Town of Berlin & Town of Boylston

DIGITAL INCLUSION PLAN

OCTOBER 2026

PRODUCED BY
CENTRAL MASSACHUSETTS REGIONAL PLANNING COMMISSION (CMRPC)

Town of Berlin | Town of Boylston



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Special thank you to the Town staff & residents of Berlin and Boylston for their time, resources, and invaluable knowledge to contribute to the development & success of this plan.

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Introduction

Berlin and Boylston are rural communities in Central Massachusetts known for their historic character and natural landscapes. Boylston has a population of just over 5,000, while Berlin has just over 3,000 residents. Historically, both towns were farming communities. Today, Boylston focuses on preserving open space, promoting social and recreational opportunities for residents of all ages, and encouraging community engagement and collaboration with local government. Berlin similarly prioritizes preserving its natural landscapes and local history while coordinating with town departments, private organizations, landowners, and residents to maintain its community character. The communities share a regional school district, focused on providing quality educational opportunities.

In 2025, the towns applied to participate in the Municipal Digital Equity Planning Program, which allows them to better understand gaps in digital access and inclusion, identify community needs, and explore opportunities to expand existing programs and resources.

The digital divide refers to disparities in access to internet-enabled devices, affordable broadband, digital literacy education, technical support, and accessible online content. These barriers disproportionately affect underserved populations and can limit participation in employment, civic engagement, communication, and emergency services. Digital inclusion seeks to address these barriers through intentional strategies and investments that ensure all individuals can access and effectively use digital technologies.

This report was developed with support from the Massachusetts Broadband Institute's (MBI) Municipal Digital Equity Planning Program, funded through Massachusetts ARPA State Fiscal Recovery Funds and administered by the Massachusetts Technology Collaborative.

Beginning in February 2026, Berlin and Boylston worked with the Central Massachusetts Regional Planning Commission (CMRPC) to assess the local digital landscape and engage residents and stakeholders to better understand challenges related to internet access and technology use.

This report draws on community engagement, stakeholder interviews, American Community Survey (ACS) data, the Statewide Broadband and Digital Equity Survey, and other sources. It presents findings on digital access and inclusion in Berlin and Boylston, along with strategic recommendations, potential opportunities, and resources to address identified gaps.

Prior Planning

To better understand the digital landscape in Berlin and Boylston, CMRPC reviewed existing municipal plans, reports, and community resources to identify previously documented needs, ongoing initiatives, and opportunities to improve digital access and inclusion. These efforts provide context for the current planning process and help inform recommendations that may support existing municipal priorities and resources.

Boylston Prior Planning and Existing Initiatives

Boylston Master Plan (2022)

The Boylston Master Plan identifies technology as an important tool for improving municipal accessibility, efficiency, and communication. Recommended actions include establishing hybrid meeting spaces to support both in-person and remote participation, pursuing grants to upgrade municipal technology, and exploring opportunities to expand internet access and secure affordable cable service. The plan also recommends continuing to bring municipal services online to improve accessibility and streamline processes for residents and town staff.

Since the plan's development, Boylston has implemented a digital permitting system through PermitPro, which manages building and fire permit applications. The plan also identifies opportunities to expand online permitting services, reduce administrative burdens on municipal staff, and make local permitting processes easier to navigate.

The plan emphasizes the importance of consistent communication between municipal departments and residents. It recommends developing a communications plan that establishes standards, strategies, and accountability for internal and public communications. Additional recommendations include exploring a communications coordinator position and identifying equitable ways to share information about municipal resources, public issues, and opportunities to serve on local boards and commissions.

The plan also identifies opportunities to use the town's website and social media platforms to share information about natural resource protection, programs such as Chapter 61, and local events. Additional priorities include maintaining digitized historical records and improving online access to these resources. The plan also proposes an online events calendar to help residents stay informed about community activities and municipal programming.

Boylston Open Space and Recreation Plan (2020)

The Boylston Open Space and Recreation Plan identifies opportunities to improve online information about the town's walking trails and conservation properties. Residents expressed interest in having accessible information about trail locations, ownership, restrictions, parking, trailheads, trail conditions, and potential hazards, including ticks and poison ivy. An online map of trails and conservation properties could help residents locate and safely access these spaces.

The plan also recommends using digital resources and social media to educate residents about open space preservation and programs such as Chapter 61. Improving the availability of online

maps and educational materials could increase public awareness of local conservation resources and encourage recreational use of the town's open spaces.

Boylston Open Space and Recreation Plan (2006)

The 2006 Open Space and Recreation Plan recognizes the importance of using a variety of communication methods to reach residents. It recommends exploring different media platforms to distribute information and engage the community. This recommendation highlights the value of using multiple communication channels to accommodate residents with different information needs and communication preferences.

Boylston Rapid Recovery Plan (2021)

The Boylston Rapid Recovery Plan identifies digital marketing and online communication as important tools to support the town's economic recovery following the COVID-19 pandemic. Recommendations include developing an online events calendar, coordinating regional advertising efforts, and promoting local businesses, particularly along the Route 140 business corridor.

The plan also identifies opportunities to improve online municipal services, including exploring the expansion of digital permitting to additional departments, such as Planning and Conservation. Maintaining digitized historical records is another identified priority. These strategies emphasize the role of digital tools in improving access to municipal information, supporting local businesses, and promoting community activities.

Berlin Prior Planning and Existing Initiatives

Compared with Boylston, the available prior planning documents reviewed for Berlin contained fewer references to digital access and inclusion. However, existing municipal communication practices and library programming demonstrate efforts to provide residents with access to information and technology-related support.

Berlin offers residents opportunities to access municipal information through online platforms. Finance Committee meetings are streamed through Zoom and made available on YouTube, allowing residents to follow local government discussions remotely. This approach supports public access to municipal meetings for residents who cannot attend in person.

Town communications have also addressed online safety and fraud prevention. Berlin's newsletter has included information about online scams, fraudulent tactics, and warning signs residents should recognize. One notice specifically addressed QR code scams, cautioning residents against scanning suspicious codes associated with unexpected packages. These communications highlight the importance of digital safety awareness and help residents recognize potential online threats.

The Berlin Public Library has also offered programming to support residents' technology knowledge and skills. In 2025, the library hosted drop-in technology help for adults seeking assistance with personal devices, providing an opportunity to ask questions and get support. Additional programming included a Computer-Free Coding Club for elementary school students to introduce

computer programming concepts and an Artificial Intelligence Awareness and Discussion event for beginners, skeptics, and others interested in learning about AI.

These existing efforts provide a foundation for future digital inclusion initiatives in Berlin. Municipal communications, library programming, and access to online public meetings offer opportunities to build on existing resources and further support residents' digital skills, technology access, and online safety.

Existing Conditions and Community Profiles

Demographics

Population

The towns of Berlin and Boylston are both rural communities, each with a population of less than 10,000 and a population density of fewer than 500 people per square mile. According to 2024 ACS estimates, Berlin has a population of 3,378 and Boylston has a population of 4,948.[1]

Income and Poverty

Overall, median household income has increased in both towns over the last decade. The median household income is approximately $140,962 in Boylston, and approximately $121,336 in Berlin, both of which are higher than the median household income in Massachusetts ($103,960) and significantly higher than the median household income in Worcester County ($95,939).[2] The cost of housing and utilities in Central Massachusetts and the state has also increased significantly during the same period.[3]

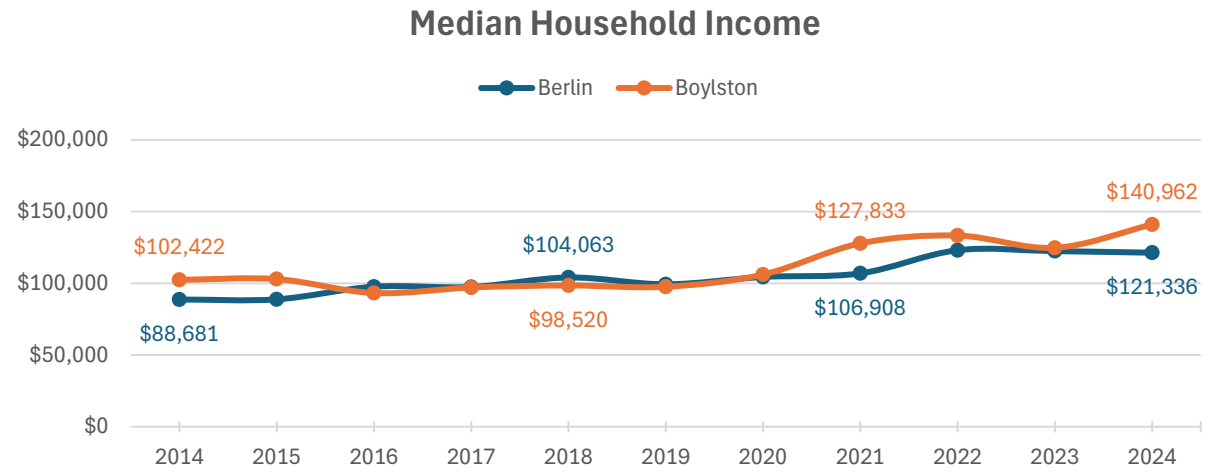


Figure 1: Median Household Income (2014-2024). Source: ACS 5-Year Estimates (Table S1901)

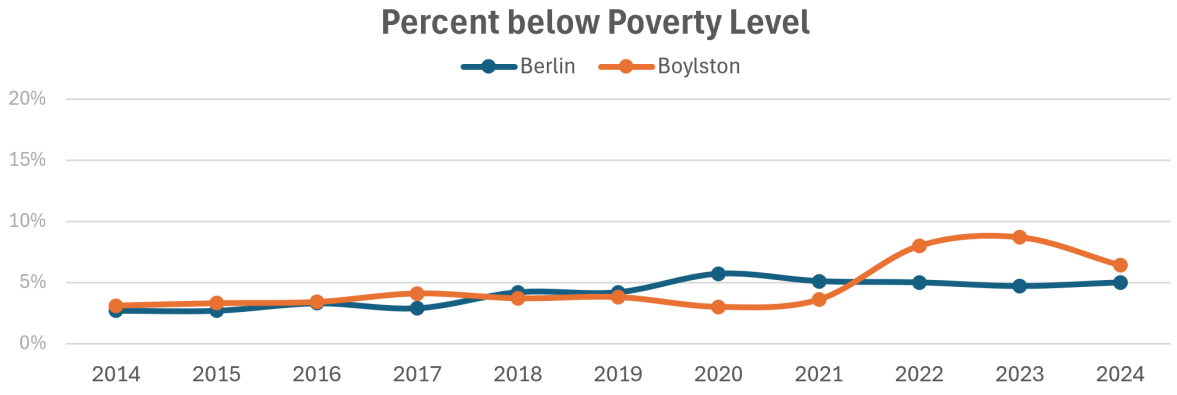


Figure 2: Percent below poverty level (2014-2024). Source: ACS 5-Year Estimates (Table S101)

According to 2024 ACS estimates, the poverty rate is approximately 5% in Berlin and 6.4% in Boylston. Compared with Massachusetts and Worcester County (10% and 10.3%, respectively), the percentage of residents living below the poverty line is lower, though it has increased overall in both towns over the last 10 years (Figure 2). In Boylston, the population for whom poverty status is determined is distributed across age groups (Figure 3). The age cohort with the highest percentage of the population living in poverty is children aged 5-17 years old. In Berlin, according to ACS estimates, no children are living below the poverty line, though about 7.5% of older adults aged 65 and older are. Low-income households may have greater difficulty affording internet service and/or digital devices.

Population for whom poverty status is determined	Berlin	Boylston
Under 18 years	0.0%	8.3%
Under 5 years	0.0%	0.0%*
5 to 17 years	0.0%	13.2%
18 to 64 years	4.9%	5.8%
18 to 34 years	6.5%	6.3%
35 to 64 years	4.2%	5.6%
60 years and over	7.1%	5.4%
65 years and over	7.5%	6.7%

*Figure 3: Population for whom poverty status is determined, by age. *Margin of Error +/- 12%. Source:* ACS 5-Year Estimates (Table S1701*)*

Household Characteristics

In both towns, more than three-quarters of households are owner occupied (77% in Berlin, 79% in Boylston). The remaining occupied units are home to renters, 23% of housing units in Berlin and 21% of housing units in Boylston.[4] Among owner-occupied units in Berlin, nearly one-third (31%) of households are cost-burdened, with housing costs exceeding 30% of household income. In Boylston, about one-fifth (19%) are cost-burdened.[5] Both towns have relatively fewer rental units—329 in Berlin and 409 in Boylston. According to ACS estimates, housing cost burden disproportionately impacts renters. About half (53%) of renters in Berlin and about one-third (32%) of renters in Boylston are considered cost-burdened (Figure 4).

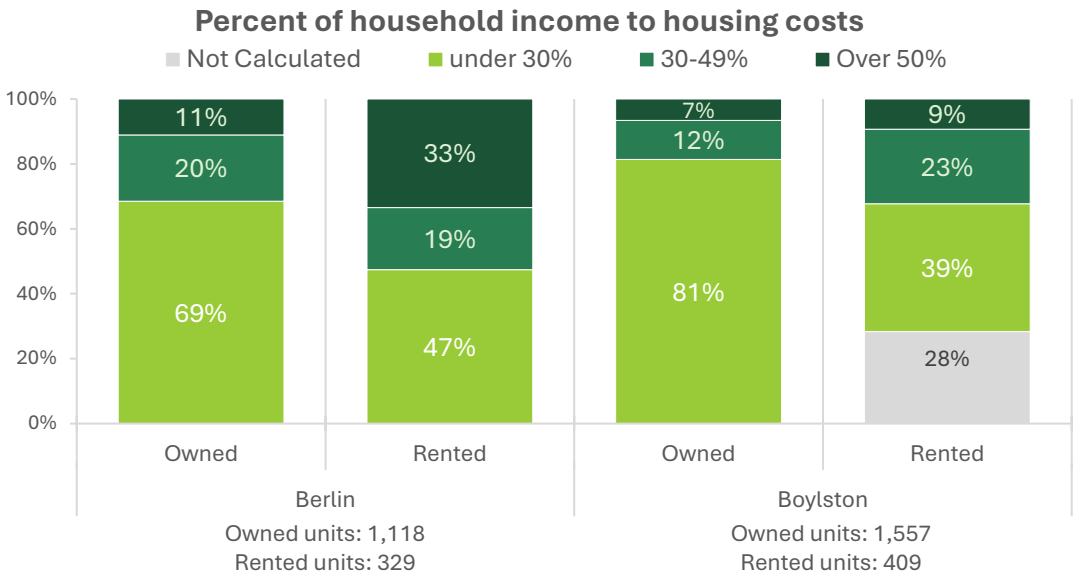


Figure 4: Housing Cost Burden, 2024. Estimates are rounded to the nearest percent. Source: ACS 5-Year Estimates (Table B25140)

The towns differ slightly by household composition. Berlin has a higher percentage of householders living alone and fewer households with children. Boylston has more households with children and a lower percentage of householders living alone. Both towns have a significant population of older adults.

Households by Type	Berlin, percent	Boylston, percent
Households with one or more people under 18 years	16%	27%
Households with one or more people 60 years and over	57%	51%
Households with one or more people 65 years and over	52%	38%
Householder living alone	28%	22%
Householder living alone, 65 years and over	17%	10%

Figure 5: Household Characteristics and Occupied Units, Housing Tenure, 2024. Source: ACS 5-Year Estimates (Table S1101)

Age Distribution

The median age is 49.7 in Berlin and 48.2 in Boylston, both higher than nearly all surrounding communities (Figure 6). Berlin's population distribution by age is relatively balanced, with a slight skew toward older age groups. Boylston's population is primarily comprised of middle-aged adults, with a growing cohort of older adults and a larger proportion of young children in comparison to Berlin. Approximately 16% of households in Berlin have one or more children under 18, and approximately 27% of households in Boylston have one or more children under 18. More than half of households in Berlin (57%) and Boylston (51%) have at least one person age 60 or older. Various age cohorts may have varying degrees of comfort using digital devices and different needs regarding digital use and internet access.

