in each town.[17] Households with lower incomes face increased barriers to accessing the internet because the lower the income that a household earns, the higher the relative share of income the household must spend on internet costs. The following case study illustrates this point. Charter Communications' Spectrum service offers internet subscription packages to Barre, New Braintree, North Brookfield, and West Brookfield residents that start at a download speed of 100 mbps ("Spectrum Internet Advantage"). The monthly cost of a Spectrum Internet Advantage package is $50.00 per month, which adds up to $600 a year.[18] As Figure 1 demonstrates, at this price point, households that earn $10,000 annually must spend six percent of their household income on home internet costs.[19] In contrast, households that earn $200,000 per year must pay just 0.3 percent of their income for the same plan.

FIGURE 1



Median household income in the region ranges from $78,988 in West Brookfield to $99,375 in New Braintree, suggesting that most residents would pay less than one percent of their annual household income on Spectrum Internet Advantage. However, the real cost of internet for residents is likely higher. The data analytics company J.D. Power estimates that customers in the United States pay an average of $81 a month on wired internet plans.[20] This could reflect the choice of some households to opt for higher quality plans, such as Spectrum's Internet Premier option, which markets at $80 per month. The average cost of a cellphone plan is an additional $144 a month per J.D. Power.[21] Based on these average prices, Figure 2 shows what the combined cost of home internet and mobile phone plans would be for households earning the median household income in each of the five towns.

FIGURE 2: COMBINED COST OF MOBILE PHONE AND HOME INTERNET PLANS

Town	Median HH Income	Share of HH Income to Afford Both Plans
Barre	$95,607	2.82%
Hardwick	$81,250	3.32%
New Braintree	$99,375	2.72%
North Brookfield	$81,010	3.33%
West Brookfield	$78,988	3.42%

Internet affordability challenges are also exacerbated by the high proportion of income that many households in the region already spend on housing costs. Around 25% of households in each town pay 30% or more of their income on housing costs, making them "cost-burdened" according to the U.S. Department of Housing and Urban Development.[22] Among households that earn less than $75,000 per year, the share of cost-burdened households is even higher at between 52% in Barre and 63% in New Braintree. Spending a disproportionately high amount on housing leaves these households with less to spend on cell phones, computers, and mobile phone and home internet subscriptions.

Competition is another factor that influences the affordability of internet subscriptions. Studies suggest that competition between internet service providers (ISPs) results in lower internet prices for consumers.[23] Figure 3 provides a look into the internet subscription options available to residents of the five-town region. Because provider options may vary by location throughout each town, the chart displays internet subscription options available at sample addresses in each town. Prices and download speed data were collected from ISP websites, specifically the

new consumer labels that ISPs were recently mandated to display by the Federal Communications Commission (FCC).

Plan Name	Provider	Technology	Typical Download Speed (Mbps)	Price / Month	Price / Mbps
Spectrum Internet Advantage	Spectrum	Cable / Fiber	112	$50.00	$0.45
Spectrum Internet Premier	Spectrum	Cable / Fiber	551	$80.00	$0.15
Spectrum Internet Gig	Spectrum	Cable / Fiber	1036 / 1041	$100.00	$0.10
Connect More, 400 Mbps	Comcast	Cable	351	$93.00	$0.26
Fast, 600 Mbps	Comcast	Cable	583	$108.00	$0.19
Gigabit, 1100 Mbps	Comcast	Cable	1142	$118.00	$0.10
Gigabit Extra, 1300 Mbps	Comcast	Cable	1302	$123.00	$0.09
T-Mobile Rely Home Internet	T-Mobile	Fixed Wireless	318	$55.00	$0.17
T-Mobile Amplified Home Internet	T-Mobile	Fixed Wireless	415	$65.00	$0.16
T-Mobile All-In Home Internet	T-Mobile	Fixed Wireless	415	$75.00	$0.18
Hughesnet Select	HughesNet	Satellite	50	$79.99	$1.60
HughesNet Elite	HughesNet	Satellite	100	$94.99	$0.95
HughesNet Fusion	HughesNet	Satellite	100	$124.99	$1.25
Viasat Unleashed	Viasat	Satellite	54	$119.99	$2.22
Starlink Residential Standard	Starlink	Satellite	150	$120.00	$0.80

1	2	3	4

1: AVAILABLE IN ALL TOWNS EXCEPT HARDWICK. *ONLY NEW BRAINTREE HAS FIBER TO THE PREMISES.
2: AVAILABLE ONLY IN HARDWICK.
3: AVAILABLE ONLY IN BARRE, NEW BRAINTREE, AND HARDWICK.
4: AVAILABLE IN ALL TOWNS.

FIG. 3

What this overview shows is that there is limited competition among ISPs in the region, which suggests that ISPs may charge consumers higher prices. Besides satellite internet options, which are uncompetitive from a price and performance standpoint with other methods of delivering internet service, each municipality only has one or two ISPs operating in town.

When it comes to wired internet connections, such as cable and fiber, municipalities sign non-exclusive franchise agreements with ISPs, so there is no regulatory constraint to ISPs entering new local markets. The main obstacle to increased competition is a lack of a business incentive on the part of ISPs to "overbuild" (i.e., expand into the service area of competitors). Overbuilding is uncommon, especially in rural communities with low population densities.

An indicator of the need for more affordable internet pricing in the region can also be seen in the number of households that signed up for the Affordable Connectivity Program (ACP). Between May 2021 and May 2024, the ACP and its predecessor

provided eligible low-income households that signed up for the program with a monthly discount ($30) off the cost of broadband internet subscriptions.[24] The program was officially discontinued by the Federal Communications Commission in June 2024 due to a lack of funds. Figure 4 details ACP eligibility and enrollment data for each of the five towns as of February 2024, as well as an ACP risk score calculated by the Benton Institute for Broadband and Society.[25] Measured on a scale of 0 to 100, the risk score "indicates the degree to which households in a given zip code are at risk of losing or reducing internet connectivity should the ACP benefit lapse."[26]

Town	Total Households	Eligible Households	Predicted ACP Enrollment	Actual ACP Enrollment	ACP Risk Score
Barre	1681	571	169	239	24
Hardwick*	933	509	191	65	30
New Braintree	402	129	25	26	28
North Brookfield	1871	549	195	359	31
West Brookfield**	2,028	1,036	320	235	33

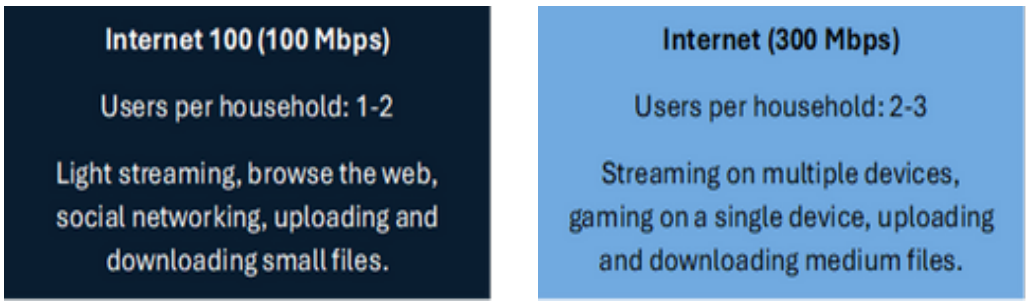
*STATISTICS WERE DERIVED FROM THE COMBINED TOTAL OF HARDWICK'S TWO ZIP CODES. THE ACP RISK SCORE IS A WEIGHTED AVERAGE BETWEEN THE SCORES OF EACH ZIP CODE BASED ON POPULATION.

**WEST BROOKFIELD SHARES A ZIP CODE WITH PARTS OF WARREN, MA; THE DATA HERE INCLUDES DATA FROM PARTS OF WARREN.

FIG .4

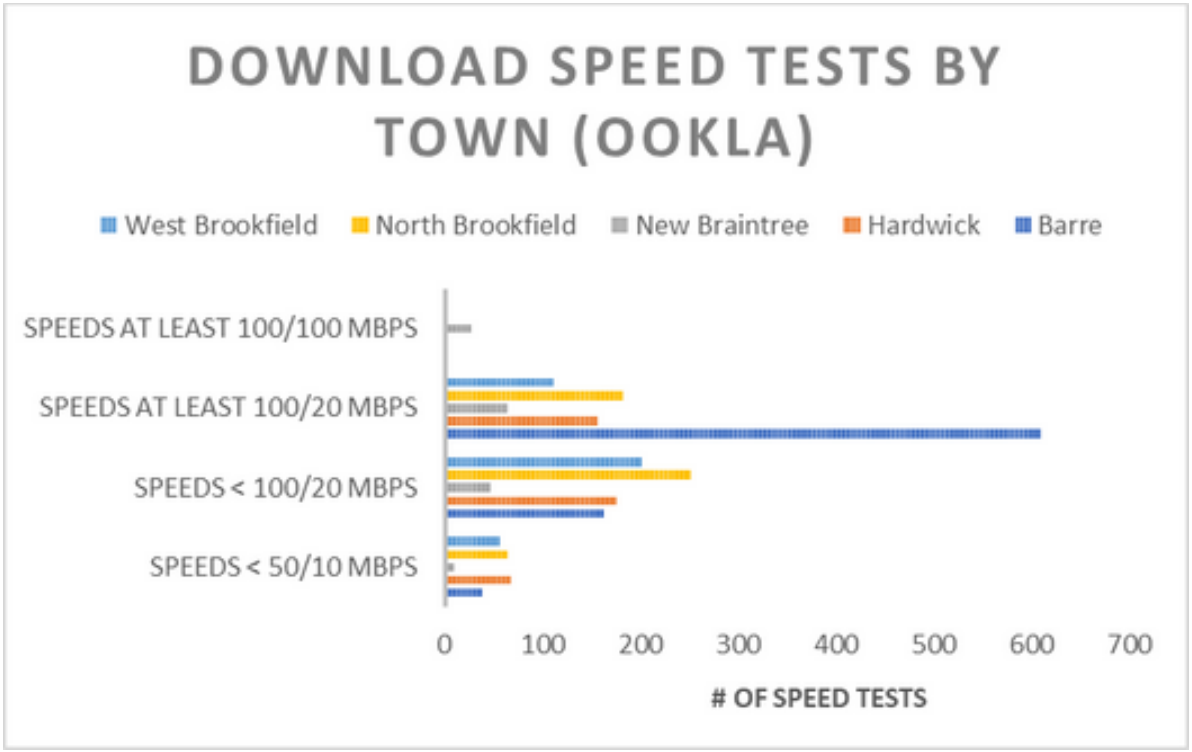
PERFORMANCE & INFRASTRUCTURE

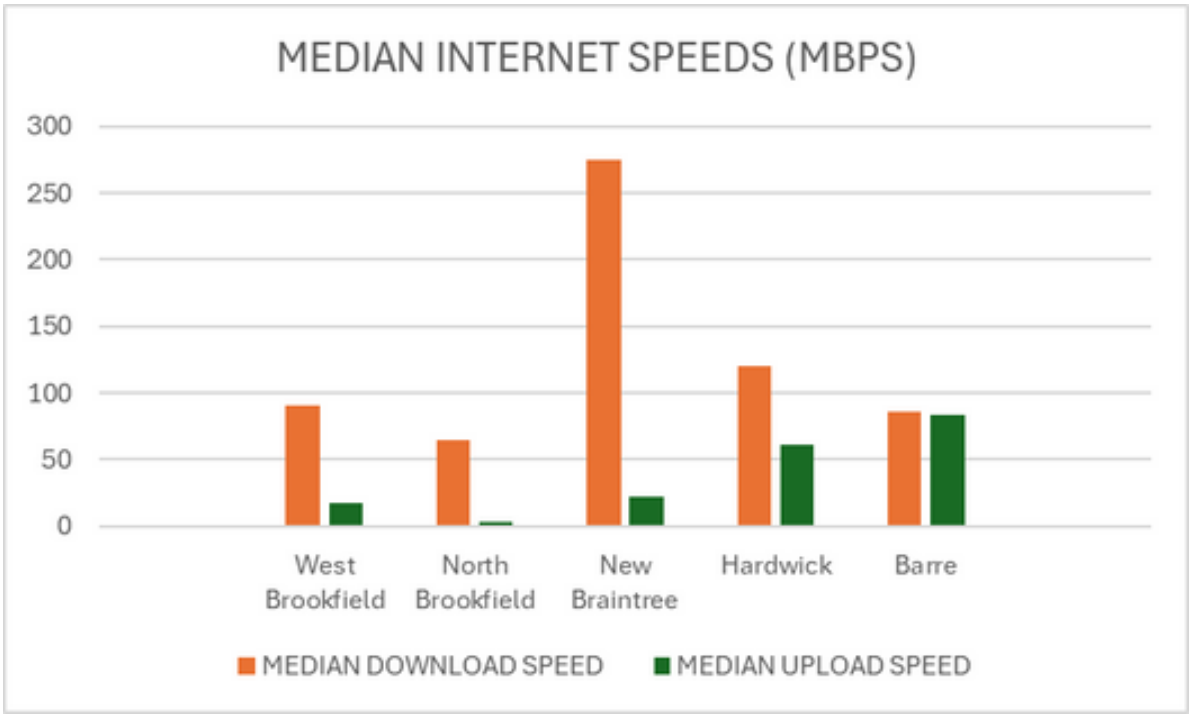
Routine use of the internet – from web browsing to telehealth appointments, to entertainment and video streaming – relies on a stable and speedy connection. Internet speed, defined as "how long it takes data to transfer back and forth to your device from the web server"[27] and measured in megabits per second (Mbps), will affect web page load times, video or audio buffering, and other online activities. 'Broadband' internet is the benchmark for reliable internet access, and in March of 2024, the Federal Communications Commission (FCC) set a minimum standard for internet service to be considered broadband. This standard requires a minimum download speed of 100 Mbps and an upload speed of 20 Mbps[28].



According to 2021-2022 speed test data from Ookla, supplied by MBI, an average of 29% of internet users in these towns have service which meets the current minimum criteria for broadband, while 71% of users are without acceptable speeds. It can be assumed that this data has improved in subsequent years.

Using 2024 data from M-Lab's open source internet speed test datasets[29], we see that the median download speed varies across all five towns, with a median of 90.44 Mbps, which still falls short of the FCC's minimum standard.


DOWNLOAD SPEED TESTS BY TOWN (OOKLA)
West Brookfield
North Brookfield
New Braintree
Hardwick
Barre
SPEEDS AT LEAST 100/100 MBPS
SPEEDS AT LEAST 100/20 MBPS
SPEEDS < 100/20 MBPS
SPEEDS < 50/10 MBPS
0
100
200
300
400
500
600
700
OF SPEED TESTS


MEDIAN INTERNET SPEEDS (MBPS)
300
250
200
150
100
50
0
West Brookfield
North Brookfield
New Braintree
Hardwick
Barre
MEDIAN DOWNLOAD SPEED
MEDIAN UPLOAD SPEED

New Braintree, however, is an outlier and has significantly faster download speeds than the other towns in this group, with a median of 274 Mbps; North Brookfield has the slowest speeds with a median of 65 Mbps. According to speedtest.net (https://www.speedtest.net/performance/united-states/massachusetts), Massachusetts has a median download speed of 295.59 Mbps, which is significantly higher than 80% of our study region.

There are other factors to consider when evaluating internet performance, such as upload speed and latency. While these do not all have standards set by the FCC, Internet Service Providers (ISPs) are required to inform customers by labeling their internet products with this information. According to M-Lab data, the median upload rate for these towns is 22 Mbps, which meets the FCC standard but falls short of the Massachusetts median rate of 40 Mbps.

These towns have up to five available fixed internet service providers, though these options depend on a resident's specific address. The two providers offering the fastest residential services are Xfinity (fiber) and Spectrum (cable), with advertised maximum download speeds of 1200 Mbps and 1000 Mbps, respectively. Xfinity has very limited availability in this region, however, only servicing some locations in Hardwick.[30]

	HughesNet	Spectrum	Starlink	T-Mobile	Viasat	Xfinity
Barre	x	x	x	x	x	
New Braintree	x	x	x	x	x	
North Brookfield	x	x	x	x	x	
West Brookfield	x	x	x	x	x	
Hardwick	x		x	x	x	x

Internet service providers use a variety of technologies. In these towns, cable, fiber optic, fixed wireless, and satellite are available. Each technology has speed and service differences and limitations. For the available providers, the following are the listed maximum download & upload speeds:

HughesNet: 100/5 Mbps
Spectrum: 1000/35 Mbps
Starlink: 220/25 Mbps
T-Mobile: 100/20 Mbps

Viasat: 100/3 Mbps
Xfinity: 1200/35 Mbps

Cable: Uses existing cable TV infrastructure (coaxial cables) to connect users to the internet. Cable internet is generally reliable and offers high speeds. Cable is potentially able to equal the speed of fiber, but providers commonly limit speeds to accommodate bandwidth distribution.[31]

Fiber: Uses fiber optic lines to connect users to the internet. Fiber internet offers the fastest speeds, symmetrical upload and download speeds, and "fiber's design is simply better for data transmission over long distances than cable's electrical signals."[32]

Fixed Wireless: Uses stationary transmitters to provide wireless internet access via mobile networks such as 5G.[33] Towers need line-of-sight connection to perform well, and speeds are usually slower than cable internet speeds.[34]

Satellite: "Doesn't rely on ground-laid infrastructure", but instead uses a dish to connect to orbiting satellites to transfer internet signals to your home. Compared to cable and fiber, satellite internet often has low speeds and strict data caps.[35]

PRIOR PLANNING

BARRE

2021 Massachusetts Board of Library Commissions (MBLC) Hotspot Grant: Woods Memorial Library received a grant from the MBLC to fund 10 mobile hotspots. Patrons were able to check out the hotspots for up to two weeks. The grant ended in October 2022; however, the program was very popular and helped to expand internet access for those without it (pg. 102-103).[36]

2019 Barre Economic Development Plan: the economic development plan concluded that in 2018, small businesses with under 10 employees makes up about half of total employment in Barre, and home-based businesses are a very important part of the local economy. These home-based businesses describe limited access to internet service as a major barrier. The plan proposes that the town continue to explore funding services to improve internet access in public places, like the Woods Memorial Library, as a part of their economic development strategy (pg. 4).[37]

HARDWICK

MBI Last Mile Broadband Project: Hardwick participated in MBI's Last Mile Broadband Project, which granted state funding for eligible towns to design, engineer, and construct municipally-owned broadband networks. This program got a boost from a May 2016 decision by then- Governor Baker to accelerate progress. As of August 1, 2023, Hardwick has completed its project.[38]

2023 Town Report: Quabbin Middle School implemented a digital literacy course in the 2022-2023 school year for grades 7 and 8.