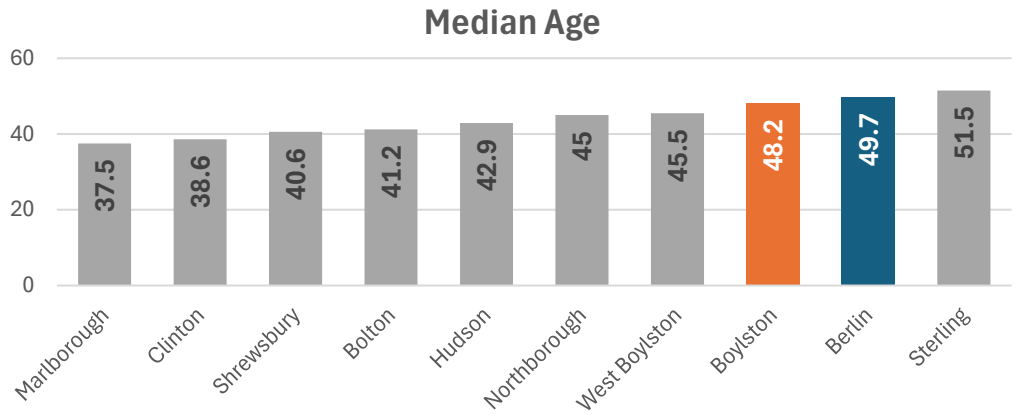


Figure 6: Median age comparison. Source: 2024 ACS 5-Year Estimates (Table S0101)

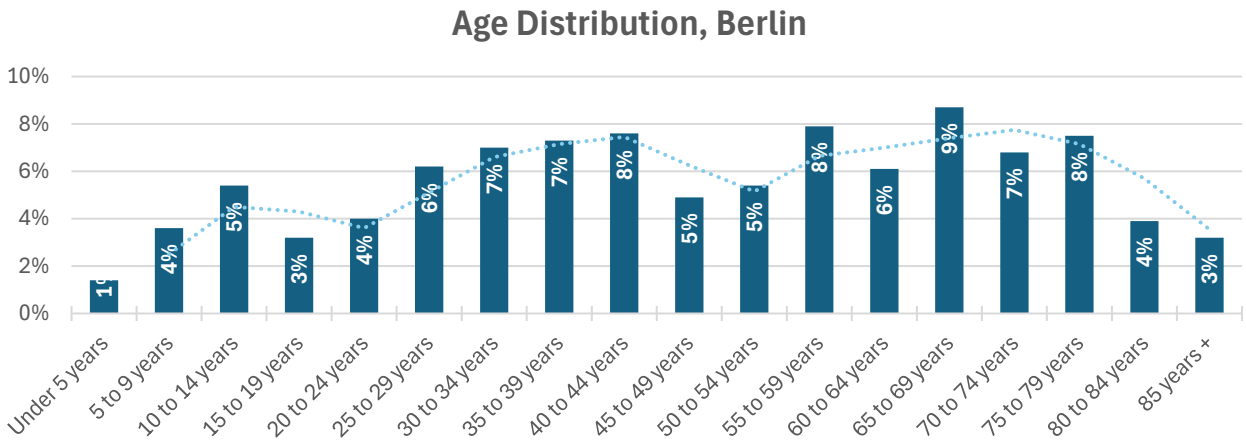


Figure 7: Age Distribution, Berlin. Source: 2024 ACS 5-Year Estimates (Table DP05)

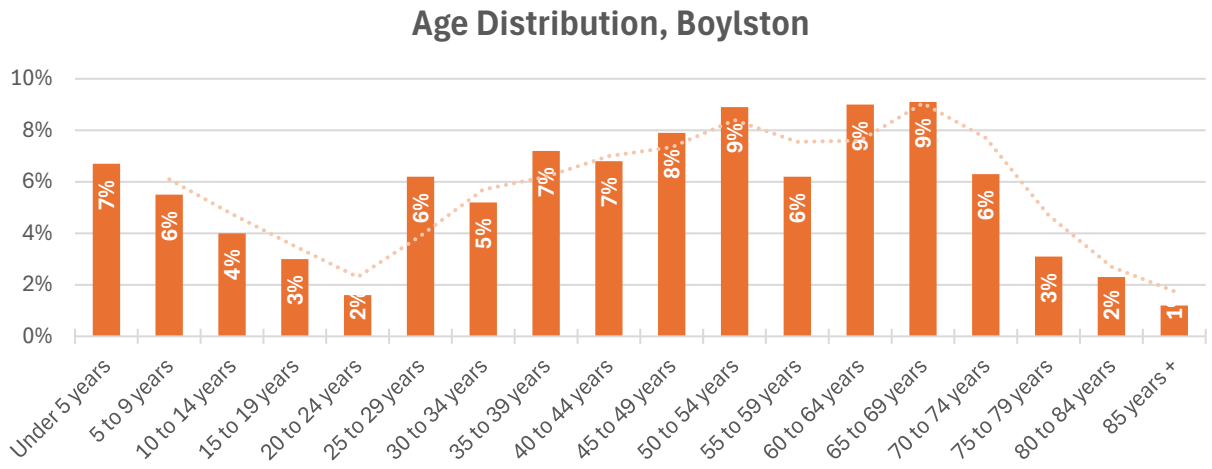


Figure 8: Age Distribution, Boylston. Source: 2024 ACS 5-Year Estimates (Table DP05)

Older Adults

Approximately 31% of Berlin's population and approximately 22% of Boylston's population are age 65 and older. An additional 14-15% in each town are 55 to 64 years old. More than half of households in both towns have one or more people aged 60 and over, indicating a significant share of older adults in both towns. In Berlin, approximately 17% of people living alone are 65 years or older. In Boylston, approximately 10% of households are senior householders living alone. Older adults typically have lower levels of access to and comfort using technology and may have concerns about trusting information online. Despite these challenges, older adults often rely on the internet and digital devices for telehealth appointments, communication and information, social connection, civic engagement, entertainment, and more.

Language Spoken at Home

According to 2024 ACS 5-year estimates, approximately 90% of the population in both towns speaks only English, whereas 10% can speak a language other than English. Languages spoken at home include English, Spanish (1.4% in Berlin, 2.1% in Boylston), other Indo-European languages (8% in Berlin, 4.7% in Boylston), and Asian and Pacific Island languages (1.1% in Berlin, 1.9% in Boylston).[6] Of those 18 years and over who speak a language other than English, almost all (97% in Berlin, 99% in Boylston) speak English "very well." Few speak English less than "very well" (i.e., "well," "not well," or "not at all") —about 2.8% in Berlin and 1.2% in Boylston. Among students of the Berlin-Boylston School District, approximately 15% speak a language other than English as their first language, and approximately 3.5% are English Language Learners.[7]

Race and Ethnicity

The towns have similar racial demographics. In both towns, just under 90% of the population identifies as white alone (approximately 89% in Berlin and 87% in Boylston). In Berlin, 5% of the town identifies as two or more races, 4% as Hispanic or Latino, 1% as Asian, and less than 1% as Black or African American, some other Race, or Native Hawaiian and other Pacific Islander. According to 2024 ACS estimates, in Boylston, 5% of the town identifies as Asian, 3% as two or more races, 3% as Hispanic or Latino, 1% as some other race, and less than 1% as Black or African American, and American Indian and Alaska Native. In comparison, Boylston has a larger proportion of Asian residents, while Berlin has a slightly larger proportion of multiracial and Hispanic/Latino residents. National studies have found significant gaps in broadband access for Black and Hispanic or Latino households in comparison to white households.[8]

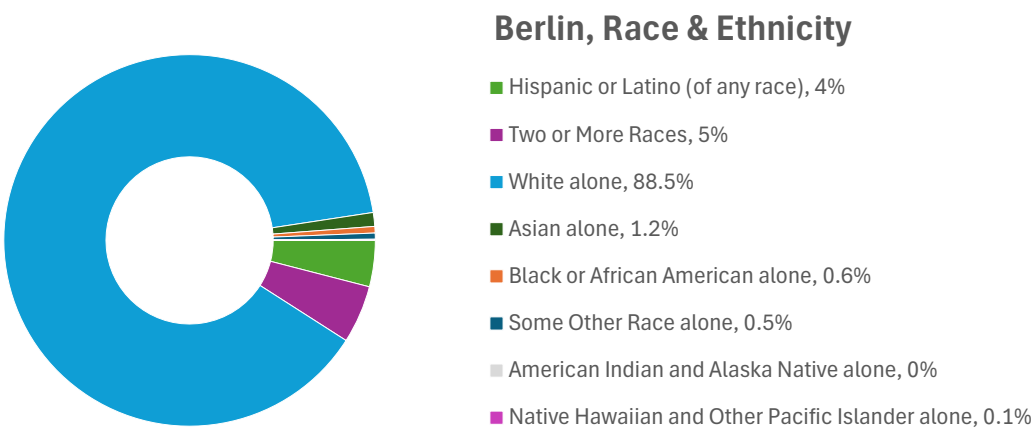


Figure 9: Race and Ethnicity, Berlin. Source: 2024 ACS 5-Year Estimates (Table DP05)

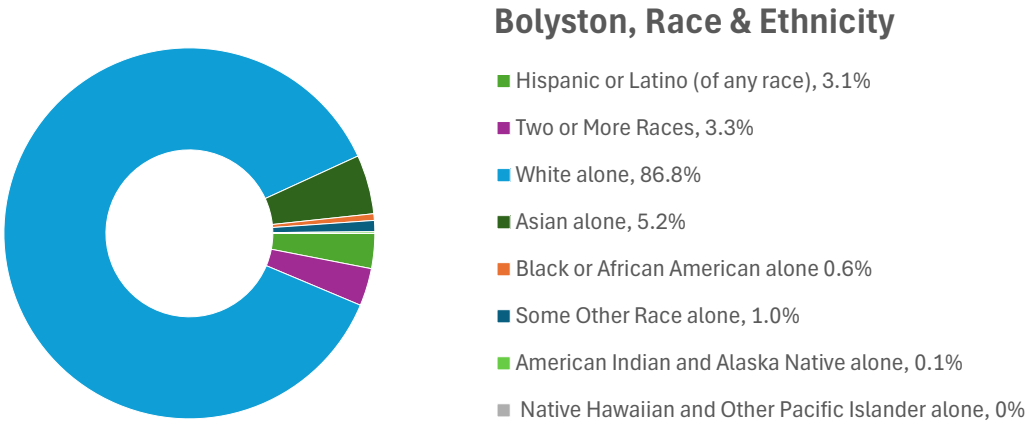


Figure 10: Race and Ethnicity, Boylston. Source: 2024 ACS 5-Year Estimates (Table DP05)

Connection

As reported in the 2023 ACS 5-year estimates, most households in Berlin and Boylston have internet subscriptions. Boylston reports slightly higher overall internet access, with 99% of households having an internet subscription, compared to 90% of households in Berlin. Cellular data plans are common, particularly in Boylston, with 92% of households reporting having a plan, compared to 76% in Berlin (Figure 11). Broadband services such as cable, fiber optic, or DSL are common in both communities as well, roughly 87% of households in Boylston and 80% in Berlin. A slim share of households in each community relies exclusively on cellular data plans at 9% in both communities, while very few households in either community report dial-up or satellite internet service.

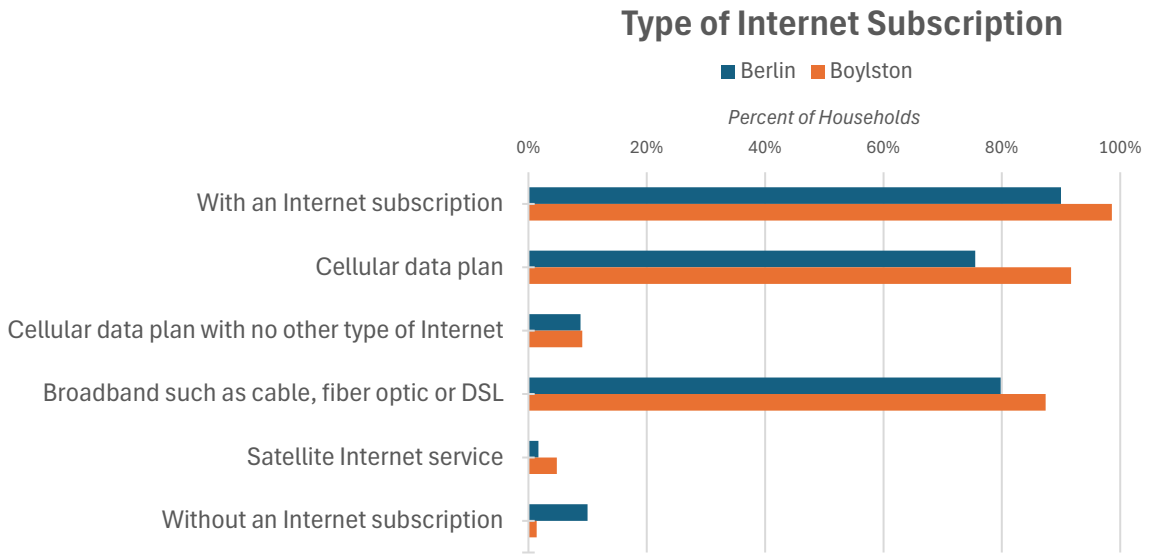


Figure 11: Types of Internet Subscriptions. Source: 2024 ACS 5-Year Estimates (Table S2801)

Lower-income households tend to be less connected than high-income households, and internet connectivity varies by income level in both communities. Households earning less than $20,000 annually report the lowest levels of broadband access, particularly in Berlin, where 51% of these households have a broadband internet subscription and 49% have no internet subscription. In Boylston, lower-income households are more connected overall, with 78% reporting broadband subscriptions and 22% lacking an internet subscription. Among households earning between $20,000 and $74,999, broadband access is nearly universal for both communities, although 4% of households in Berlin at this income level still report having no internet subscription. Households earning $75,000 or more show the highest levels of connectivity, with 93% of these households in Berlin and 99% in Boylston reporting broadband internet subscriptions.