NEW BRAINTREE

MBI Last Mile Broadband Project: New Braintree participated in MBI's Last Mile Broadband Project, which granted state funding for eligible towns to design, engineer, and construct municipally owned broadband networks. This program got a

boost from a May 2016 decision by then-Governor Baker to accelerate progress. As of August 1, 2023, New Braintree has completed its project.[39]

NORTH BROOKFIELD

2022 North Brookfield Master Plan: North Brookfield Police Department created a program that teaches internet safety for school-age children (pg. 36).[40]

WEST BROOKFIELD

2017 West Brookfield Master Plan: Numerous mentions of the need for continued expansion, improvement, and support of online activities and services (pg. 17, 125, 128, 257, 259).[41]

Regionwide Infrastructure Plan: West Brookfield participated in outreach initiatives and hosted an event centered around the Age Friendly Central Mass plan, where digital equity was a central theme.[42]

COMMUNITY OUTREACH

The community outreach process and public workshops became an invaluable resource in beginning to understand the needs of the communities participating, as well as unraveling the current opportunities that exist in the communities for bridging the divide. In its early beginnings, conversations with known contacts such as town administrators and managers, the board of selectmen, and publicly known organizations were key. This allowed CMRPC to begin learning more about potential stakeholders that may not have been at the forefront of the conversations and begin reaching out to participate in discussions that offered insight into the current needs and challenges of the region. These discussions informed the recommendations, strategies, and identifiable actions that the communities can begin to initiate. Between September 2024 and May 2025, CMRPC led this process in each community.

Senior Centers: CMRPC staff visited senior centers in the towns of Barre, North Brookfield, and New Braintree. Instead of leading a group dialogue, CMRPC staff opted to visit the centers during times when aging adults were present for scheduled programming activities. Staff allowed senior center attendees space to prompt their own questions and discuss their personal anecdotal stories and experiences related to digital equity. These opportunities allowed CMRPC to meet this specific demographic in a familiar and comfortable space, serving as an important resource for residents.

One-on-One Stakeholder Interviews: CMRPC engaged with multiple stakeholders such as library directors, public school information technology staff, town administrators, select board members, and business owners during the charrette process to assess the current gaps in digital expansion, identifying strengths that already exist within each town, and highlighting areas that could use improvement. These conversations were fruitful as many stakeholders began to shed their hesitancy in engaging in conversations related to the digital divide, realizing they were knowledgeable on the topic of discussion and may have already participated in brainstorming potential ideas to further support their communities in reaching digital equity.

Survey Distribution: Survey distribution was supported in many forms: social media through town websites and Facebook pages, library postings online, and in-person flyers at senior centers. CMRPC also used its own Facebook advertising and website to prompt residents to take the survey. CMRPC mailed flyers to local business owners as well.

Social Media: CMRPC promoted the survey distribution and charrette events through several channels of social media, such as LinkedIn, Facebook, Twitter, CMRPC's official website, and the agency's monthly newsletter. CMRPC also revamped its digital equity page on its public website, dedicated to resources and updates on the regional charrette process.

Public Library: Public libraries have been an essential asset in every digital equity charrette CMRPC has participated in. Not only do public libraries tend to support the most digital equity assets, but they are a resource that allows CMRPC and the wider community to recognize patterns of need, pinpoint device preferences, and provide a space for hosting community dialogues. In the spring of 2025, CMRPC hosted two community dialogues (charettes) at the West Brookfield and Barre Public Library. Both opportunities allowed the community to engage in a conversation on their own experiences with the digital landscape, personal challenges, community challenges, and ways device and internet accessibility positively impact their lives.

COMMUNITY FINDINGS, NEEDS ASSESSMENT, CHARRETTE TAKEAWAYS

INTERNET ACCESS

Unserved Locations: Stakeholders and charette participants noted that there are still locations in each of the five towns that are not served by ISPs. This is corroborated by service coverage data from MBI's Massachusetts Broadband Map and responses to the Massachusetts Statewide Digital Equity Survey.[43] The sparse development patterns of some areas make it financially unattractive for ISPs to extend their wireline networks there. While residents may pay for the necessary improvements to wireline infrastructure themselves, this is often cost prohibitive. Residents who have discussed the possibility of service extensions with ISPs report that it could cost as much as tens of thousands of dollars.

Those who do not have home internet service appear to rely on a combination of places and/or resources for internet access, such as libraries, community centers, workplaces, and family and friends.[44] Hot spots are also a popular option at libraries in the region, but they are susceptible to poor signals from cell towers and do not work in some areas, likely due to topography or cell tower range. Hotspot data plans also require funding.

It was noted that several municipal facilities could benefit from new and/or stronger internet service connections. The Hardwick Town House does not currently have Wi-Fi, although internet service is available at the location according to the FCC National Broadband Map. The Paige Memorial Library in Hardwick also does not have a strong enough Wi-Fi network to project a signal into the parking lot.

Cellular Service Performance: Stakeholders and charette participants found mobile phone service to be spotty, particularly in Hardwick. This was echoed in a May 2025 Hardwick Master Plan Workshop; nearly all attendees who participated in the interactive activity at the "Services and Infrastructure" table scored cellular service as unsatisfactory. It is also reinforced by the FCC's 4G LTE Coverage Map, which shows

significant gaps in major phone carriers' networks in and around Barre and Hardwick.[45] This creates real day-to-day inconveniences for community members, like losing navigational directions when driving. Among cellular service providers, residents singled out Verizon as the most problematic.

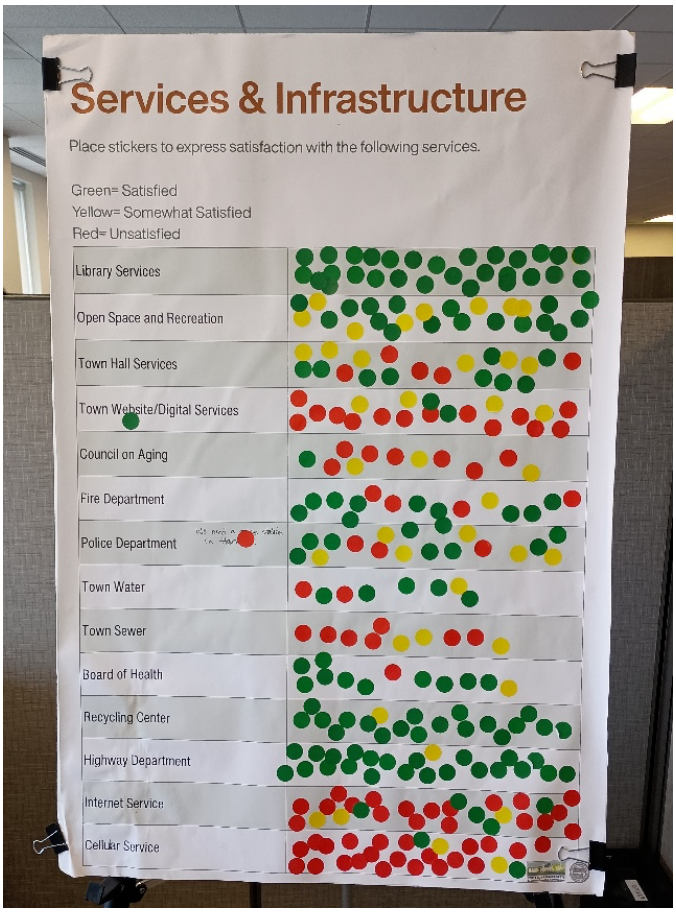


Figure 1: Poster from May 2025 Hardwick Master Plan Workshop. Internet service row is second from bottom. Cellular service row is at the bottom. Key: green (satisfied), yellow (somewhat satisfied), and red (unsatisfied).

Home Internet Performance: The quality of home internet service in the five-town region received mixed reviews, as demonstrated by the following anecdotes. In Hardwick, the only community serviced by Comcast, stakeholders perceived internet service to be slow, unreliable, and pricey. This was also reflected in the May 2025 Hardwick Master Plan Workshop. In the 2022-2023 Barre Master Plan Survey, 87 percent of respondents rated "Availability of High Speed Internet" as an issue "extremely important" or "somewhat important" to the town, suggesting residents are dissatisfied with their current options.[46] Charter Spectrum is the predominant ISP in town. Meanwhile, the general attitude in New Braintree was that the community was not "100 percent happy" with Charter Spectrum, but that most people report no problems. In fact, one resident disclosed that a family member works fully remotely in town and has never had any issues.

Massachusetts Statewide Digital Equity Survey data reveals approximately 60 percent of respondents from the five-town region believe their home internet works "good enough to meet my household's needs."[47] The remaining 40 percent answered that their internet was "Not good enough to meet my household's needs." Interestingly, satisfaction appears to vary depending on the town in question.

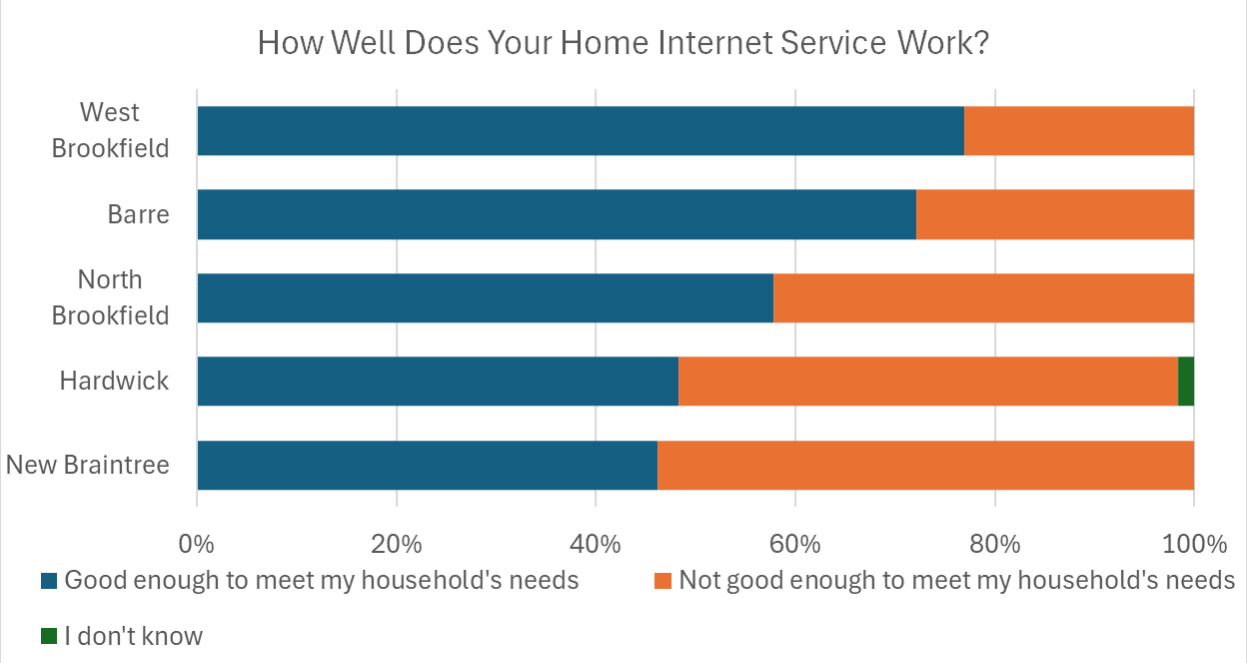


Fig. 2: Massachusetts Statewide Digital Equity Survey, question #9

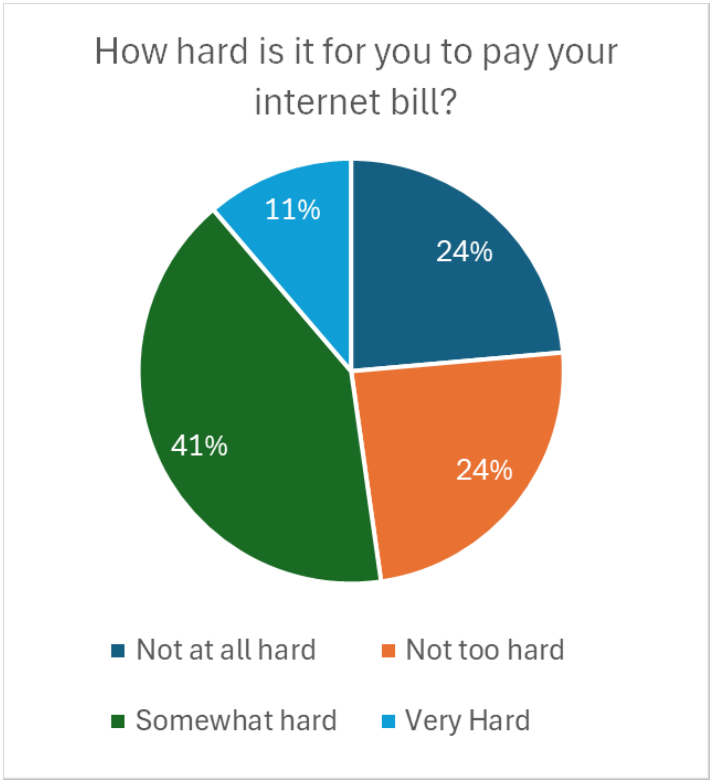


Fig. 3: MA Statewide Digital Equity Survey, question #12

Affordability and Internet Subscription Options: In the absence of competition among ISPs, some residents feel that costs have been allowed to rise with little to no concern about improving the quality of service. Just over more than half of survey respondents reported that it was "somewhat hard" or "very hard" to pay their internet bill.[48] But a far higher share (86 percent) of residents making less than $60,000 find it "somewhat hard" or "very hard" to pay their internet bills compared to those earning $60,000 or more (32 percent).

Discussions with stakeholders and charette participants suggest that community members would be open to trying different internet subscription options were they available. This could be either to save money or to seek better performance. For instance, a North Brookfield resident reported switching from Verizon (plan type unclear) to AT&T fixed wireless home internet after seeing an AT&T advertisement. She claimed to be happy with the cost and quality of the AT&T internet. For context, Charter Spectrum is the predominant ISP in North Brookfield and offers wireline internet connection. Another participant also shared that she had cut the cord on cable and switched to YouTube TV to save money. Examples like these highlight the importance of educating people about other options that may exist when it comes to home internet subscriptions and other commonly bundled services. Otherwise, residents may default to the only options they have traditionally known.

5G fixed wireless internet is a recent addition to the ISP market with the two primary fixed wireless players, Verizon and T-Mobile, launching their services in 2018 and 2021, respectively.[49] Since then, it has seen dramatic subscriber growth. As fixed wireless coverage expands to cover more households, it could introduce new competition to the ISP market in rural areas like the five-town region covered in this study. Because it uses cellular network infrastructure, fixed wireless offers the advantage of avoiding massive investments in wireline infrastructure, which can be cost prohibitive in rural areas.

The emergence of new wireline providers may also offer opportunities for increased competition. Ripple Fiber recently began construction of a new fiber optic network in the towns of Holden and West Boylston, MA.[50] The company is also looking to expand to other parts of Central Massachusetts.

Customer Support and Accessibility: Stakeholders were critical of the quality of customer service offered by ISPs. For example, the North Brookfield Senior Center shared that it can be difficult to get a Charter Spectrum technician to come out and update people's equipment. Instead, Charter Spectrum expects residents to set up / troubleshoot new equipment themselves. These complaints would be consistent with trends at the national level. In October 2024, the Federal Communications Commission announced that it was reviewing the quality of support that ISPs give to their customers.[51] More broadly, charette participants were also critical of the automation and outsourcing of customer service, although this concern does not apply exclusively to ISPs.

Community members also expressed a desire for greater transparency and information when it comes to purchasing internet subscriptions. They felt that the technical language used to describe different internet plans—such as megabits per second (Mbps), upload speeds, download speeds, latency, etc.—was not accessible to everyday consumers. Alongside this information, they wanted guides that use simple language to relate to consumers. For instance, the number of household members and/or the collection of activities that each level plan could support. This information is available in many places online, but it is often not on ISPs' purchase pages.

Importance of Internet Access: Despite the cost and inconvenience that accessing the internet can entail, stakeholders emphasized the importance of internet access to their daily lives. Whether it is for communication with family and friends, work, navigation, etc., community members of all ages have come to rely on the internet. As one stakeholder put it, ""Internet is the electricity of the Twenty-first Century."

DEVICES

Access and Affordability: Responses to the Massachusetts Statewide Digital Equity Survey suggest that most residents are able to access the devices they need. 94 percent of respondents reported that "everyone in their household has access to the computer devices they need to meet their everyday needs for internet use."[52] Those that replied in the negative to this question span income ranges. Stakeholders and charette participants also did not express an inability to obtain any specific devices in their private capacities.

The price that community members are willing to pay for a laptop or desktop computer appears to be influenced by how much income they earn. Interestingly, across income levels, almost 40 percent of survey respondents reported that they would be able to pay only $250 or less for a laptop or desktop computer.[53] For context, the technology review magazine *PCMag* has a list of the best cheap laptops and desktops in 2025. The most affordable laptop option on the list sells for $349.99 when not on sale.[54] The cheapest desktop option sells for $479.00 when it is not on sale.[55]

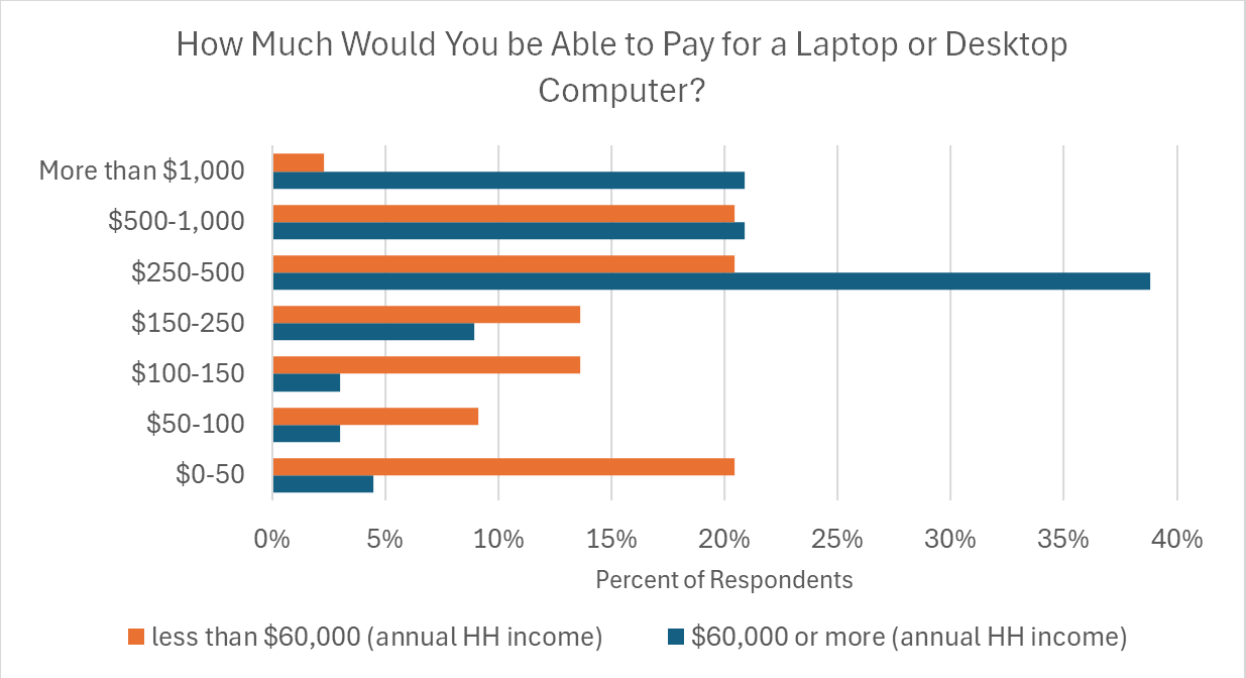


Fig. 4: MA Statewide Digital Equity Survey, question #18

Device Preferences: As for preferred devices, stakeholders and charette participants were in unanimous consensus that smartphones have become ubiquitous. This is reflected in survey data too. 85 percent of respondents reported using their cellphones "most of the time to connect to the internet," compared to 69 percent for laptops, 50 percent for tablets, and 34 percent for desktops.[56] Charette participants shared that they use phones for "quick actions and tasks" but also increasingly for activities that they used to rely on the computer for. Possible examples could include email and browsing the web. In the words of one charette participant, even some seniors are becoming attached to their phones now.