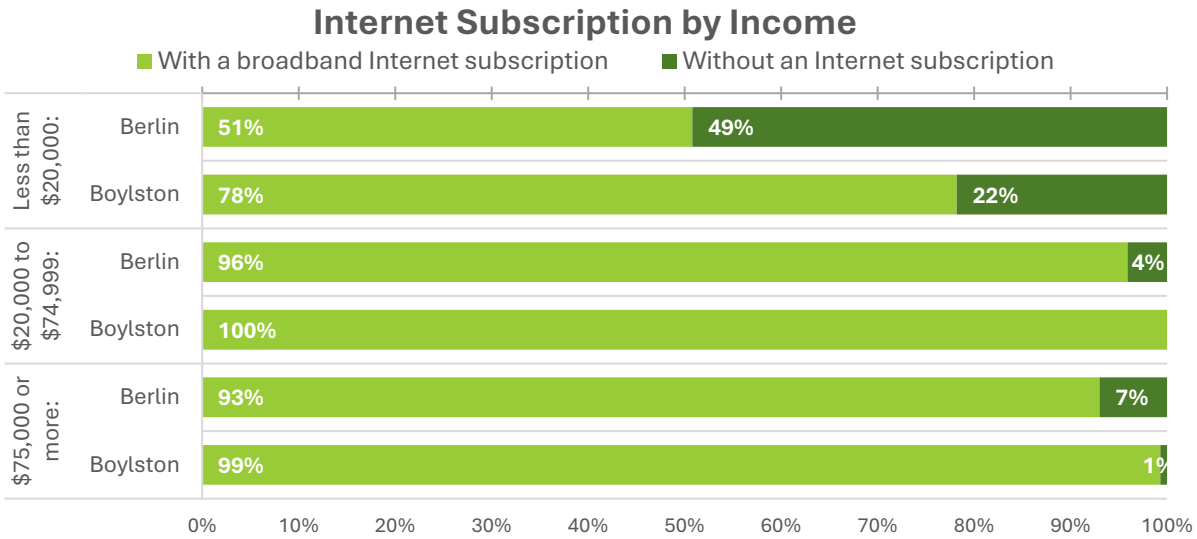


Figure 12: Internet Subscription by Household Income.
Source: 2024 ACS 5-Year Estimates (Table S2801)

Maintaining connection in a digitally dependent society is essential not only for civic engagement, work, and social interaction, but also for ensuring reliable communication during extreme weather events and supporting emergency response services. The digital divide's impact on emergency planning is largely overlooked and underestimated, as noted in *Climate Resilience Requires Digital Justice*, "limited internet access is silently undermining disaster resilience and deepening environmental injustice."[9] Communities tackling limitations in broadband and digital literacy are vulnerable to missing weather alerts, failing to register for emergency evacuation measures, missing key information regarding disaster aid, and possibly missing out on resources that can be a matter of life or death in severe weather scenarios. When broadband is not treated as an essential service, the climate resiliency gap worsens.

In East Boston and Chelsea, Massachusetts, GreenRoots is an organization working to address the environmental disparities that can negatively impact working-class and racially and ethnically diverse communities. In March 2020, two days prior to the pandemic shutdown in the Commonwealth, GreenRoots and fifteen stakeholders coordinated emergency response services among the community, nonprofits, and governmental partners. This effort became known as the Chelsea Pandemic Response Team. According to the article *Pandemic Response and Mutual Aid as Climate Resilience: Learning from Community Responses in the Boston Area,* "...resilience is rooted in social capacities to work together, mobilize resources, and take care of one another. Climate is not a separate issue siloed from other ones; it is part of an intersectional set of issues."[10] As we take on the digital inclusion process in the Central Massachusetts region, many towns characterized as semi-rural/rural, such as Berlin and Boylston, bring awareness to the dangers of spotty cellular coverage, as this can contribute to obstacles when inclement weather occurs. Community awareness and engagement are fundamental to successful preparedness strategies, especially in rural areas.

Coalitions are emphasized as being an invaluable tool to promote community engagement and cooperation, allowing for risk assessments, planning exercises, and the creation of comprehensive planning documents that can propose expected outcomes from successful collaborative efforts in the event of a weather disaster. Although these efforts are vital, communication tactics are the key component. The national Rural Health Association raises the point that "sharing a message, coordinating a response, and ultimately saving lives requires the use of mediums such as telephone and broadband, especially in rural communities."[11]

Device Access

Access to a computing device is necessary for utilizing the internet. An estimated 12% of Berlin households and 3% of Boylston households have no computer at home. According to ACS estimates, 88% of Berlin households and 97% of Boylston households have at least one computing device (including a desktop or laptop, smartphone, tablet, or other computer). 12% of Berlin households have no computer and 3% of households in Boylston have no computer.

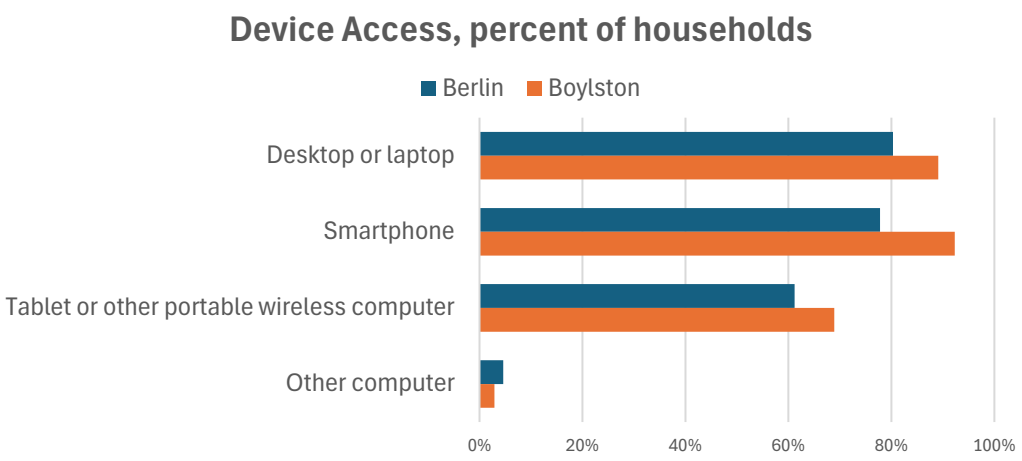


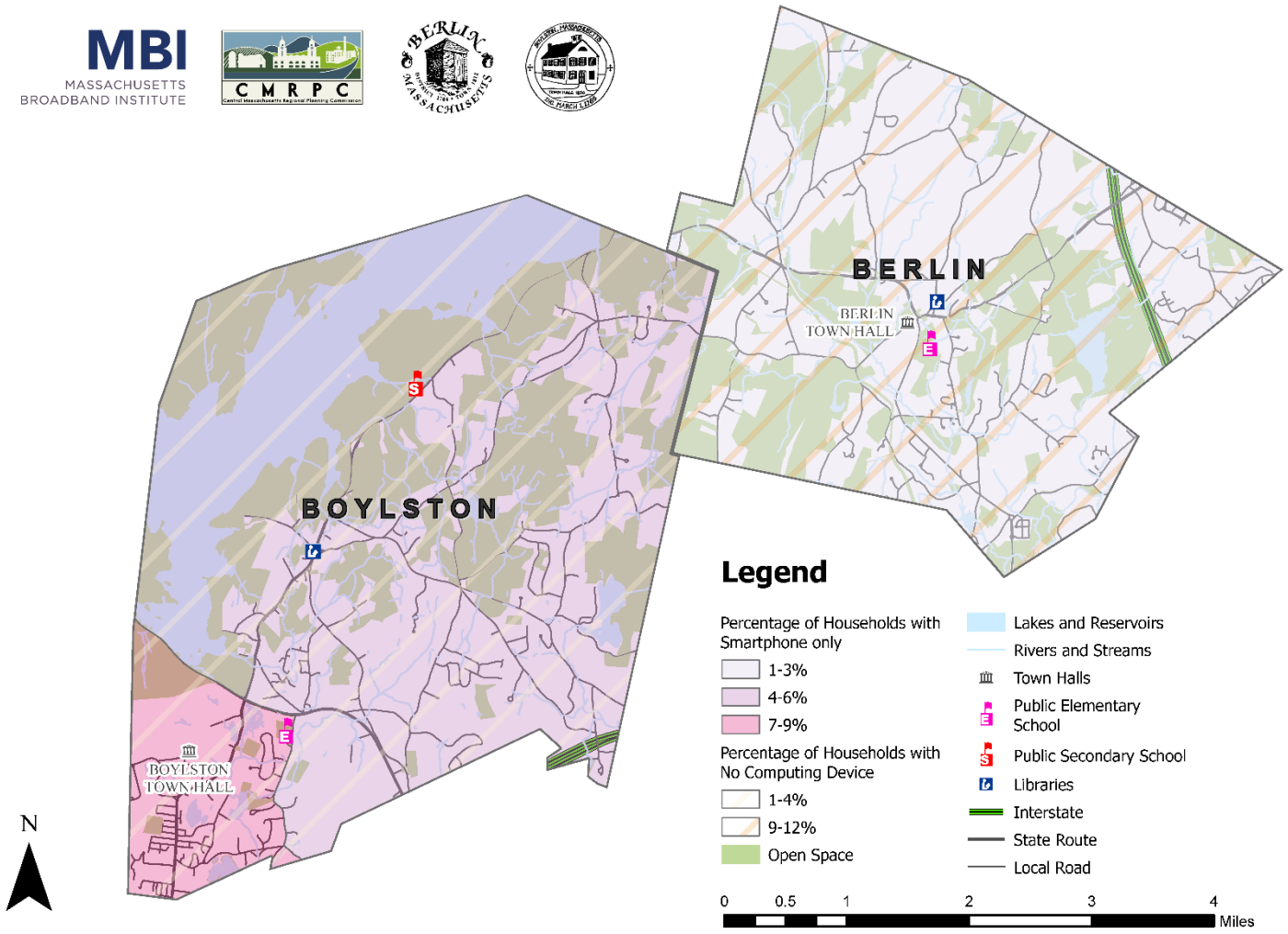
Figure 13: Device Access. Source: 2024 ACS 5-Year Estimates (Table S2801)

ACS Census data estimates on digital access by age suggests that in Berlin, the majority of residents are 65 years and over, and in Boylston all of those with no computer are 65 years old and over. In Berlin, 78% of households use a smartphone, and 3% have a smartphone only with no other type of computing device. In Boylston, 92% of households use a smartphone, and 7% have a smartphone only with no other type of computing device. Although smartphones provide the capacity to get online, there are still limitations to the capacity of a smartphone, versus accessing the internet via a desktop or laptop with broadband connections. Smartphones pose constraints with data caps and compatibility issues for applications and websites for learning and working.

Computer Access by Age	**Berlin** *(estimate)*	**Boylston** *(estimate)*
Under 18 years:	453	892
Has a computer:	328	892
With a broadband Internet subscription	309	892
Without an Internet subscription	19	0
No computer	125	0
18 to 64 years:	1902	2954
Has a computer:	1771	2954
With a broadband Internet subscription	1685	2954
Without an Internet subscription	86	0
No computer	131	0
65 years and over:	1017	1084
Has a computer:	809	1012
With a broadband Internet subscription	775	1003
Without an Internet subscription	34	9
No computer	208	72

Figure 14: Computer Access by Age. Source: ACS 5-Year 2023 (Table S28005)

Berlin and Boylston: Percentage of Households with No Computing Device by Census Block Group