That said, charette participants acknowledged that other devices are better suited than phones for certain tasks. Computers were noted to be more convenient for work, printing, and email. Tablets were thought to be better suited for social media and games. It was also observed that tablets can be easier for seniors to use than phones due to the tactile sensitivity of the latter.

Most survey respondents reported using two or more of the following device categories to regularly access the internet: phones, laptops, desktop computers, and tablets.[57] If a point is applied to each type of device, the average score for all

respondents was 2.38 points. Higher income and education levels and younger age appear to be correlated with a higher number of devices used.

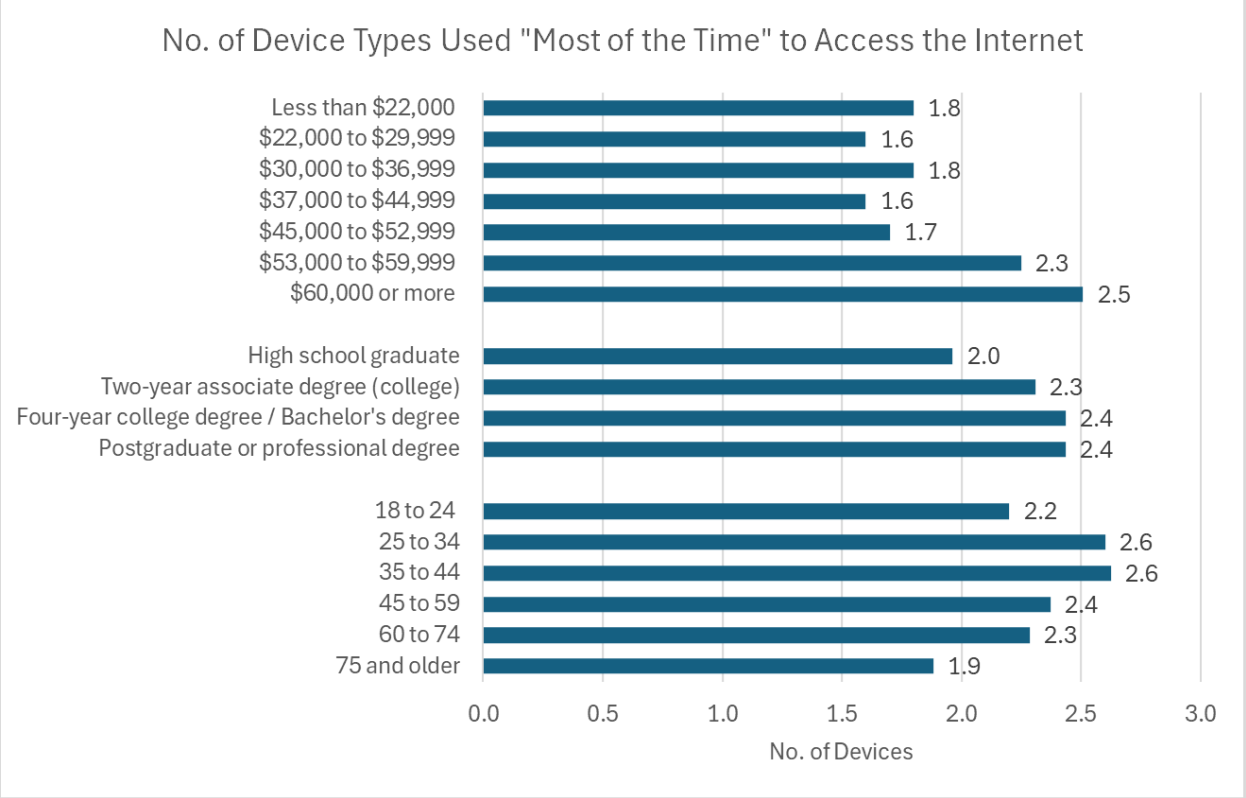


Fig. 5: MA Statewide Digital Equity Survey, question #17. Device types include phones, laptops, desktop computers, and tablets.

Just as with purchasing internet subscriptions, charette participants conveyed frustration with the technical language that characterizes modern computer specifications. Terms like "processor, RAM, storage, and graphic processing unit" may be unfamiliar to consumers, leading to uncertainty over what product to buy and how much to pay for it. And with planned obsolescence, consumers often have no choice but to buy new devices even when their existing ones still work. Otherwise, they will face increased security risks and may lose access to certain programs over time.[58] Participants also expressed disappointment that so many programs today operate through a subscription, such as Adobe. Unlike in the past, you cannot buy programs up front and enjoy unlimited access.

Municipal Services and Resources: For those community members without devices to complete everyday tasks, libraries and senior centers serve as a critical backstop. But library staff identified the supply and age of devices as a significant issue. Most libraries offer a combination of desktop and laptop computers for patrons to use on

site. However, these computers are old in most cases and in need of replacement. For instance, the Barre and West Brookfield libraries both currently have computers that cannot be updated to Windows 11. And no libraries appear to offer laptops or tablets on loan to community members. A short supply of devices also means that most libraries are not equipped to host digital literacy classes unless participants bring their own devices. Libraries in three communities, Barre, North Brookfield, and West Brookfield, also offer loanable hotspots. Library staff from each town noted that hotspots are constantly in high demand and usually completely checked out.

In recent years, senior centers have taken advantage of grants to acquire new devices for patrons to use. West Brookfield obtained laptops and iPads from a Hybrid Programming for Councils on Aging grant from the state. The grant also funded improvements to the senior center's ethernet hub and ports. Barre received Chromebooks and tablets through a Cyber Seniors grant. And finally, North Brookfield obtained a new desktop computer through a grant. North Brookfield does not currently have any hot spots but is interested in acquiring some.

Three of the five-towns in the region are members of the Quabbin Regional School District: Barre, Hardwick, and New Braintree. During the COVID-19 Pandemic, the school district distributed desktops, Wi-Fi cards, and hotspots to families who needed them. At the time, the school district only provided high schoolers with Chromebooks on a 1-on-1 basis. Since the end of the pandemic, this share has expanded to all students.

DIGITAL LITERACY

Proficiency with Online Activities: Digital equity begins with sufficient access to the internet and devices. But the potential of these tools cannot be realized without the right skillset. The Massachusetts Statewide Digital Equity Survey sheds light on what tasks present the greatest challenge to community members in the five-town region. There appears to be a positive correlation between increased age and finding tasks "not easy" or "hard."[59] Almost two-thirds of respondents aged 60 years and above found one or more tasks "not easy" or "hard" compared to less than 40 percent of respondents aged below 60 years old.

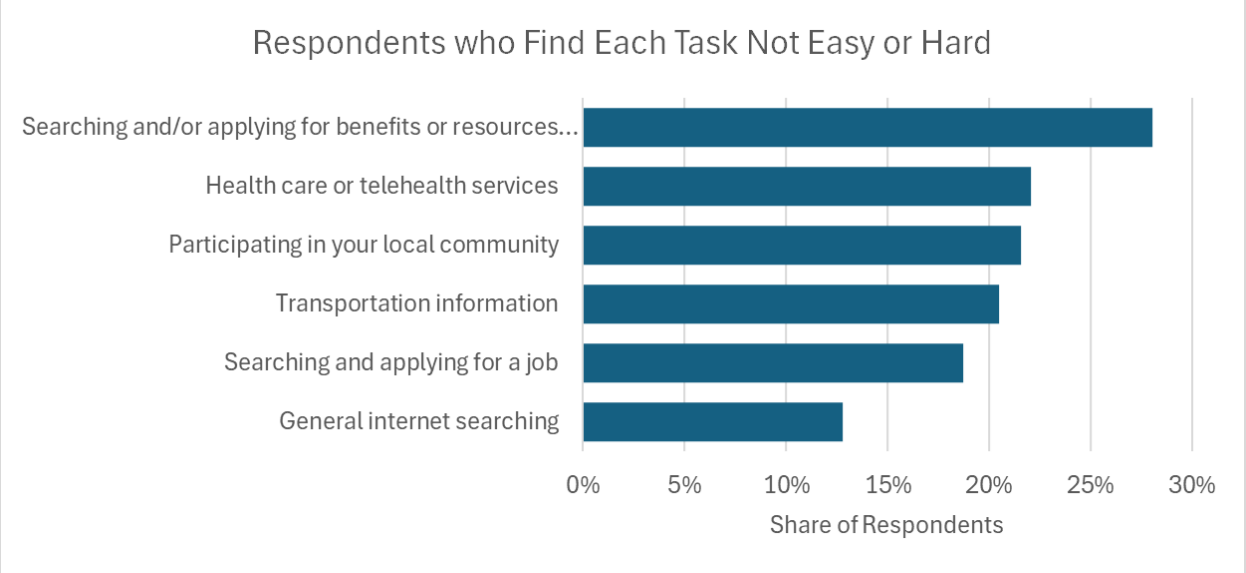


Fig. 6: MA Statewide Digital Equity Survey, question #20. Device types include phones, laptops, desktop computers, and tablets.

Some of these tasks also came up in stakeholder interviews and charettes. The most frequent observation was that the move of many services and/or resources to exclusively online formats has left some individuals behind, predominantly seniors. Examples of these services and resources include forms for government benefits and job applications. One stakeholder noted that this is especially problematic in small towns that have aging populations and limited municipal staff to help residents with any issues they encounter. Accordingly, she emphasized the importance of maintaining paper options to accommodate older residents. That said, survey respondents, including individuals aged 60 and above, rated the accessibility and effectiveness of "online government services like benefits portals, RMV services, or paying for permits or tickets" very favorably.[60]

Libraries and senior centers in the five towns reported regularly helping patrons with a wide range of tasks and issues, such as general device troubleshooting, printing, accessing services / benefits, e-shopping, and job applications.

Navigating Online Dangers and Risks: Survey data demonstrates that community members believe there are many dangers associated with internet usage. 90 percent of respondents disclosed that they were "very concerned" or "somewhat concerned" about internet safety.[61] Majorities of respondents expressed concern about data theft, surveillance, and scams stemming from internet usage.[62] But many respondents appear to have found ways to navigate online risks. Two-thirds of survey participants said they have tools and resources to stay safe online.[63]

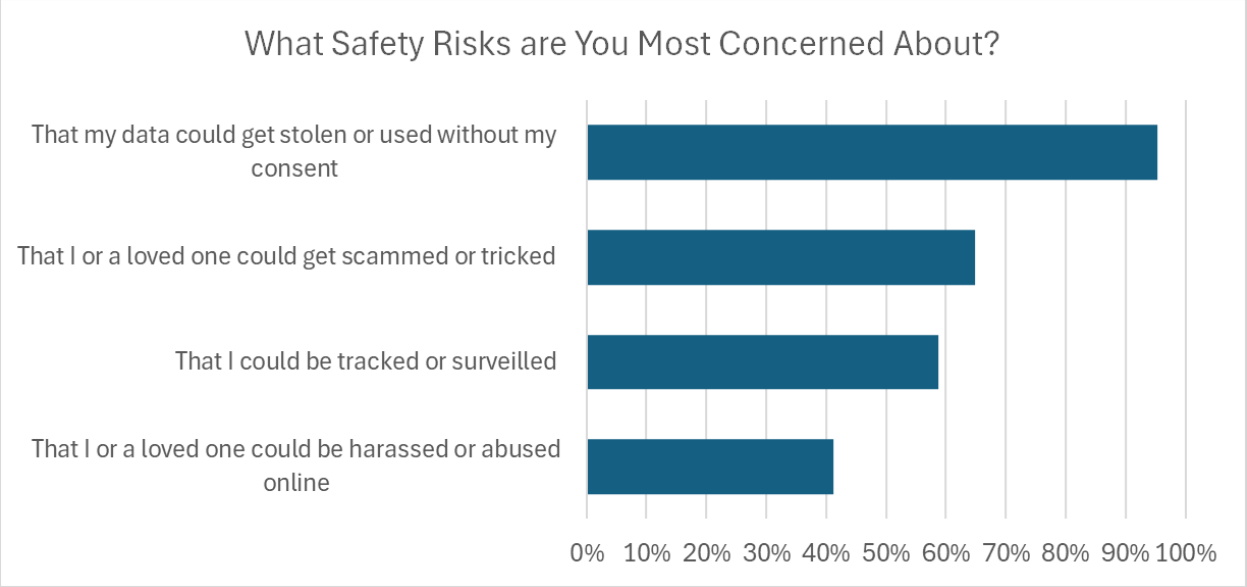


Fig. 7: MA Statewide Digital Equity Survey, question #25

Priority Populations: Across each of the five towns, seniors were highlighted as the population that could most benefit from greater digital literacy training. It was noted by library and senior center staff that there are many reasons why some seniors avoid technology. Many experience feelings of awkwardness or intimidation when using devices but are sometimes embarrassed to ask for help. In other cases, complexity or fear of being scammed deters usage. Some seniors are even disinterested all together.

Trust may also play a role. In a discussion with the New Braintree Council on Aging, council members and other seniors in attendance were split on whether they used online banking and bill payment. Those individuals who explained that they do not use this tool expressed distrust in these systems and greater familiarity with traditional methods like visiting the bank and sending checks in the mail. Cloud storage was another subject of contention, stemming from security concerns.

However, it is important to acknowledge that there is a wide diversity of digital skill levels among the senior population. On a field visit to the North Brookfield Senior Center, CMRPC engaged with a group of seniors who each had multiple personal devices and used them for activities like social media, games, and streaming services.

When it comes to digital literacy support in the five rural towns, library and senior center staff are the primary resources available. Staff most often help patrons in informal, one-on-one settings. Without any staff dedicated specifically to digital

literacy, staff function in the capacity of a "jack of all trades" and help patrons with everything from online forms for government benefits to personal device troubleshooting.

Municipal Services and Resources: Libraries in each of the five towns do not currently offer formal instruction in computers or technology. New Braintree's library used to offer classes, but these were cancelled due to poor attendance. However, library staff in each town expressed interest in hosting future workshops and/or classes. But presently, there is a lack of devices and physical space to achieve this. Even if multi-purpose rooms are available, they are not outfitted with the devices necessary to support a workshop. Instructional capacity presents another obstacle. Libraries in the region reported that they do not have either the staff capacity or knowledge base to host classes.

Senior centers in the five-town region have actively taken advantage of grants and other partnerships to host programming. Last year, West Brookfield hosted support sessions for computers, tablets, and phones through a grant. As recently as May 2025, the senior center also hosted a social media workshop by high school students from the Quaboag Regional School District. Until Spring 2025, Barre / Hardwick partnered with the organization Cyber Seniors to provide patrons with instructional classes and troubleshooting services. Volunteers and senior center staff were also trained in digital literacy instruction through the program. Lastly, North Brookfield's senior center has previously partnered with high school students to offer one-on-one troubleshooting to seniors.

Guidance for Training & Education: Stakeholders and charette participants offered advice when it comes to formatting digital literacy training. They felt that in-person assistance is more effective and comfortable for beginners, especially seniors. However, this sentiment was not reflected in MBI survey results. Survey respondents were most interested in remote types of digital skills support, such as a do-it-yourself training module or online classes.[64]

Another piece of advice that was shared by residents and municipal staff was the importance of repetition when it comes to digital skills development. Beginners may need to be shown how to do something multiple times before they pick it up. Memory may also pose a particular barrier for some seniors, necessitating reinforcement of learned skills. Instructors, whether in formal class setting or one-on-one troubleshooting, should be cognizant of the vocabulary they use too. Many technological terms that have become commonplace in today's discourse are not

familiar to seniors. Because of all these factors, patience is an important virtue to practice when providing support to individuals that struggle with digital literacy.

Lastly, community members discussed the importance of developing healthy habits around internet and device use. For all its benefits, internet access can come with downsides. Residents were particularly wary about the consequences of social media use. They felt that social media algorithms can be harmful, and that social media is damaging people's attention spans. Applications like social media and online games can be very addictive, causing people to spend unhealthy amounts of time on devices and withdraw socially. As a result, they may lose their interpersonal skills, or even never develop such skills to begin with.

STRENGTHS, WEAKNESSES, VULNERABILITIES

During the outreach process and public charettes, participants, town staff, and CMRPC identified the digital equity strengths and weaknesses in the five-town study area. This gave the planning team a chance to evaluate opportunities to advance digital equity and identify potential challenges/threats to achieving said goal. The following graphic summarizes the findings.

STRENGTHS

- Public Libraries
- Public Schools
- Senior Centers
- Internet service is good enough for most

WEAKNESSES

- Unserved locations still exist
- Cellular service is spotty
- Lack of ISP options
- Aging devices at public institutions

OPPORTUNITIES

- Expand services and device availability at municipal spaces such as Public Libraries, Senior Centers, and town offices
- Raise resident awareness & understanding of internet safety

THREATS

- Discontinuation of the Affordable Connectivity Program
- Increasing cost of internet plans and computing devices
- Negative health outcomes from digital device use

LIMITATIONS

CMRPC and the five respective towns participated in dedicating a significant amount of time and effort to community outreach and engagement for this regional project. Although the charrette process has positively impacted the conversations moving forward; there are also constraints associated with the process. Recognizing and addressing gaps is necessary to better understand the study's limits. The 90-day process poses a significant limitation on the outreach process. Town stakeholders and officials are also operating on a limited capacity when it comes to effectively introducing the concept of digital equity to the region's community.

STRATEGIC RECOMMENDATIONS

1. CREATE A REGIONAL DIGITAL EQUITY COALITION OR COMMITTEE TO COORDINATE EFFORTS, MAKE RECOMMENDATIONS, AND IMPLEMENT PROGRAMS

Implementation Time Frame: Short Term (12-18 Months)

Cost: $

Effort Level: Low-Medium

Description: While each of the five towns has unique characteristics, they share common challenges in addressing digital equity—such as limited broadband access, gaps in digital literacy, and resource constraints. No single town can tackle these issues alone. Many local organizations, libraries, schools, and community groups are already working on aspects of digital inclusion, but efforts are often fragmented or isolated.

To improve coordination and maximize impact, the towns should jointly establish a Regional Digital Equity Coalition. This coalition would bring together stakeholders from across the five communities—including public libraries, senior centers, school districts, local nonprofits, and town governments—to share resources, align strategies, and implement collaborative programs.

Given their central roles in community engagement and digital access, institutions like the North Brookfield Public Library, Quabbin Regional School District, and local Councils on Aging could serve as conveners or hosts for coalition meetings. The coalition should go beyond discussion and focus on actionable collaboration, such as:

- Coordinating digital literacy workshops across towns.
- Sharing device lending inventories and tech support resources.
- Applying jointly for state and federal digital equity grants.

- Creating a shared calendar of digital inclusion events and services.

By building a strong network of partners, the coalition can foster a more connected and resilient digital ecosystem across the region—ensuring that no resident is left behind in the digital age.