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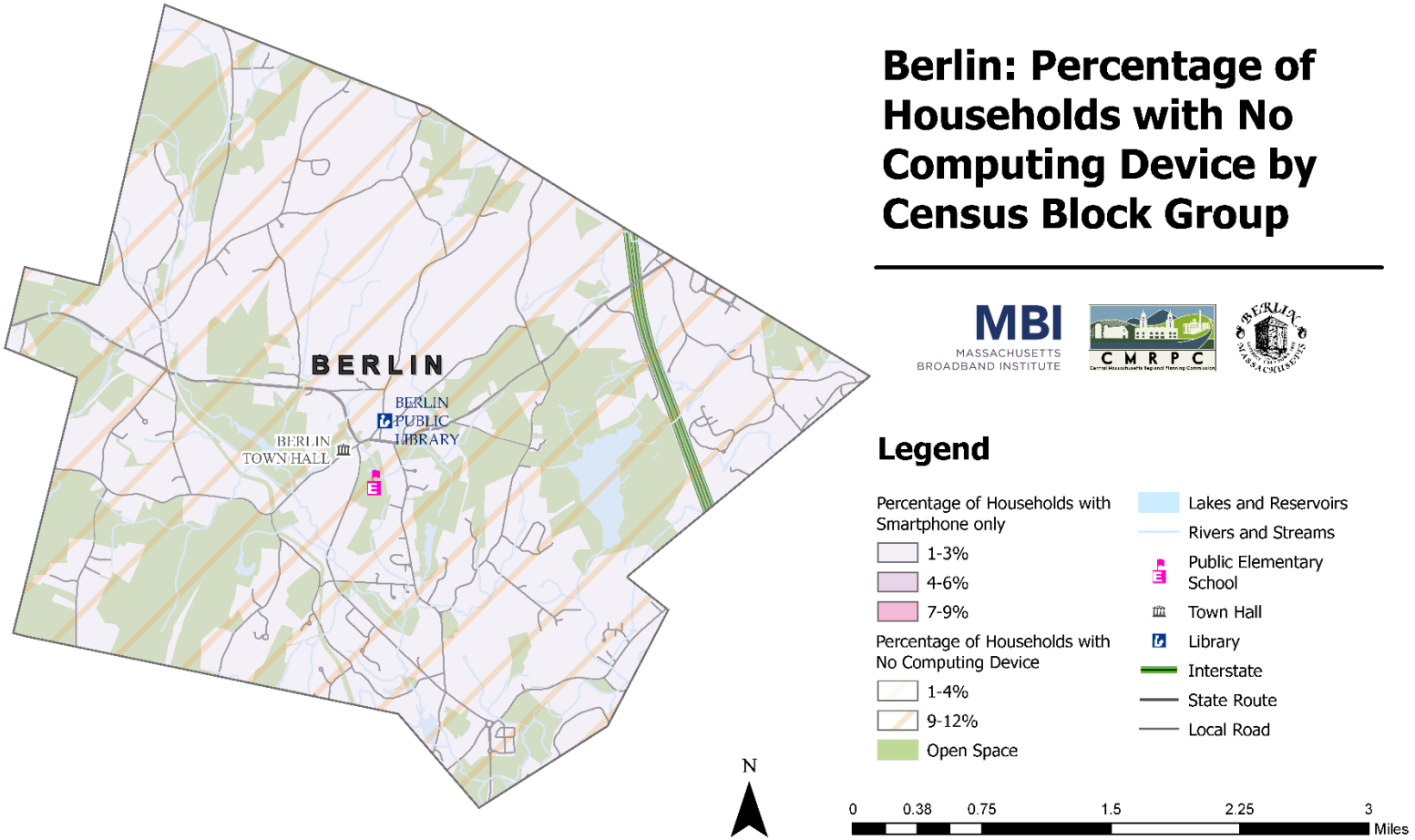
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Percentage of Households with Smartphone only
1-3%
4-6%
7-9%
Percentage of Households with No Computing Device
1-4%
9-12%
Open Space
Lakes and Reservoirs
Rivers and Streams
Public Elementary School
Town Hall
Library
Interstate
State Route
Local Road
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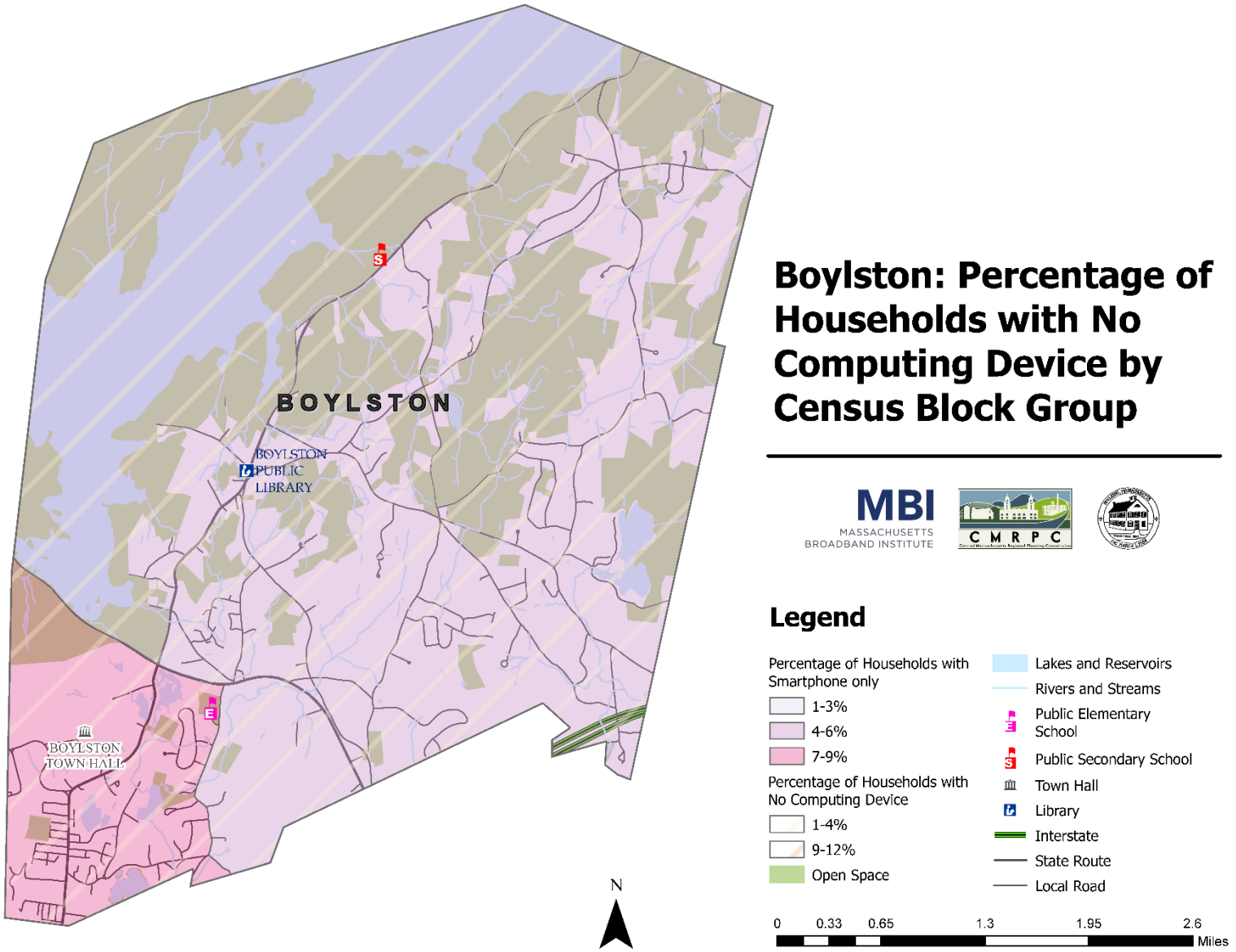
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Public Secondary School
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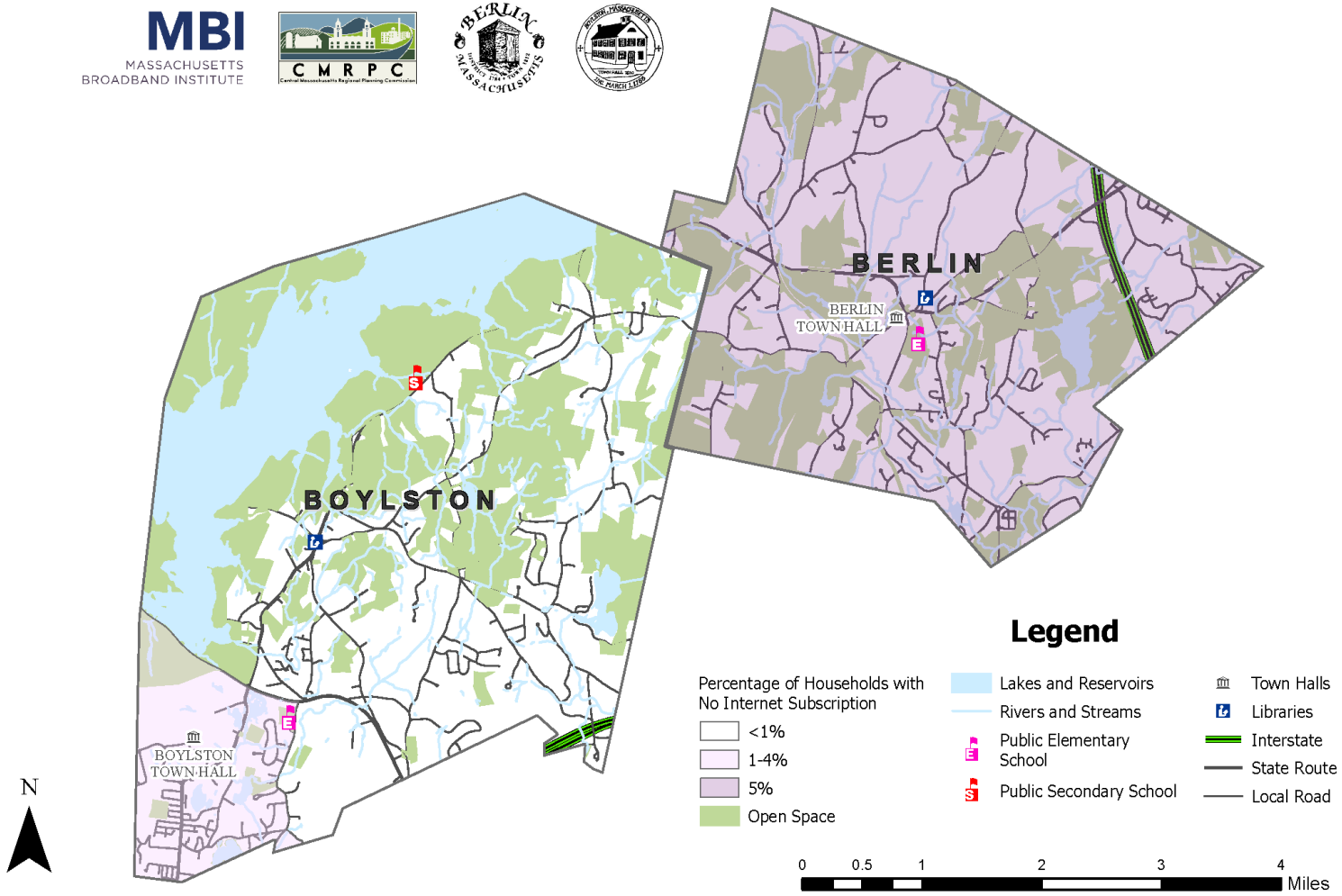
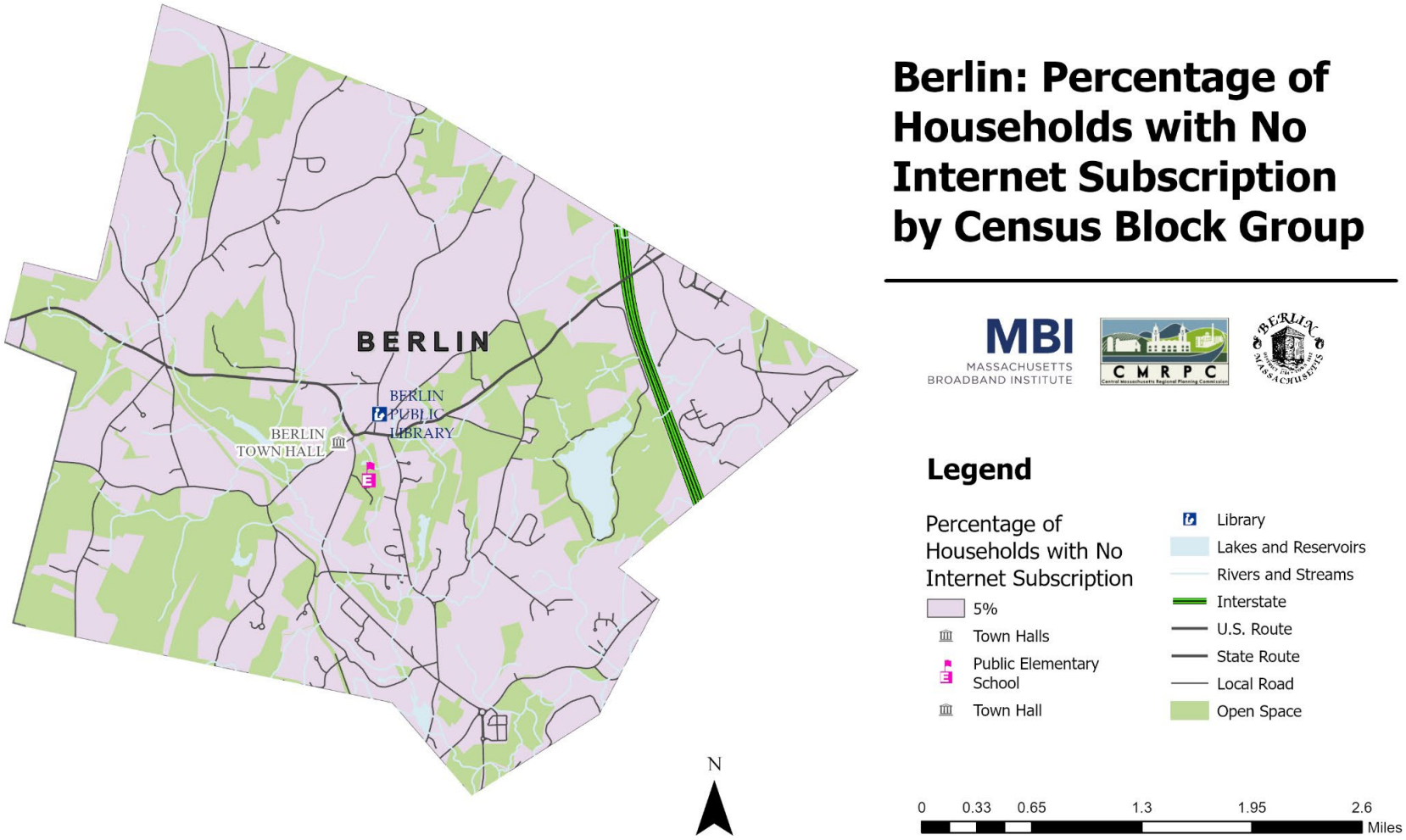
Berlin and Boylston: Percentage of Households with No Internet Subscription by Census Block Group

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Percentage of Households with No Internet Subscription
5%
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Public Elementary School
Town Hall
Library
Lakes and Reservoirs
Rivers and Streams
Interstate
U.S. Route
State Route
Local Road
Open Space
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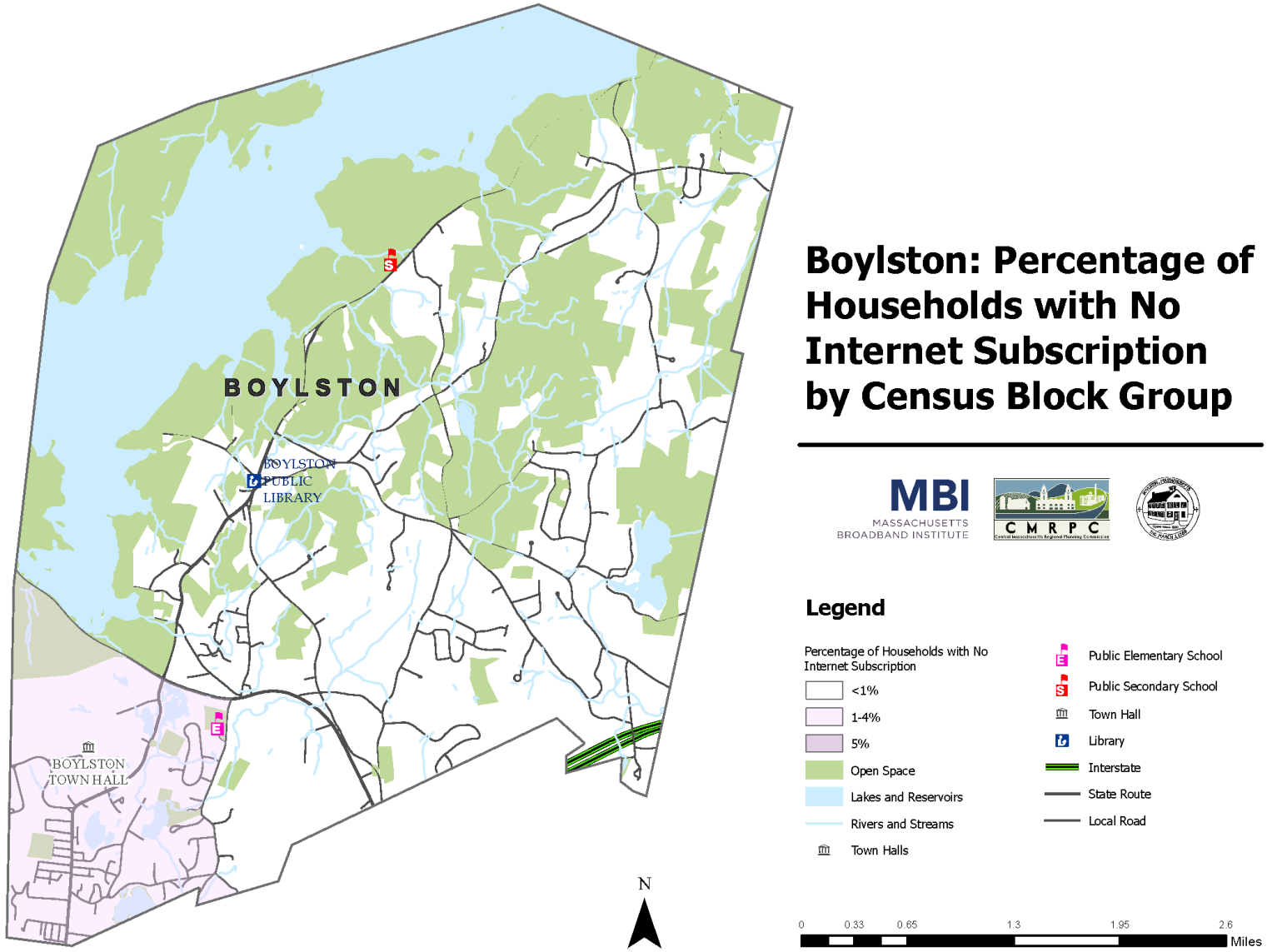
Miles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Percentage of Households with No Internet Subscription
<1%
1-4%
5%
Open Space
Lakes and Reservoirs
Rivers and Streams
Town Halls
Public Elementary School
Public Secondary School
Town Hall
Library
Interstate
State Route
Local Road
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Miles

Digital Skills and Literacy

An individual's ability to access and use digital technology can positively or negatively impact their opportunities to access employment, civic engagement opportunities, and their ability to participate socially. Following the outbreak of the COVID-19 pandemic, businesses, schools, and establishments were tasked with quickly seeking new opportunities to stay connected. This reactiveness highlighted the digital divide, causing a global and country-wide shift to adapt to new routines born out of social distancing. This major shift included a dependence on devices and internet access to continue participation. Discussed in *Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice*,[12] the lockdown spurred massive changes, with meetings becoming completely virtual, office work shifting to homes, and new patterns of internet usage emerging. The article noted,

> *"The changes have also come suddenly, with barely any time for organizations and people to plan for, prepare and implement new setups and arrangements; they have had to adjust, try, experiment, and find ways that did not exist before."*

Some individuals were equipped to take on this change, while others were left out. A combination of unaffordable devices, pricey internet subscriptions, and a lack of technological knowledge became apparent for many populations, emphasizing disparities in online participation as the reactiveness was swift.

Closing the Digital Skill Divide[13] provided a glimpse into the demand for digital skills in the U.S. labor market. The National Skills Coalition (NSC) and the Federal Reserve Bank of Atlanta released the article together, alongside capturing data from an online poll conducted in March 2024. Through their analysis, they found that "92% of jobs in the U.S. definitely require or likely require digital skills." Their analysis also finds that one-third of laborers in the U.S. do not have the foundational skills to engage and succeed in the current job market. Additionally, the report recognizes that this lack of digital inclusion disproportionately affects low-income populations and rural residents.

Berlin and Boylston currently lack data on their existing digital landscape as it relates to literacy and skills. However, the Pew Research Center published a study in 2021 titled *The Internet and the Pandemic*,[14] found that 26% of adults needed assistance while setting up a new device, as well as being shown how to use the technology. About 10% of American adults reported having little to no confidence in using digital devices to complete online tasks.

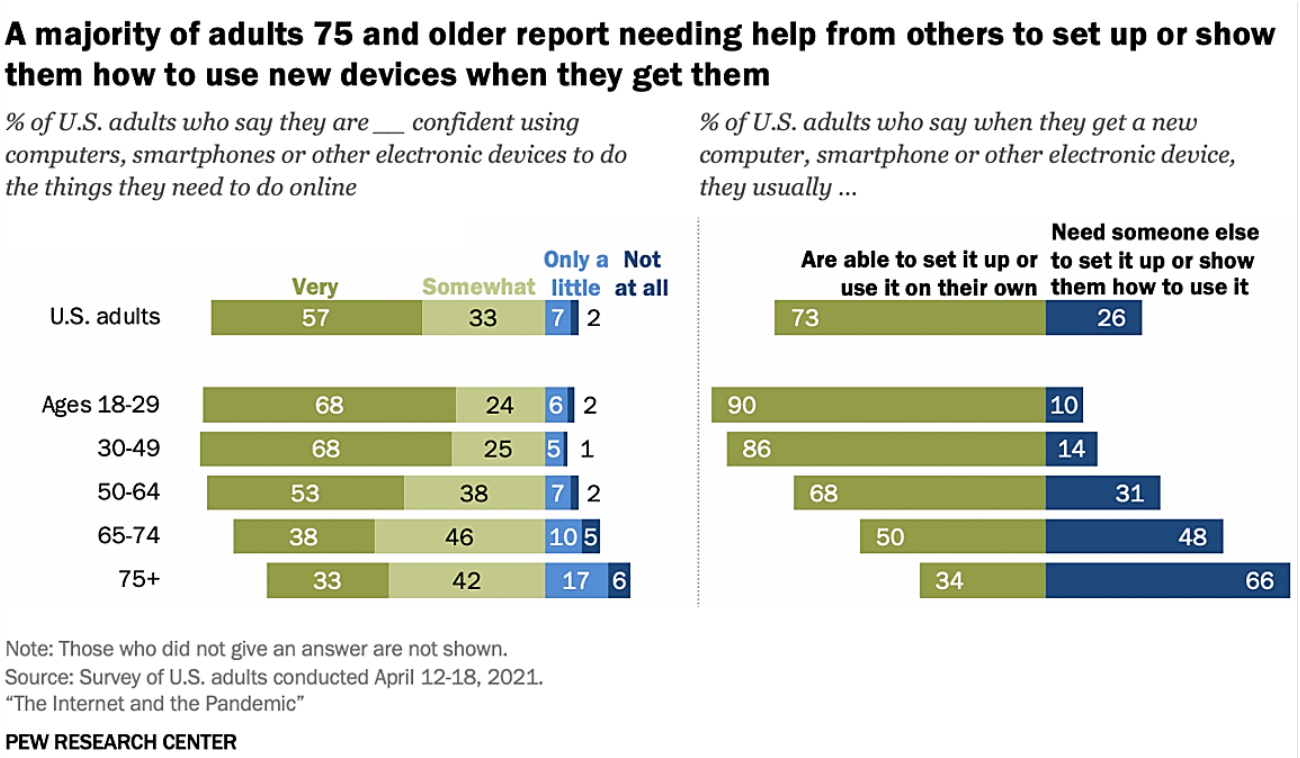

Figure 15: The Internet and the Pandemic, Digital Literacy in Older Adults.
Source: Pew Research Center

Aging populations also tend to have a harder time setting up and using devices. As described in the demographics section, both towns have a significant population of older adults. Data from the Pew Research Center (Figures 15 & 16) indicates that adults 65 and older are less confident setting up and using a computer or device independently than other age cohorts. Adults 75 and older may be at the forefront of exclusion and marginalization in digital preparedness.

"Lower tech readiness" is characterized as individuals who are only a little confident, or not at all confident in using their digital devices to partake in online tasks or require assistance in using a new device. *The Internet and the Pandemic* noted that 30% of U.S. adults are characterized this way.

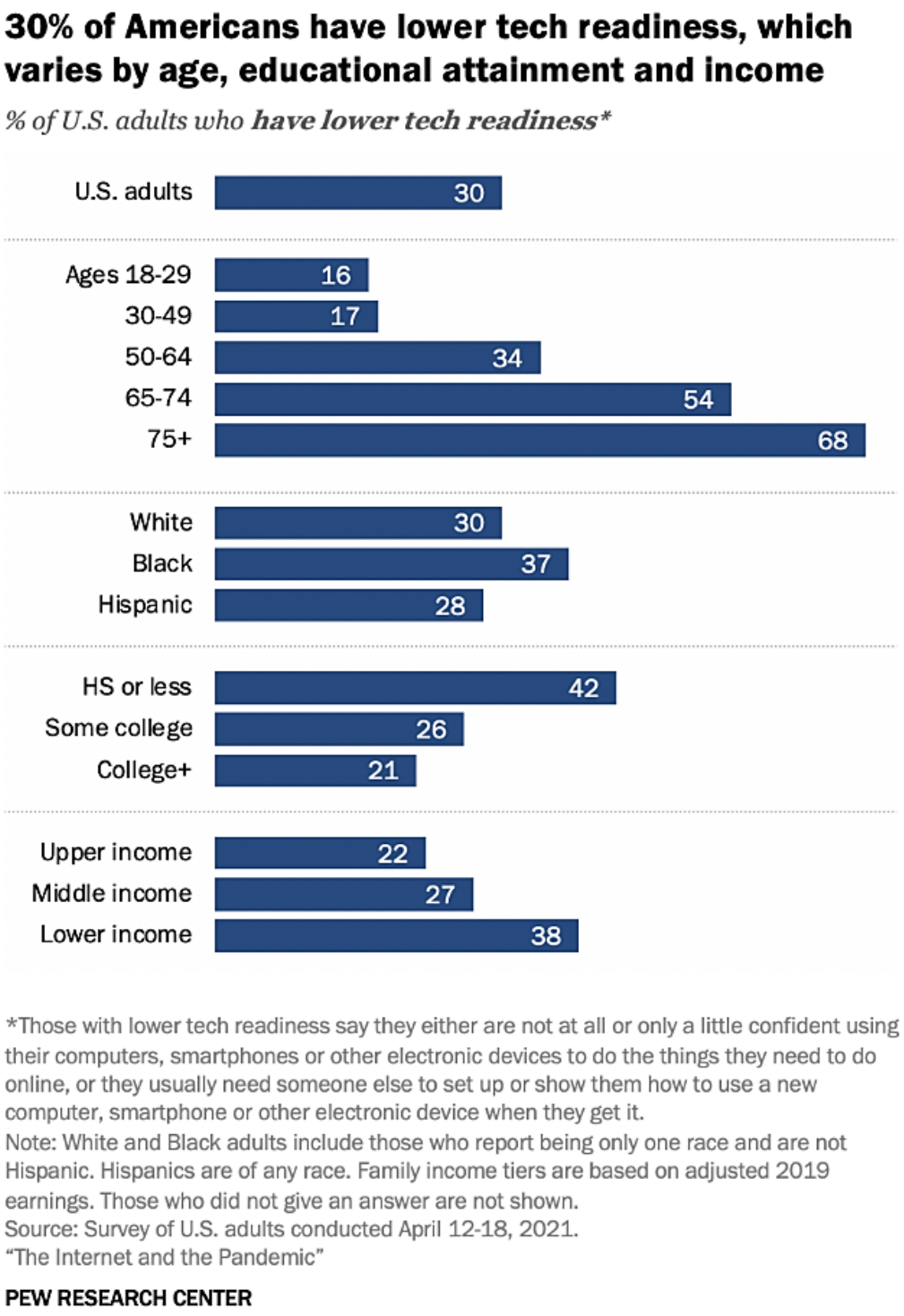

Figure 16: Lower Tech Readiness by Age, Educational Attainment, and Income.
Source: Pew Research Center

The current onset of Artificial Intelligence (AI) also plays a part in digital literacy and skills development. AI has experienced an expansion of use and has become increasingly common for people to use in the workplace, daily home life, classrooms, and community settings. As we

discuss how digital literacy has come to coalesce virtually all parts of our daily lives, AI literacy plays a major role.

AI has rapidly become a sought-after skill set in today's job market, with recruiters prioritizing AI proficiency and employers exploring new ways to integrate the technology into the workplace. Microsoft and LinkedIn recently conducted a survey with more than 31,000 professionals from around the globe and found that "66 percent of leaders say they wouldn't hire someone without AI skills, and 71 percent say they'd rather hire a less experienced candidate with AI skills than a more experienced candidate without them."[15] Data currently points to AI literacy becoming an extension of the digital landscape, and people are finding themselves having to learn how to use this burgeoning skill. Jobs for the Future's *Center for Artificial Intelligence & the Future of Work* conducted a survey and found that nearly half of adults believe they need to gain new skills to prepare for the impacts of artificial intelligence—and almost one-third believe they'll need them within the next year.[16]

Young adults are often not included or introduced to conversations that pertain to their experiences in navigating the digital landscape, despite the impacts this segment of the population is constantly experiencing. Young adults tend to be sidelined or absent due to their age and perceived lack of experience/knowledge.

However, *A Youth Perspective on Navigating the Digital World* identifies young adults as a key stakeholder in these conversations.[17] The publication suggests that the youth have lived experience that can serve as a tool when it comes to these discussions regarding the creation of online spaces that are safe and equitable.

Young adults expressed concerns regarding the potential misuse of data that can lead to compromised safety and privacy, as personal information is becoming readily available to the general public through online usage. Alongside privacy concerns, misinformation can make the digital world overwhelming, especially with AI becoming accessible. Young adults are aware of the impacts of AI-driven social media, as it can lead to content that is polarizing or one-sided, leading to division as algorithms support the one-sidedness of information.

Parents seek to ensure the safety of their children, educators hope students will participate online ethically, and companies seek to continue the expansion of the growing digital space. A key action becomes identified through these conversations: expanding on digital literacy topics. According to the article, young adults have mainly focused on vetting reliable sources and avoiding plagiarism, rather than adopting a holistic view of digital media literacy. Teens find that learning is most beneficial when linked to the current context of what they are already engaging in. Instead of creating separate courses, integrating these topics into the classroom settings that already exist would be most accessible.

Affordability

Despite widespread internet and device access in Berlin and Boylston, affordability may still pose a challenge for some residents, especially those households that earn low incomes relative to the median in each town. Householders 65 years and older fall into this category. Census median income data for ethnic and racial groups is inconclusive due to high margins of error.

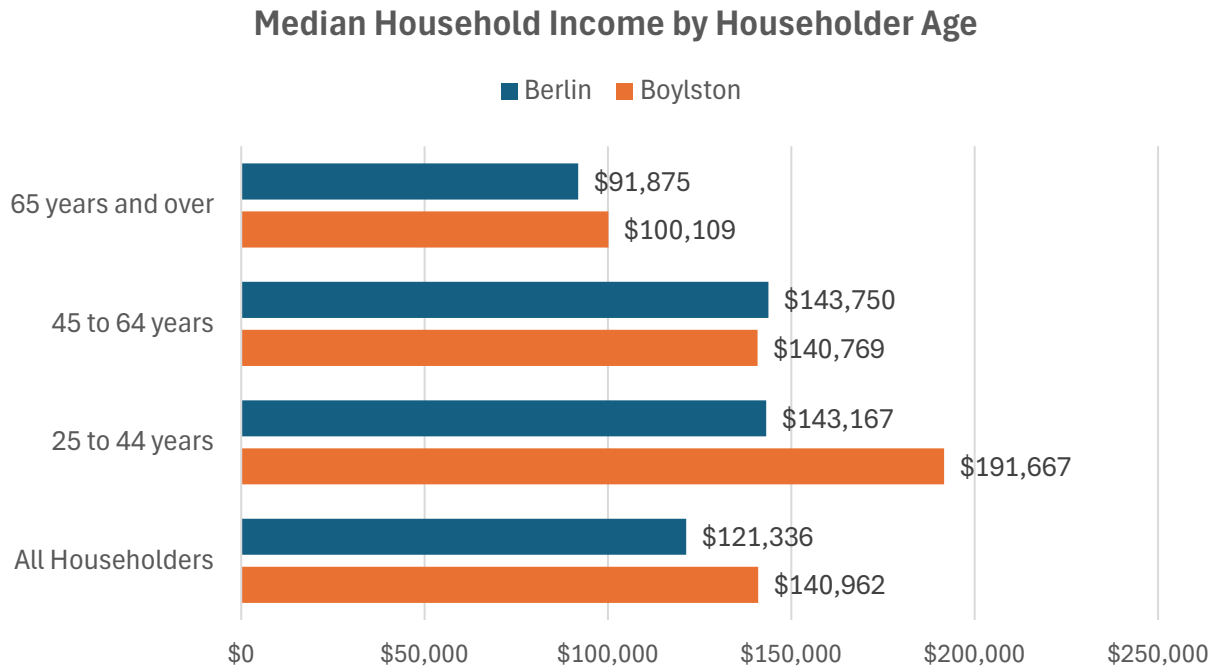

Figure 17: Median Household Income by Householder Age.
Source: 2024 ACS 5-Year Estimates (Table S1903*)*

For nearly all households, the Internet is an indispensable resource. But the lower the income a household earns, the higher the relative share of income it spends on internet costs. The following case study illustrates this point. Spectrum Internet offers internet subscription packages to most Berlin and Boylston households. Packages offered range from 114 Mbps to 1,036 Mbps in download speed, but for the average household in the US, 100 Mbps is generally sufficient for daily internet service.[18] The cost of the Spectrum Internet Advantage 114 Mbps plan is $50 per month, which totals $600 a year.