Some Key Organizations Identified during the Charette Process:

- Quabbin Regional High School, North Brookfield Public Schools, Quaboag Regional High School
- Public Libraries in each community
- Eagle Hill School

2. CREATE A LOCAL OR REGIONAL DIGITAL NAVIGATOR PROGRAM

Implementation Time Frame: Short Term (12-18 Months)

Cost: $$$

Effort Level: Medium

Description: Residents across Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield face a range of digital challenges—from securing affordable internet to navigating devices and online services. A Digital Navigator Program would provide personalized, ongoing support to help residents overcome these barriers and fully participate in the digital world.

Following the National Digital Inclusion Alliance (NDIA) model[65], digital navigators would assist with services including:

- Home internet connectivity and troubleshooting.
- Device setup and maintenance.
- Digital skills training for work, education, and daily life.
- Applying for government subsidy programs like Lifeline.
- Navigating telehealth platforms and online safety tools.

A **shared regional program** would allow the five towns to pool resources and staff, ensuring broader coverage and cost efficiency. Navigators could rotate between towns and operate from libraries, senior centers, and schools. This model would:

- Leverage shared training and administrative infrastructure.
- Ensure consistent service quality across the region.
- Enable collaboration with regional partners and funding sources.
- Be coordinated through the proposed Regional Digital Equity Coalition.

Alternatively, each town could establish its own **local digital navigator** or small team, tailored to its specific needs and population.

In either model, towns should consider:

- Recruiting multilingual navigators to support ESL and immigrant populations.
- Partnering with local organizations (e.g., libraries, schools, Councils on Aging) to identify trusted community liaisons.
- Exploring AmeriCorps placements or student practicums from nearby colleges (e.g., Quinsigamond Community College, Worcester State) to build capacity.

The Digital Equity Coalition (if formed) can help coordinate training, share best practices, and ensure that both regional and local navigator programs are responsive to evolving community needs.

3. EXPLORE OPPORTUNITIES TO BOLSTER THE KNOWLEDGE BASE OF EXISTING STAFF

Implementation Time Frame: Short - Medium (1-3 Years)

Cost: $$

Effort Level: Medium

Description: To ensure long-term success in digital equity efforts, towns should invest in strengthening the digital knowledge and capacity of their existing staff. Many municipal employees, librarians, educators, and community service providers already

serve as informal digital guides for residents. However, they often lack access to structured training or up-to-date resources.

A practical and cost-effective approach would be to implement a **train-the-trainer model**. In this model, a small group of staff from each town would receive in-depth training on digital inclusion topics—such as broadband access, device troubleshooting, cybersecurity, and digital literacy instruction. These trained individuals would then serve as local champions, sharing their knowledge with colleagues and community members through workshops, one-on-one support, or integration into existing services.

This approach not only builds internal capacity but also fosters a culture of peer learning and sustainability. Training could be delivered in partnership with regional institutions like community colleges or through programs offered by vendors such as Tech Goes Home or the National Digital Inclusion Alliance (NDIA). Participation in statewide or national digital equity networks would also help staff stay informed about emerging tools, funding opportunities, and best practices.

By investing in the professional development of current staff, the towns can ensure that digital equity becomes a shared responsibility embedded across departments and services—ultimately leading to more responsive and resilient communities.

4. INVESTIGATE DEVICE RECYCLING AND REUSE AS A COST-EFFECTIVE WAY TO SUPPORT ACCESS TO AFFORDABLE DEVICES

Implementation Time Frame: Medium (2-3 Years)

Cost: $$

Effort Level: Medium

Description: To address the persistent gap in access to affordable digital devices, towns should explore the creation of a regional device recycling and refurbishment program. This initiative would collect used devices from schools, businesses, and residents, refurbish them, and redistribute them to individuals and families in need.

Rather than relying on large academic institutions, the program could be built through partnerships with local organizations and businesses, such as:

- Public libraries and senior centers, which can serve as drop-off and distribution points.
- Local IT service providers or repair shops, which may be willing to donate time or expertise.
- High school technology programs (e.g., at Quabbin Regional High School, Quaboag Regional High School or North Brookfield High School), where students could gain hands-on experience refurbishing devices as part of a service-learning or internship program.

This community-based approach would not only increase access to technology but also promote environmental sustainability by reducing e-waste.

5. EXPLORE A REGIONAL DIGITAL EQUITY HUB & RESOURCE SHARING PARTNERSHIP

Implementation Time Frame: Medium-Long (3-5+ Years)

Cost: $$$$

Effort Level: High

Description: The towns of Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield should explore the creation of a shared regional digital equity hub—a centralized, in-person space that would provide residents with access to technology, training, and support services. This hub would serve as a collaborative resource for all five towns, helping to close the digital divide through shared infrastructure and programming.

The hub could be located in a centrally accessible town and offer:

- Public internet access and device lending.
- One-on-one digital assistance and training workshops.
- Private rooms for telehealth appointments, job interviews, or virtual learning.
- Guidance on internet service options, device purchasing, and digital safety.
- Rotating support from digital navigators and local volunteers.

Alternatively, towns could consider creating this hub as a mobile unit which could travel from community to community. A mobile tech vehicle could support local staff and services, offer specific technology that local organizations do not have, and introduce a novel, fun experience for residents.

This model would allow the towns to pool resources, reduce duplication of services, and apply jointly for state and federal funding. It would also foster regional collaboration and ensure that smaller towns with limited infrastructure can still provide robust digital equity services to their residents.

Case Study: Tech Hub by Tech Foundry (Holyoke, MA)
Launched in 2023, the Tech Hub in Holyoke became a vital resource for Western Massachusetts. Operated by Tech Foundry, a nonprofit workforce development organization, the hub offers digital literacy training, technical support, and access to devices and internet. It also provides space for residents to apply for jobs, access government services, and stay connected with family. The hub has proven to be a powerful model for improving economic stability, digital access, and community resilience—one that could be adapted to serve the five-town region effectively.

6. BUILD UP AND SUPPORT LIBRARY-BASED DEVICE LENDING & DIGITAL LITERACY PROGRAMS

Implementation Time Frame: Short - Medium (1-3 Years)

Cost: $$$

Effort Level: Medium

Description: Public libraries in the area already serve as trusted community hubs for learning, access, and support. These institutions are well-positioned to expand their role in bridging the digital divide by enhancing their digital literacy and device lending services.

Library staff across the region frequently assist patrons with tasks such as navigating websites, setting up email accounts, and avoiding online scams. Many libraries also offer device lending programs—such as Chromebooks, tablets, and mobile hotspots—but demand often exceeds supply.

To meet community needs, the towns should invest in expanding the capacity of their libraries to increase the inventory of loanable devices and hotspots to ensure equitable access for residents without home internet or technology. Libraries could also consider more frequent and diverse digital literacy workshops, including topics like cybersecurity, telehealth, and online job applications.

To support these efforts – and in the absence of other programs such as the Digital Navigator Program - libraries could consider hiring digital literacy & device specialists to support residents with their device and access needs.

These investments would not only enhance digital access but also strengthen the role of libraries as inclusive, tech-enabled learning centers. By coordinating efforts across the five towns, libraries can share resources, align programming, and apply jointly for funding to maximize impact.

7. PROMOTE HEALTHY DEVICE AND INTERNET USE ACROSS ALL AGE GROUPS

Implementation Time Frame: Short-Long (1-5 years)

Cost: $$

Effort Level: Medium

Description: As digital device and internet usage increases, it is equally important to promote healthy and balanced technology use, particularly among children, adolescents, and young adults. While digital inclusion is essential for education, employment, and civic engagement, excessive screen time has been linked to a range of physical and mental health concerns.

Emerging research[66] shows that overuse of smartphones and digital devices can contribute to issues such as sleep disruption, reduced physical activity, unhealthy eating habits, anxiety, and impaired cognitive function. These effects are especially pronounced in youth, who may be more vulnerable to the addictive nature of social media and online content.

To address these concerns, the towns should consider:

- Developing educational campaigns for families and schools that highlight the health implications of excessive screen time and offer strategies for balance.
- Providing resources and workshops through libraries, schools, local Boards of Health, and youth centers on topics such as digital wellness, screen time management, and online safety.
- Collaborating with local healthcare providers and school counselors to ensure that mental and physical health support is available for youth experiencing digital overuse symptoms.
- Encouraging the use of parental controls and device settings that promote healthy usage patterns, especially in households with limited digital literacy.

This initiative can be integrated into broader digital equity efforts, ensuring that while access is expanded, it is also safe, informed, and developmentally appropriate.

8. EXPLORE OPPORTUNITIES TO INCREASE THE NUMBER OF INTERNET SERVICE PROVIDERS IN THE REGION

Implementation Time Frame: Medium-Long (2-5 years)

Cost: $$$

Effort Level: Medium-High

Description: Like many rural and semi-rural communities, Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield face limited competition among internet service providers (ISPs), which can lead to higher prices, slower speeds, and fewer service options for residents. While most areas have access to cable, others rely on satellite or even DSL connections that may not meet modern connectivity needs.

To address this, the towns should take a strategic approach to enabling broadband competition and infrastructure investment. This begins with a review of local policies, permitting procedures, and zoning regulations to identify any barriers that may discourage new ISPs from entering the market or expanding service.

Towns should aim to create a welcoming and streamlined environment for infrastructure development. This could include:

- Simplifying the permitting process for broadband infrastructure projects.

- Coordinating regionally to attract providers interested in serving multiple towns.
- Identifying unserved or underserved areas and sharing that data with potential ISPs.
- Exploring public-private partnerships to extend fiber or fixed wireless networks.

According to the Information Technology & Innovation Foundation (ITIF), the most effective broadband strategies are those that enable competition without over-saturating the market, which can lead to inefficiencies.[67] The goal should be to encourage sustainable investment that improves service quality and affordability for residents.

By proactively reviewing and adjusting local policies, the five towns can position themselves to take full advantage of any upcoming state and federal broadband funding opportunities and ensure that all residents have access to reliable, high-speed internet.

9. EXPLORE NEW PROGRAMS DIRECTLY TARGETED AT IMPROVING CYBERSECURITY & ONLINE SAFETY

Implementation Time Frame: Short-Medium (1-3 years)

Funding avenues & Resources: Municipal Digital Equity Implementation, Lead for America, and NDIA Digital Navigators Model

Cost: $

Effort Level: Medium

Description: As needs for digital access and usage of online platforms expand across the region, so too does the need to ensure that residents can navigate the digital world safely. While cybersecurity has traditionally been viewed as a concern for older adults, the increasing sophistication of scams, phishing attempts, and data privacy threats means that all age groups are now at risk.

To address this growing concern, the towns should take a proactive approach to community-wide cybersecurity education. This could include:

- Expanding digital safety programming at public libraries to include workshops on identifying scams, protecting personal information, and using secure passwords.
- Partnering with local schools to assess and strengthen digital safety education in the curriculum, ensuring that students are equipped with the knowledge to protect themselves online.
- Leveraging the proposed Digital Navigator Program to provide one-on-one support and guidance on cybersecurity best practices.
- Producing timely public service announcements (PSAs) on emerging threats, such as scam alerts or data breaches, and distributing them through town websites, newsletters, and social media platforms.

These efforts can be coordinated regionally or implemented at the town level, depending on capacity. Either way, the goal is to build a culture of digital safety that empowers residents to use technology confidently and responsibly.

OPPORTUNITIES & RESOURCES

It should be noted that as of May 2025, a significant amount of Federal funding allocated for digital equity work has been cancelled, suspended, or is pending and awaiting a legal decision. As such, it is unclear whether all the opportunities listed below will remain active or retain current funding levels.

Lifeline Program

The Lifeline Program supports households with a household income at or below 135% of the federal poverty guidelines (this will vary depending on the size of the household), as well as program-based eligibility through Medicaid, Supplemental Nutrition Assistance Program, Supplemental Security Income, etc. Lifeline provides a monthly service discount of up to $9.25 for eligible households; Lifeline subscribers have the choice to apply their discount to either a home phone service, home internet service when available, or a wireless phone plan with data.

https://www.lifelinesupport.org/

GetSetUp

GetSetUp is a virtual platform that offers aging adults the opportunity for physical, mental, and social growth. GetSetUp aims to address the lack of sufficient infrastructure to support the aging population by providing a wide range of programs for individuals to participate in. GetSetUp is also dedicated to addressing the digital divide by providing training courses in line with device onboarding, application use, scam prevention, and more.

https://www.getsetup.io/

Digital Equity Partnerships Program

The Digital Equity Partnerships Program was established by MBI as part of the $50 million Broadband Innovation Fund, created following the MA ARPA 1.0 legislation. Although the program solicitation has closed, a number of funding recipients are

available to serve as resources, vendors, or collaborators in the following program areas:

- Wi-Fi Access Initiative: Wi-Fi systems in affordable multi-unit buildings or low-income neighborhoods will provide free, in-unit, broadband use.
- Public Space Internet Modernization Initiative: Improvements to inadequate broadband infrastructure and digital use in public spaces to increase daily use and services.
- Connectivity Initiative for Economic Hardship: The provision of Wi-Fi cellular hotspots to individuals lacking stable housing and unable to have a fixed broadband internet subscription.
- Digital Literacy Initiative: Establish and implement digital literacy training programs to ensure that target populations have the requisite skills to use devices, online resources, and digital tools to needed effect.
- Device Distribution and Refurbishment: Secure new or used internet-connected devices to distribute to target populations.
- Education, Outreach, and Adoption: Support outreach and engagement activities designed to increase the success of digital equity programming, including ACP adoption, digital literacy programs, device access, and Wi-Fi or hotspot connectivity.

https://broadband.masstech.org/partnerships

Massachusetts Community Health & Healthy Aging Funds

The Community Health & Healthy Aging Funds supports projects that focus on addressing racial and health inequities. The funding seeks to address and combat social determinants of health, structural and institutional inequities, policies, systems, and social/physical environments that are historically based on structural and institutional racism and other forms of oppression. Digital equity plays a large role in community and individual health; it supports access to health services, and transportation to appointments, and endorses education and information necessary for healthy living.

https://mahealthfunds.org/

Lead for America – American Connection Corps

The American Connection Corps (ACC) is a program of Lead for America. The ACC is dedicated to advancing economic success in digitally disconnected communities. ACC Members support host communities through active community engagement, attracting resources, and offering critical capacity enhancement. Not only is it beneficial for community growth, but ACC is also a learning and training experience for members while supporting sustained interest and employment opportunities in the digital equity space while contributing to economic development through workforce growth.

https://www.leadforamerica.org/whoweare

Tech Goes Home

Tech Goes Home is a program that supports people of all ages with courses geared toward adults of all age ranges, families, entrepreneurs, and more. Tech Goes Home aims to empower communities to access and use digital tools and overcome barriers to advance the knowledge and lives of those it serves. Programs are focused on serving individuals and communities that face institutional barriers to technology adoption.

https://www.techgoeshome.org/

Education Superhighway: K-12 Bridge to Broadband

Education Superhighway is a non-profit with a focus on closing the digital divide. The non-profit teams with regional and national Internet Service Providers (ISPs) help identify students who may lack broadband at home. Using secure data exchange, states and school districts can identify students who are unconnected and optimize their use of federal funds.

https://www.educationsuperhighway.org/

Residential Retrofit Program

Implemented by the MBI, the Residential Retrofit Program introduces broadband infrastructure at Public & Affordable Housing properties while increasing low-income residents' opportunities to access high-quality, reliable, and affordable broadband

service in their homes by addressing insufficient infrastructure and wiring through grants for the installation of fiber optic cabling to units through qualified Internet Service Providers (ISP's); who will own, install, and maintain equipment. Available funding will cover 100% of the eligible capital costs associated with the retrofitting of eligible properties.

https://broadband.masstech.org/retrofit

MAPC Apartment Wi-Fi

The MAPC Apartment Wi-Fi is partnering with MBI to provide project management, funding, and procurement support to fund the construction of Wi-Fi networks providing residents with equal or superior service than what is offered by commercial ISPs, at no cost to the residents. Funding through the program will cover all capital costs associated with network designing, construction, equipment, and the first year of ongoing expenses.

https://www.mapc.org/our-work/expertise/digital-equity/apartment-wi-fi/

Mobile Beacon

Mobile Beacon is dedicated to connecting communities digitally through mobile connectivity solutions such as hotspots, tablets, and routers to provide high-speed internet to libraries, nonprofits, schools, and healthcare organizations. With discounted devices and low-cost monthly service rates, Mobile Beacon brings internet connectivity to municipalities seeking to bridge the digital divide.

The Region's Public Libraries would benefit greatly from hotspot lending as residents and library employees have expressed the need for additional devices to support its community.

https://www.mobilebeacon.org/

National Digital Inclusion Alliance

The National Digital Inclusion Alliance (NDIA) implements digital inclusion through its four pillars: support, policy, practitioner, awareness, and data & research. The organization has a plethora of resources including models for implementing digital

navigators, digital equity and inclusion webinars, and digital inclusion guidebooks and manuals.

https://www.digitalinclusion.org/

CommCorps YouthWorks Funding

Through the Commonwealth Corporation, the YouthWorks program is a state-funded youth employment program that supports teens, and young adults develop the experiences and skills needed to find and maintain jobs. Towns may leverage the program through its digital equity implementation funding, as YouthWork participants can be employed as digital navigators in their communities.

https://commcorp.org/youthworks-programs/

Efficiency & Regionalization Grant

The Efficiency & Regionalization Grant (E&R), offered through the Community Compact Cabinet, provides financial support ranging from $100k to $200k for governmental entities implementing regionalization and efficiency initiatives aimed at long-term sustainability. The grant covers one-time or transition costs for municipalities, regional school districts, and school districts pursuing the creation of regionalization, service regionalization, or regional planning agencies and councils of governments.

https://www.mass.gov/efficiency-regionalization-grant-program

MA Community Compact IT Grant Program

This program offers grants of up to $200,000 to support the implementation of innovative IT projects and funding related one-time capital needs such as technology infrastructure or software. Incidental costs related to the capital purchase such as one-time planning, design, installation, implementation and initial training *are* eligible.

https://www.mass.gov/community-compact-it-grant-program

Municipal Fiber Grant Program

The Municipal Fiber Grant Program supports the provision of fiber for municipal networks and town infrastructure. This competitive grant program will assist municipalities across the Commonwealth with the construction/completion of a municipal fiber network. The provision of fiber in communities allows for centralized management of IT infrastructure, including an enterprise approach to network monitoring, cyber security, records management, and backup and recovery. A cohesive municipal network also creates opportunities to gain economies of scale by aggregating internet bandwidth purchases and the associated security infrastructure.

https://www.mass.gov/municipal-fiber-grant-program

CONCLUSION

The digital equity planning process undertaken for this report provided insight into the digital divide in Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield through in-depth conversations, data collection and review, and local insight. While each town is unique, we saw common themes across the region that included struggles with internet affordability, device access, and digital literacy, especially among older adults, low-income households, and English language learners. At the same time, strong community assets like libraries, senior centers, schools, and invested local stakeholders represent significant opportunities for progress. Strategic partnerships, investments in infrastructure and education, and sustained outreach are essential parts of ensuring that residents of the region are informed and able to participate in our increasingly digital society. With the implementation of this report's strategic recommendations, Barre, Hardwick, New Braintree, North Brookfield, and West Brookfield have the opportunity to close the digital divide and ensure everyone can connect and participate.

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