As Figure 18 demonstrates, at this price point, households that earn $10,000 annually spend six percent of their household income on home internet costs. In contrast, households that earn $200,000 per year pay only 0.3% of their income for the same plan. More than 15% of households in Berlin and approximately 9% of households in Boylston earn less than $35,000 annually. This means those residents must pay more than 1% of their household income to afford Spectrum's most basic fixed internet plan.[19]

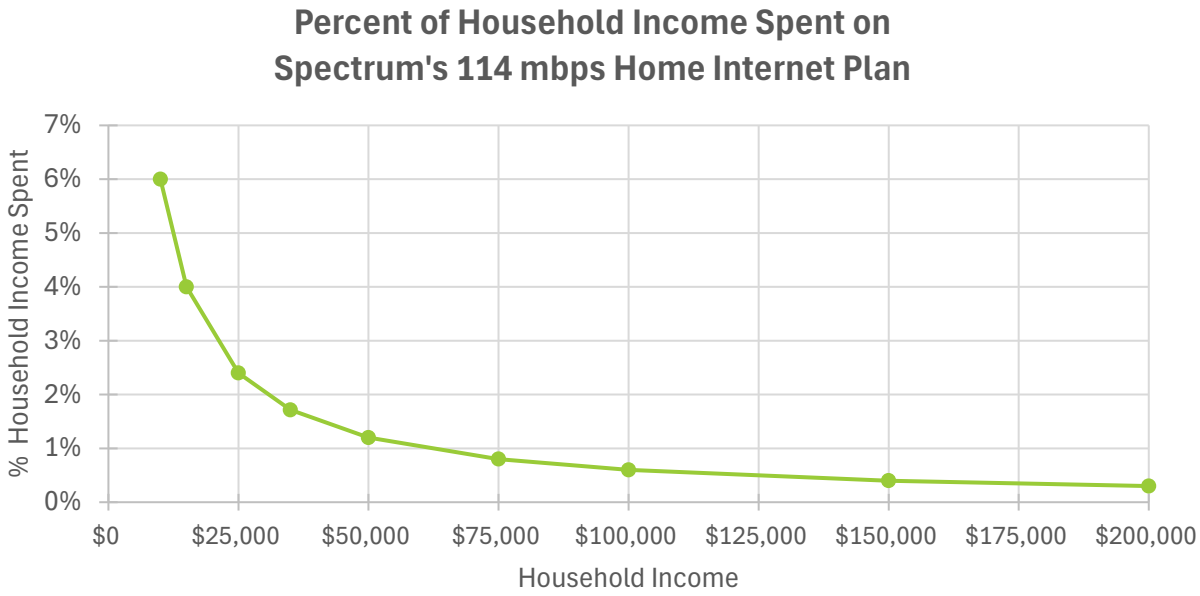

Figure 18: The Monthly Cost of the Spectrum Internet Advantage 114 MBPS Plan is $50.00 per month, which adds up to $600 a year.

Internet affordability challenges are also exacerbated by the high proportion of income that many Berlin and Boylston households already spend on housing costs. In Berlin, a total of 37% of households spend more than 30% of their household income on housing, making them "cost burdened" according to the U.S. Department of Housing and Urban Development.[20]Competition is another factor that influences the affordability of internet subscription prices. Studies suggest that competition between internet service providers (ISPs) results in lower internet prices for consumers.[21]

Figures 19 and 20 provide a look into the internet subscription options available to Berlin and Boylston residents and businesses. Because provider options may vary by location throughout the town, the chart shows internet subscription options at sample addresses in Berlin's town center and Boylston Center.

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).[22]

Home Internet Plans	Provider	Technology	Typical Download Speed (Mbps)	Price / Month	Price / Mbps
Viasat Unleashed	Viasat	Satellite	15	$99.99	$6.67
Service Plan: Lite	Hughesnet	Satellite	25	$54.99	$2.20
Viasat Essentials	Viasat	Satellite	45	$69.99	$1.56
Service Plan: Select	Hughesnet	Satellite	50	$79.99	$1.60
Service Plan: Elite	Hughesnet	Satellite	100	$94.99	$0.95
Service Plan: Fusion	Hughesnet	Satellite	100	$124.99	$1.25
Internet Advantage	Spectrum	Cable	114	$50.00	$0.44
Starlink Residential Standard	Starlink	Satellite	305	$120.00	$0.39
Fios 300 Mbps	Verizon	Fiber	310	$59.99	$0.19
Rely Home internet	T-Mobile	Fixed Wireless	415	$55.00	$0.13
Amplified Home internet	T-Mobile	Fixed Wireless	498	$65.00	$0.13
All-in Home internet	T-Mobile	Fixed Wireless	498	$75.00	$0.15
Fios 500 Mbps	Verizon	Fiber	517	$84.99	$0.16
Internet Premier	Spectrum	Cable	562	$80.00	$0.14
Fios 1 Gig	Verizon	Fiber	939	$99.99	$0.11
Internet Gig	Spectrum	Cable	1036	$100.00	$0.10

Figure 19: Home Internet Plans. T-Mobile home internet service is only available in Berlin. Verizon home internet service is only available in Boylston

Business Internet Plans	Provider	Technology	Typical Download Speed (Mbps)	Price / Month	Price / Mbps
Select Pro	HughesNet	Satellite	50	$84.99	$1.70
Business Choice 100 Mbps / Unlimited	Viasat	Satellite	51	$199.99	$3.92
Business Backup Choice 50 Mbps / 50 GB	Viasat	Satellite	53	$49.99	$0.94
Business Choice 100 Mbps / 300 GB	Viasat	Satellite	78	$99.99	$1.28
Elite Pro	HughesNet	Satellite	100	$99.99	$1.00
Fusion Pro	HughesNet	Satellite	100	$129.99	$1.30
Fios Business Internet 300 Mbps Dynamic	Verizon	Fiber	310	$79.00	$0.25
Business Internet Unlimited with Gateway	T-Mobile	Fixed Wireless	361	$70.00	$0.19
Fios Business Internet 500 Mbps Dynamic	Verizon	Fiber	517	$139.00	$0.27
Business Internet Premier	Spectrum	Cable	527	$130.00	$0.25
Business Internet Ultra	Spectrum	Cable	844	$160.00	$0.19
Fios Business Internet 1 Gbps Dynamic	Verizon	Fiber	939	$259.00	$0.28
Business Internet Gig	Spectrum	Cable	1126	$180.00	$0.16

Figure 20: Business Internet Plans. T-Mobile business internet service is only available in Berlin. Verizon business internet service is only available in Boylston.

The need for more affordable internet pricing in Berlin and Boylston is indicated in the number of households that signed up for the Affordable Connectivity Program (ACP). Between May 2021 and April 2024, the ACP and its predecessor provided eligible low-income households that were a part of the program with a monthly discount ($30) off the cost of broadband internet subscriptions.[23]

According to the Benton Institute for Broadband and Society, 330 Berlin households were eligible for enrollment in the ACP, and 115 households had enrolled in the program as of February 2024.[24] This enrollment level was significantly higher than what the Benton Institute predicted based on various socio-economic and community characteristics, which was 65 households. In response to the ACP's pending termination in early 2024, the Benton Institute assigned Berlin a risk score of 35. 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."[25]

In Boylston, 351 households were eligible for enrollment in the ACP, and 110 households had enrolled in the program as of February 2024.[26] This enrollment level was approximately what the Benton Institute predicted (108 households) characteristics. The Benton Institute assigned Boylston a risk score of 25.

Performance and 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] is measured in megabits per second (Mbps). It will affect web page load times, video or audio buffering, and virtually all 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 of a minimum download speed of 100 Mbps and an upload speed of 20 Mbps.[28]

As referenced in Figure 11, an average of 94.5% of internet users in these towns have service which meets the current minimum criteria for broadband. Using data from Ookla's open source internet speed test datasets from October 2024, we see that the median download speed varies across the two towns, with a median of 286.78 Mbps, which is well above the FCC's minimum standard.[29]

Internet 100 (100 Mbps)	**Internet (300 Mbps)**
Users per household: 1-2	Users per household: 2-3
Light streaming, browse the web, social networking, uploading and downloading small files.	Streaming on multiple devices, gaming on a single device, uploading and downloading medium files.

Figure 21: Internet 100 Mbps vs 300 Mbps

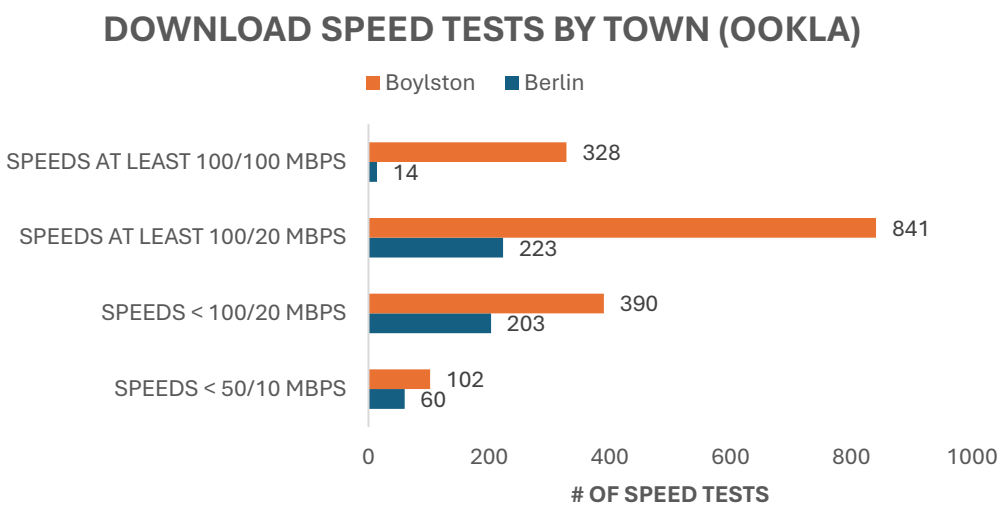

Figure 22: Download speed by town as of 10/2024. Source: OOKLA

There are other factors in the evaluation of internet performance, such as upload speed and latency. While these do not have standards set by the FCC, Internet Service Providers (ISPs) are required to inform customers of these factors by labeling their internet products with this information. According to 2021-2022 Ookla data, Berlin's median upload rate is 21.95 Mbps and Boylston's median upload rate is 49.56 Mbps, whereas the median upload rate in Massachusetts is 47.06 Mbps.[30]

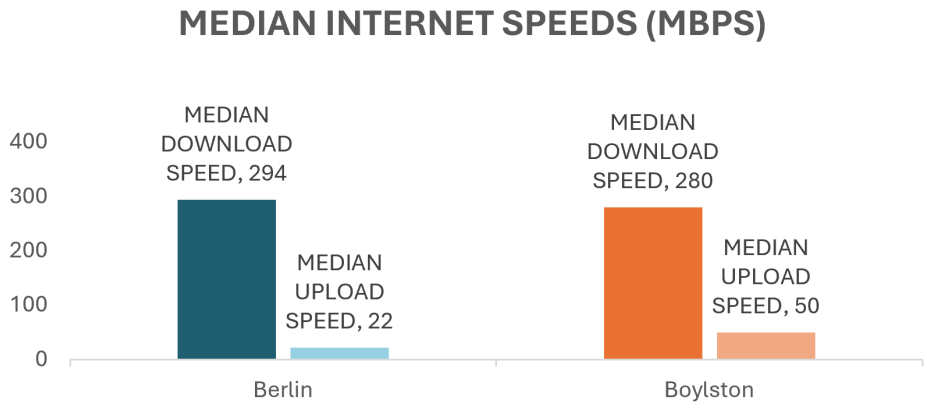

Figure 23: Median Internet Speed (Mbps). Source: OOKLA

Berlin and Boylston have up to seven available service providers, though these options depend on a resident's specific address. The two providers offering the fastest residential services are Spectrum (fiber), and Verizon (fiber), with download speeds of 1036 Mbps and 939 Mbps, respectively.

Internet Service Provider	Technology			
	Cable	Fiber	Fixed Wireless	Satellite
EarthLink		X		
Hughes Network System (Hughesnet)				X
Spectrum	X	X		
Space Exploration Technologies Corp. (Starlink)				X
T-Mobile, USA			X	
Verizon Communications		X		
Viasat				X

Figure 24: Internet Service Providers, Technology. Spectrum offers both Fiber and Cable.

Broadband Technologies:

Cable
Cable internet is generally reliable and offers high speeds. Though cable is potentially able to equal the speed of fiber, providers commonly limit speeds to accommodate bandwidth distribution.[31]

Fiber
Fiber optic lines can 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
Fixed wireless relies on 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
Satellite typically "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]

Community Outreach Process

CMRPC staff connected with stakeholders, community organizations, and public libraries and hosted two public events, including a community dialogue at 19 Carter in Berlin. These engagement opportunities played a key role in the process, allowing staff to gain insight into both communities' digital landscapes. These conversations provide important perspectives on the challenges, personal experiences, and gaps the community still faces. They also guide strategies, recommendations, and action items that towns may find useful to continue bridging the digital divide.

One-on-one stakeholder interviews

CMRPC conducted interviews with community stakeholders and organizations throughout the project's timeline. These conversations allowed staff to introduce the project's purpose to a wide range of community members and learn about the community's current assets and areas for improvement. These discussions helped identify themes, shared interests, and best practices that have yielded positive outcomes in the past, as well as what residents may be looking forward to.

Survey Distribution

CMRPC supported the distribution of the Massachusetts Broadband Institute's (MBI) Statewide Broadband and Digital Equity Survey to inform the existing conditions analysis and guide the development of recommendations and strategies. Berlin, Boylston, and CMRPC promoted the survey through social media posts, the 19 Carter Community Dialogue, CMRPC newsletter articles, and flyers at local community locations, including the Berlin and Boylston public libraries. These outreach efforts increased awareness of the survey and provided residents with opportunities to share their experiences with internet access, devices, and digital skills. To date, the survey has received 116 responses.

Social Media

CMRPC and the towns of Berlin and Boylston promoted the survey and community dialogue events through various social media channels. These channels include Facebook, Twitter, LinkedIn, and the agency's monthly newsletter. CMRPC also hosts a public page on the website, dedicated to resources and updates regarding the Digital Inclusion Plan.

Community Dialogue

CMRPC hosted a Digital Inclusion Community Dialogue at 19 Carter in Berlin, MA. 19 Carter provided a known, central, and accessible location for residents to participate and introduced regular attendees to the dialogue. We heard from Berlin and Boylston residents with different backgrounds and levels of knowledge. CMRPC presented the project's timeline and intentions, followed by breakout discussions led by staff. Approximately 20 participants joined to discuss device access, internet service providers (ISPs), artificial intelligence (AI), and cybersecurity.

Limitations

CMRPC and the towns of Berlin and Boylston dedicated considerable effort to engaging residents and community stakeholders throughout this project. While these outreach activities provided valuable input, several limitations should be acknowledged to better understand the scope of the findings and identify opportunities for future engagement.

Most limitations concerned stakeholder/community engagement. CMRPC was not able to meet with some targeted stakeholders, such as each town's Council on Aging and the Berlin-Boylston Regional School District. CMRPC also planned to supplement its August 2026 workshop in Berlin with tabling at the Boylston Public Library's Fall Fest on September 26, 2026. Unfortunately, the Fall Fest was canceled due to poor weather. Furthermore, publicity efforts for events and the community survey relied primarily on existing communication channels and established networks, which may not have reached all segments of the community or fully captured the range of resident experiences and needs.

Community Findings and Needs Assessment

CMRPC engaged with a variety of community organizations, stakeholders, and residents to assess the town's divide and gain perspective on the community's current needs. While conducting informational interviews and conversations, staff connected with people in social services, community development, administration, advocacy, and technology services. Questions used to guide conversations included:

- What digital devices do your clients/community members prefer?
- Are there digital services that people in your network struggle to access?
- Who in your network and organization lacks access to and/or struggles to afford internet service?
- What does your organization have in place or what is your organization doing to bridge the digital divide?
- What is the greatest barrier to digital access that you have noticed?
- What is the easiest barrier to digital access for your community to overcome?

Throughout these conversations, it was found that both communities are quite proactive in providing resources to the community, but there is still room for improvement to continue connecting residents to resources such as one-on-one peer assistance, troubleshooting conversations with providers, or upgrading devices and hotspots at local libraries to make sure these institutions are equipped with the latest technology.

Internet Access and Affordability

A common theme discussed in the stakeholder engagement and community dialogues was the cost and availability of internet service. Affordability is a concern consistently raised among lower-income and older residents, especially in rural/semi-rural communities. This was particularly evident in discussions about local senior housing. In some subsidized housing settings, internet access may be available only in shared common spaces, not in individual apartments. If a resident forgoes in-unit connectivity, often due to cost, it means having to leave their apartment to access the internet, creating an additional barrier. Another common concern was the lack of ISP options, leading to unsavory experiences regarding infrastructure and equipment issues with the limited providers present in a town.

Community dialogue participants added context to these concerns. Some noted that internet service options and reliability vary by location, with one participant describing Verizon Fios as reliable but not universally available. Others raised concerns about aging utility infrastructure and declining service quality in rural areas. Participants also discussed the combined cost of cable and streaming subscriptions, with one example citing a cable bill of approximately $170 before additional streaming expenses. Limited awareness of lower-cost mobile carriers and reluctance to negotiate with internet service providers were also identified as potential barriers to reducing costs.

Stakeholders also discussed how residents access the internet when home connectivity is unavailable or unreliable. The Berlin and Boylston public libraries offer public Wi-Fi and provide hotspot lending to help residents access the internet outside the library. Berlin Public Library estimates that about 75% of borrowers were able to set up and use the devices. However, some borrowers lacked compatible devices or encountered connectivity limitations, particularly in rural dead zones. Stakeholders also noted that ongoing service fees can make hotspot lending programs costly to maintain. Public Wi-Fi remains an important resource for residents completing essential tasks, including accessing medical and government information, printing documents, and attending virtual meetings. Reliable internet access can also be critical for health and safety; one stakeholder described a resident whose health alert device stopped working after switching internet providers and required outside assistance to restore its functionality.

Device Access and Affordability

Participants in the community engagement process highlighted that having a device does not necessarily mean having access to one that meets a person's needs. Cost, device quality, complexity, software compatibility, and maintenance all affect whether residents can use technology effectively. Some older adults receive devices passed down by family members, which can help reduce costs and electronic waste. However, these devices may retain the previous user's passwords, applications, and settings, making them difficult to use. Older devices may also lack the software support needed to run current applications. Library staff reported assisting residents with computers that were 8-12 years old and no longer supported newer operating systems or applications. In some cases, troubleshooting can't resolve these compatibility issues, making replacement the most practical option.

Participants also emphasized the importance of trusted guidance when purchasing a new device. Residents may rely on family members or community organizations to identify options that fit their needs and avoid unnecessary features or expenses. Without this support, residents may have difficulty evaluating their choices or determining whether a device is suitable for their intended use. Participants raised concerns about high-pressure sales tactics and the importance of recommendations that prioritize individual needs and preferences. Device preferences also vary by task. Laptops and desktop computers are often preferred for document editing and research, while smartphones may be used for email and podcasts. One participant described purchasing a Chromebook based on a family recommendation but later encountered limitations with applications such as TurboTax and software updates. Stakeholders also noted that some subsidized or simplified phones may not meet users' expectations for quality or functionality. Some lower-income residents rely on prepaid flip phones with limited features to reduce costs. Unwanted applications, advertisements, and confusing interfaces can also make devices more difficult to navigate.

Libraries play an important role in providing access to devices and related services. However, stakeholders noted that some resources are underused, possibly because residents are unaware of their availability or how to use them to meet their needs. The Berlin Public Library offers public computers, tablets, digital magnifiers, large-print keyboards, and other accessible equipment.

Both the Berlin and Boylston public libraries provide computers and Wi-Fi for residents without suitable equipment at home, and Boylston Public Library lends laptops upon request, although staff reported limited demand. Both libraries also offer free printing, helping residents access and complete medical, government, and other essential documents. However, library stakeholders identified a need to replace aging public computers and improve supporting infrastructure, including cabling. These findings point to opportunities to expand device lending, improve awareness of existing resources, identify additional low-cost equipment options for residents who cannot afford to replace outdated devices, and provide affordable technical assistance to help residents troubleshoot problems and make better use of their existing devices.

Digital Literacy

Digital literacy emerged as a significant concern during community engagement. Participants emphasized that technology changes frequently, making it difficult for residents to maintain their skills, even after years of experience. Older adults may feel overwhelmed by changing interfaces, passwords, security requirements, software updates, and unfamiliar terminology. Stakeholders noted that support needs vary widely, from basic smartphone functions, such as taking and sending photos, to troubleshooting devices and navigating apps. Fear of clicking the wrong link, falling victim to scams, or losing access to accounts can further discourage residents from using digital tools. Managing emails and text messages can also be challenging, particularly when residents struggle to distinguish important communications from advertisements, sponsored links, and fraudulent messages. These challenges highlight the need for accessible, instruction that accommodates different skill levels and allows residents learn at a comfortable pace.

Participants also raised concerns about online privacy, security, and emerging technologies. Topics included recognizing scams, protecting personal information, understanding online privacy settings and permission agreements, securing Wi-Fi networks, using virtual private networks (VPNs), and navigating two-factor authentication. Participants noted that evaluating online information and recognizing AI-generated content requires foundational knowledge that some residents may not yet have. As AI becomes more prevalent, residents may also need guidance on understanding its privacy implications and reviewing AI-generated materials, including meeting notes, for accuracy. Stakeholders discussed digital literacy among younger residents, noting that limited instructional capacity, restrictions on school-issued devices, and competing educational priorities can affect opportunities to develop technology skills. Differences in awareness between parents and students regarding online activities further highlight the importance of digital safety education for young people and their families. Residents of all ages may benefit from guidance on navigating new technologies and protecting themselves online.

Existing community resources provide opportunities to build digital skills and confidence. Berlin Public Library offers drop-in technology assistance and has provided digital literacy classes for older adults, while the library and Council on Aging have collaborated to provide technology support with help from volunteers familiar with different devices and operating systems. Boylston Public Library also offers technology assistance and has explored ways to provide more individualized support. Family members, 19 Carter staff, and community organizations such as

Nashoba Neighbors are additional sources of assistance. However, stakeholders identified a need for more volunteers and expanded support hours, including potential in-home assistance for residents who have difficulty traveling to the library. Participants emphasized that digital skills develop through repeated instruction and practice rather than a single lesson or demonstration. Volunteers, Council on Aging staff, and senior housing personnel also need training and resources to help residents navigate technology effectively. Sustaining these services beyond short-term grant funding is important, particularly as municipal budgets face competing demands. Building existing programs and offering welcoming, tailored learning opportunities could help residents of different ages and skill levels improve their digital literacy, strengthen online safety, and feel more comfortable using technology.

Key Themes

Across stakeholder interviews and community dialogues, a common theme emerged: access to technology involves more than simply having an internet connection or a device. A resident may own a smartphone but lack the skills or confidence to use it. Someone may have access to Wi-Fi in a shared building but be unable to afford internet service in their individual apartment. Similarly, a low-cost device may not support the applications or functions a person needs. These examples highlight the importance of combining affordable internet service and appropriate devices with accessible, ongoing, hands-on support. These challenges were particularly evident in discussions about older adults and residents who may hesitate to engage with technology because of cost, complexity, security concerns, or fear of making mistakes.

Several themes emerged across the community engagement process:

Libraries as community resources: The Berlin and Boylston public libraries provide internet access, computers, printing, technology assistance, and educational programming. These existing services provide a foundation for future digital inclusion efforts.

Accessible, trusted support: Residents may need help selecting devices, setting them up, troubleshooting problems, or learning new skills. Family members, library staff, volunteers, and community organizations are important sources of assistance.

Different needs across age groups and skill levels: Residents have varying levels of experience and different technology needs. Older adults may benefit from patient, individualized instruction, while younger residents may need additional opportunities to develop digital safety, computer science, and critical evaluation skills.

Awareness of available resources: Some residents may not know that local libraries offer technology assistance, accessible equipment, hotspot lending, and other services. Residents may also be hesitant to ask for help or unsure where to find it.

Accessibility and inclusion: Screen size, accessibility features, software compatibility, and ease of use can affect whether residents can effectively use technology. Devices and services should reflect the varied needs and preferences of users.

Ongoing costs and resource limitations: Maintaining public computers, lending devices and hotspots, replacing outdated equipment, and expanding technology assistance require continued funding, staff time, and volunteer support.

Community partnerships: Existing collaborations among libraries, Councils on Aging, schools, volunteers, and community organizations create opportunities to coordinate services and expand support across both towns.

Technology solutions tailored to residents' needs: Community feedback is important when developing programs and introducing new technologies. Residents' preferences, comfort levels, and intended uses should guide decisions about which devices, services, and support options are offered.

Digital safety and responsible technology use: Online scams, privacy, cybersecurity, and artificial intelligence (AI) are relevant to residents across age groups. Continued education can help residents evaluate online information, protect personal information, and use digital tools more safely and confidently.

Together, these themes suggest that digital inclusion requires a coordinated approach that addresses affordability, access, usability, and ongoing support. Building on existing community resources and partnerships can help Berlin and Boylston better respond to residents' needs and reduce barriers to meaningful participation in an increasingly digital world.

Strengths, Weaknesses, Vulnerabilities

Strengths

Municipal Services

The Berlin and Boylston public libraries both serve as important resources in increasing digital access and adoption. The Berlin library offers weekly tech help drop-in hours on Tuesday afternoons. Drop-in support includes basic computer navigation, basic smartphone and tablet use, general internet instruction, and using electronic library resources (like Libby and Kanopy). The Berlin Public Library also partnered with the Council on Aging on an AARP grant to provide a series of digital literacy training sessions for older adults and successfully recruited tech-savvy seniors to support peers. The library also offers public computers, wireless internet access, printing, copying, faxing, and hotspots. Berlin residents noted the library staff are responsive and helpful to those in need of assistance.

The Boylston Public Library offers laptops and iPads for public use, wireless internet access, hotspots, free printing, scanning, and faxing, projector, STEM and robotics kits, and monthly tech support drop-in hours. The staff noted the importance of responding to community needs and feedback, adjusting technology support, and providing devices by request, effectively balancing support for residents in need while maintaining space for kids and families to escape overdependence on technology.

Other Community Resources

19 Carter in Berlin offers Wi-Fi and an important peer support network. At the community dialogue hosted at 19 Carter, community members noted the benefit of the Metrowest "tech corridor," referring to the number of people who work in technology and have knowledge and skills to share. In this dialogue, participants named several peers among the group who are available to help troubleshoot technology issues or teach technology skills. Programming at 19 Carter facilitates important social networking that supports digital skill building, confidence, and knowledge.

Other local resources include Wi-Fi in senior housing complex common spaces and Nashoba Neighbors, a nonprofit social group with a technology learning program for seniors, serving adjacent Metrowest communities.

Weaknesses

Limited Infrastructure and Capacity

Like many rural communities, limited infrastructure and a lack of competition among providers limit choice and may be associated with higher costs and slower service. As discussed in the analysis of existing conditions (Performance and Infrastructure section of this report), the FCC requires a minimum standard of internet service to be considered broadband as of 2024. According to the latest speed test data available from Ookla (2021-2022), one third of households in Berlin and Boylston have service that does not meet this threshold, though this may have improved in recent years. Survey responses suggest service quality needs improvement, with nearly 30%

reporting that internet service does not adequately meet the respondent's household needs. Rural and remote locations in town may also have dead spots, making a hotspot useless for internet connectivity. Connectivity disruptions can pose real risks for residents who rely on medical services and for communication. In an emergency or severe weather event, residents without connection may not be able to access vital information such as weather alerts, emergency evacuation orders, disaster aid, and other vital resources, leaving those without access vulnerable.

Competing education priorities also limit the towns' capacity to support digital and media literacy and technology support for elementary-aged children. Other academic demands, resource constraints, and time constraints limit schools' capacity to teach these skills.

Vulnerabilities

Costs

Device and internet costs are a significant vulnerability, particularly for low-income households and seniors. As housing, transportation, grocery, utility, and other household costs rise, device and internet costs can become a significant burden. Some community members reported relying on older devices, which can lead to incompatibility issues with outdated software or devices inherited from family members. Survey responses show monthly internet costs range from $30 to $550, with a median of $90 per month (Figure 26). At the community dialogue, few reported bargaining with ISPs, and many were unaware of discounts or budget mobile carriers as ways to reduce costs.

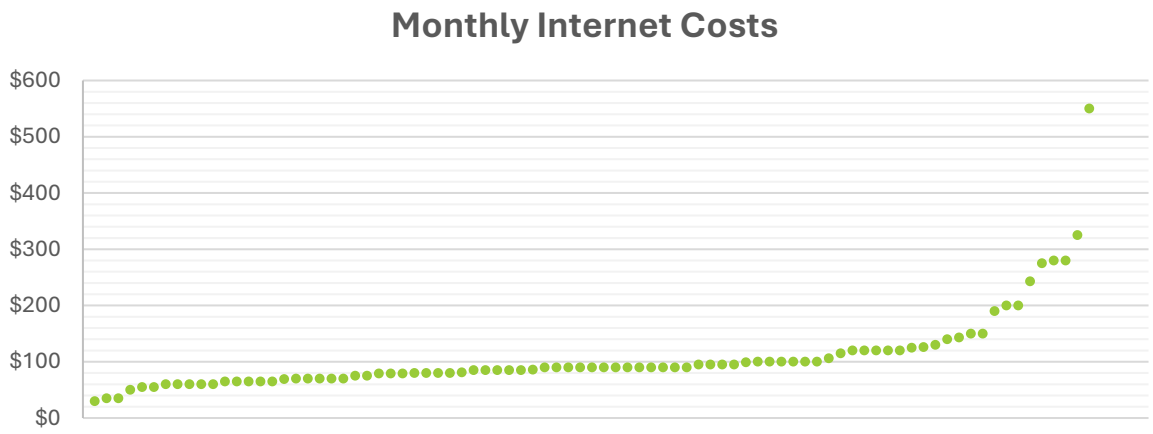

Figure 25: Monthly Internet Costs. Survey Question 11
(85 responses; each dot represents 1 response)

Awareness of options and a better understanding of what each plan includes can help residents make informed decisions about the services and devices they need and what fits their household budget. Municipal services like public libraries and community organizations have responded by supporting and expanding digital access and inclusion. Currently, grant funding opportunities to expand programming are limited, and at the local level, municipalities have limited influence on these costs. Limited or no competition between ISPs, some residents' lack of awareness of what they are paying for or what level of service they need, and limited awareness of how much they pay

relative to neighbors and other households leave households vulnerable to rising costs and limited choice in internet service.

Skills and Literacy

Among dialogue groups of community members who generally identified as regular technology users, many reported challenges and concerns with AI, fear of scams, concerns with data security, and difficulty navigating basic apps and technologies. Common concerns included fact-checking AI content and knowing what is AI-generated versus what is not. Older adults reported relying on knowledge and experience to confirm or reject AI suggestions, with some concern about their ability to do so confidently in the future with potential cognitive decline and memory loss.

Other individual/household-level vulnerabilities included limited awareness of what subscription costs cover, especially when internet is bundled with other amenities such as phone or cable, and limited understanding of the difference between cable and streaming services. This may result in households overpaying or duplicating services, increasing internet costs.

Purchasing a device also requires some baseline digital literacy. Some community members noted frustration with devices that were incompatible with desired apps and with relying on old, used devices (10-12 years old) passed down by family members. Lacking the skills, knowledge, or funds to get an appropriate device can make it harder, or impossible, to navigate it and use it for its intended purpose. Some community members reported receiving an old device without resetting the settings, data, and password, which made it harder to remember the password and raised data-security concerns.

Community dialogue groups and survey responses also raised fears of scams and concerns about data security. Older adults reported regularly not answering phone calls in fear of being scammed. More than half of survey respondents reported some concern about internet safety in general; many reported more than one of the following concerns:

- *“My data being stolen or used without consent”*
- *“Being tracked or surveilled”*
- *“Myself or a loved one being scammed or tricked”*
- *“Myself or a loved one being harassed or abused online”*

The Berlin Police Department also raised concerns about data security, increased scamming, and hacking. Residents report scams and cybersecurity incidents to the police, but as they become more common and increasingly complicated and difficult to catch, without awareness of spotting scams and phishing attacks, how to report incidents, and confidence to do so, this results in a significant vulnerability for all technology users and a threat to public safety. Increasing digital literacy can help reduce this risk to some extent, including by increasing adoption of VPNs and two-factor authentication. Hesitancy or avoidance of answering phone calls and difficulty navigating to websites are also important considerations in any town communication strategy, particularly for emergency communications and outreach to older adults.

Stakeholders reported that schools offered FBI workshops on online safety. As of June 2026, the FBI's Safe Online Surfing program, which taught cybersecurity and digital citizenship to more than a million students in 3rd to 8th grade since 2012, has been eliminated at the federal level.

Technology Retail

The Apple Store and Apple Customer Service were noted for exceptional service. In 2025, the Apple Store relocated from Solomon Pond Mall (Marlborough/Berlin) to the Shops at Blackstone Valley (Millbury), with another location remaining at the Natick Mall. This leaves a service gap for residents who went to the local store for support, even though other retail options like Best Buy and Verizon are still available. Tech support at retail providers often depends on purchasing a device or a tech support subscription. For residents who prefer to buy devices in store, any additional future relocation of technology retail stores could affect local access to devices and technology use, though there is currently no indication this is an immediate concern.

Strategic Recommendations

1. FORMALIZE PARTNERSHIPS AMONG BERLIN AND BOYLSTON LIBRARIES, COUNCILS ON AGING, AND COMMUNITY ORGANIZATIONS TO COORDINATE TECHNOLOGY SUPPORT

Implementation Time Frame: Short Term (6-12 Months)

Cost: $

Effort Level: Low

Description: Community engagement showed that both towns are already proactive in supporting residents, and that a primary gap is not the absence of services but how well they are connected and publicized. Berlin's library and Council on Aging have already collaborated on technology support, Boylston's library offers its own help, and 19 Carter, Nashoba Neighbors, family members, and volunteers fill additional roles. Stakeholders also reported that some resources, such as accessible equipment and hotspot lending, are underused because residents do not know they exist or are hesitant to ask for help.

Berlin and Boylston should establish a coordinating group, meeting a few times a year, that includes both libraries, both Councils on Aging, senior housing staff, the Berlin-Boylston Regional School District, 19 Carter, and public safety representatives. The group would:

- ***Maintain a single, shared resource guide*** covering where to get tech help, public Wi-Fi, printing, device and hotspot lending, accessible equipment, and low-cost internet options, distributed in print and online through both towns' websites, newsletters, and social media.
- ***Create a simple referral process*** so that a resident who asks for help at the library, Council on Aging, town hall, school or police department is directed to the right resource.
- ***Coordinate calendars and outreach*** so that drop-in hours (Berlin's weekly Tuesday sessions, Boylston's monthly sessions) and workshops complement rather than duplicate one another, and residents of both towns can attend either.
- ***Pool volunteer recruitment and training*** across both towns, since stakeholders identified a need for more volunteers and expanded hours.

2. EXPAND PEER-LED DIGITAL LITERACY SUPPORT FOR OLDER ADULTS, INCLUDING VOLUNTEER TRAINING AND IN-HOME ASSISTANCE

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

Cost: $$

Effort Level: Medium

Description: Roughly 30% of Berlin's population and 22% of Boylston's are 65 or older, and more than half of households in each town include someone 60 or older. In both towns, residents

without a computer at home are overwhelmingly older adults. Community feedback described older adults as feeling overwhelmed by changing interfaces, passwords, software updates, and unfamiliar terminology, and fearful of clicking the wrong link or losing access to accounts. Participants also stressed that digital skills develop through repeated, patient practice rather than a single class.

Both towns already have a strong model to build on: Berlin's library and Council on Aging used an AARP grant to deliver digital literacy sessions for older adults and recruited tech-savvy seniors to assist their peers, and dialogue participants identified neighbors with technology expertise at 19 Carter and across the MetroWest "tech corridor." Berlin and Boylston should scale this approach by:

- ***Building a shared volunteer corps*** of tech-savvy residents, retirees, and local professionals, and providing them with basic training on teaching techniques, patience, and scam awareness.
- ***Training Council on Aging staff, senior housing staff, and volunteers*** with resources they can use to help residents (identified as a stakeholder need).
- ***Offering recurring, skill-leveled sessions*** rather than one-time events, ranging from basic smartphone tasks (taking and sending photos, managing texts and email) to telehealth, device troubleshooting, and using library e-resources.
- ***Piloting in-home or in-building assistance*** for residents who have difficulty traveling to the library, including at senior housing sites.
- ***Connecting residents to self-paced learning*** such as AARP Senior Planet and GetSetUp, so that residents can continue practicing between in-person sessions.

Funding for this effort could be pursued through the AARP Community Challenge, which has supported digital skills training for older adults, or through the Community Compact IT Grant Program.

Program Example: *Tech Teens – Needham, MA* The Tech Teens program, offered by the Needham Community Council in partnership with Needham High School technology clubs, promotes digital literacy through intergenerational learning and hands-on technical assistance. High school students lead presentations on practical technology topics and provide individualized support to community members using their own phones, tablets, and computers. Held twice monthly during the school year, the program helps participants build technology skills and confidence, troubleshoot common issues, and learn to use digital tools more effectively in their daily lives, while providing students with opportunities for community service and youth leadership.

A similar intergenerational model could draw on students from the Berlin-Boylston Regional School District and complement the peer-to-peer model already used by Berlin's library and Council on Aging.

3. EXPAND ONLINE SAFETY, SCAM PREVENTION, AND AI LITERACY EDUCATION FOR RESIDENTS OF ALL AGES

Implementation Time Frame: Short Term (6-18 Months)

Cost: $$

Effort Level: Low - Medium

Description: Online safety was among the most consistent concerns across the community dialogue, stakeholder interviews, and survey. More than half of survey respondents reported some concern about internet safety, including data theft, being tracked, being scammed, or harassment. Older adults described not answering phone calls out of fear of scams, and the Berlin Police Department reported hearing of scams and hacking that are increasingly difficult to detect and for which residents may not know how to report. Even regular technology users raised questions about verifying AI-generated content, understanding privacy settings, securing home Wi-Fi, and using VPNs and two-factor authentication. Stakeholders also noted differences in awareness between parents and students, and the federal FBI Safe Online Surfing program that schools previously used was eliminated as of June 2026.

Berlin and Boylston should develop a coordinated online safety effort that includes:

- ***Workshops for adults and older adults*** hosted by the libraries, Councils on Aging, and 19 Carter, covering recognizing scams and phishing, protecting personal information, privacy settings and permissions, two-factor authentication, Wi-Fi security, and evaluating AI-generated content.
- ***Police participation*** in workshops and outreach so residents learn how and when to report scams and cybersecurity incidents, building on Berlin's newsletter notices about scams such as QR code fraud.
- ***Programming for students and families*** in coordination with the Berlin-Boylston Regional School District, using family-oriented evening sessions and existing school communications so that no additional instructional time is required of teachers.
- ***A recurring awareness campaign*** through town websites, newsletters, social media, library and Council on Aging communications, and printed materials, with scam alerts and short tips.
- ***Multichannel communication*** so that emergency and municipal messages reach residents who avoid answering phone calls or have trouble navigating websites, including mailed or printed notices and in-person outreach.

4. INCREASE AWARENESS OF AFFORDABLE INTERNET AND DEVICE OPTIONS AND ADDRESS CONNECTIVITY BARRIERS IN SENIOR HOUSING AND LOW-SERVICE AREAS

Implementation Time Frame: Short Term (6-12 Months)

Cost: $

Effort Level: Low - Medium

Description: Internet cost is a significant vulnerability for low-income households and older adults. Survey respondents reported monthly internet costs ranging from $30 to $550, with a median of $90. At the dialogue, few participants noted they had negotiated with their providers, and many were unaware of discounts or budget mobile carriers. Stakeholders also described subsidized housing where internet is available only in shared common spaces, requiring residents to leave their apartments to get online, and it should be noted that nearly 30% of survey respondents said their internet service does not adequately meet household needs. Rural dead spots further limit options, including making hotspots ineffective in some locations.

Because the towns have limited influence over provider pricing and competition, the most practical near-term steps focus on information, advocacy, and data:

- ***Hold "know your bill" sessions*** and publish a short guide explaining how to compare plans, what bundled cable, phone, and streaming charges include, how to negotiate with providers, and how to find budget mobile carriers.
- ***Promote eligibility-based discounts*** such as the Lifeline Program and provide hands-on help with applications at libraries and Council on Aging offices. The Affordable Connectivity Program enrollment of 115 Berlin and 110 Boylston households in early 2024 suggests meaningful local demand for affordability support.
- ***Engage senior and subsidized housing owners and managers to explore options for in-unit connectivity***, such as extending Wi-Fi beyond common areas or assisting residents with discounted plans. The Massachusetts Broadband Institute has previously funded programs dedicated to this type of infrastructure improvement.

5. REFRESH DEVICES, HOTSPOTS, AND INFRASTRUCTURE AT THE BERLIN AND BOYLSTON PUBLIC LIBRARIES

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

Cost: $$$

Effort Level: Medium

Description: Both libraries serve as essential access points, offering public computers, Wi-Fi, free printing, scanning, and faxing that residents use for medical, government, and other essential tasks. Library stakeholders identified a need to replace aging public computers and improve supporting infrastructure such as cabling. Berlin estimates that about 75% of hotspot borrowers successfully set up and use the devices, while others lacked compatible devices or encountered dead zones; stakeholders also noted that ongoing service fees make hotspot programs costly to sustain. Boylston lends laptops on request, but staff reported limited demand, and Berlin's

accessible equipment is underused. About 12% of Berlin households and 3% of Boylston households have no computer at home, so public access remains important.

The towns and libraries should pursue a targeted refresh rather than simply adding more devices:

- ***Replace outdated public computers*** and upgrade cabling and networking equipment, prioritizing devices that can run current operating systems and applications.
- ***Adjust lending to match demand*** by surveying borrowers, expanding the types of devices that residents actually request, and including simple setup guidance and a brief orientation with each hotspot or device loan.
- ***Lower hotspot operating costs*** by exploring Mobile Beacon's discounted service for libraries and nonprofits, and test devices in rural locations before lending to avoid dead zones.
- ***Apply for funding*** through the Massachusetts Broadband Institute's Connected & Online program, which provides fully loaded devices for public lending programs and on-site device stations, and the Community Compact IT Grant Program.
- ***Promote existing equipment*** including digital magnifiers, large-print keyboards, and loaner laptops, through the shared resource guide and outreach described in Recommendation 1.

6. INVESTIGATE DEVICE REUSE AND TRUSTED DEVICE-PURCHASING GUIDANCE

Implementation Time Frame: Medium Term (2-5 Years)

Cost: $$

Effort Level: Medium

Description: Having a device does not necessarily mean having one that works. Participants described older adults relying on older hand-me-down computers that could no longer run current applications; library staff reported assisting with computers old enough that they could not be fixed. Some inherited devices still carried the previous owner's passwords and data, creating both usability and data security concerns. Participants also wanted trusted guidance when buying a new device, citing high-pressure sales tactics, uninformed salespeople, and the loss of the Apple Store from Solomon Pond Mall, which reduced local in-person support.

Berlin and Boylston should explore a modest device reuse and guidance program, ideally operated jointly through the libraries or a partner organization, with the following elements:

- ***Safe handoff of devices:*** offer a device reset service that securely wipes inherited or donated computers and removes old accounts and passwords, along with a short checklist for families passing devices along.

- ***Partnership with an established refurbisher:*** rather than building a program from scratch, connect with regional or national nonprofit refurbishers and local technology employers to channel suitable devices to residents in need.
- ***Unbiased purchasing guidance:*** offer "which device is right for me" sessions led by volunteers or the digital navigator – rather than salespeople - with a one-page guide matching devices to common tasks.

Case Study: *PCs for People*. This national nonprofit collects used computers from businesses and individuals, securely wipes their data, refurbishes them, and distributes them at low cost to households and nonprofits with low incomes, along with low-cost internet service and digital skills support. Public libraries elsewhere have partnered with the organization as pick-up locations, a model that Berlin and Boylston libraries could replicate without having to operate a refurbishing program themselves.

7. EXPLORE A SHARED DIGITAL NAVIGATOR PROGRAM TO CONNECT BERLIN AND BOYLSTON RESIDENTS WITH DEVICES, INTERNET OPTIONS, AND ONGOING SUPPORT

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

Cost: $$$$

Effort Level: Medium - High

Description: Stakeholders consistently identified a need for accessible, trusted, and individualized help, including one-on-one peer assistance, troubleshooting calls with internet providers, help choosing devices, in-home support, and expanded support hours. A key finding was that access involves more than a connection or a device: residents may own a smartphone but lack confidence to use it or have a low-cost device that does not support the applications they need. A digital navigator provides continuous, personalized engagement across devices, connectivity, and skills, as described in the *National Digital Inclusion Alliance (NDIA) model*.

Given the towns' sizes and municipal budgets, Berlin and Boylston should consider a navigator role shared between the two towns, which could be a part-time staff position, a contracted service, or a trained team of part-time library staff or youth workers. A navigator could:

- ***Serve as the single point of contact*** for residents seeking help with devices, internet plans, and skills, and coordinate the volunteer corps and workshops described in Recommendations 1-3.
- ***Help residents apply for*** Lifeline and provider discounts and troubleshoot with internet service providers, addressing the stakeholder need for support when dealing with providers.
- ***Offer scheduled hours*** at both libraries, Councils on Aging, and senior housing sites, with the option of in-home visits for residents who cannot travel.

- ***Track needs and outcomes*** such as the type of help requested and the number of residents served, to support future funding requests and demonstrate results.

The towns could reduce costs and build capacity through programs identified in this plan, including Commonwealth Corporation YouthWorks, whose participants can serve as digital navigators, and the American Connection Corps, which places members in digitally disconnected communities. NDIA also offers training and models for digital navigators.

Case Study: *Northwest Corner Libraries Regional Digital Navigation Program - Connecticut.* Seven small, rural libraries pooled resources to launch a regional program in which a digital navigator is available in each library for a set number of hours each week on a predictable schedule. The libraries took a collaborative approach because individual small libraries lacked the financial resources to hire navigators on their own, the same constraint Berlin and Boylston face.

Opportunities and Resources

AARP Community Challenge

The AARP Community Challenge provides grant funding for community-based programs promoting livability for people of all ages, especially older adults. Grants in 2026 included projects to increase broadband access and adoption, as well as digital skills training for older adults.

AARP Senior Planet

AARP Senior Planet is a program that allows older adults the opportunity to participate in a variety of offerings to achieve positive measurable outcomes in one or more areas of their lives: social engagement, creative expression, civic participation, health and wellness, and financial security. Alongside structured multi-week courses, this program includes workshops, lectures, special events, guest speakers, and participation-driven affinity groups.

Commonwealth Corporation Youth Works Funding

This opportunity is a state-funded youth employment program that supports teens and young adults in developing the experiences and skills needed to find and maintain employment. Berlin and Boylston may be interested in leveraging the program, as Youth Work participants can be employed as digital navigators for their communities.

Community Compact IT Grant Program

This grant program awards grants of up to $200,000 to support the implementation of IT projects by funding capital needs such as technology infrastructure, software, planning initiatives, design, installation services, or training that a community may be seeking. Funding awarded in 2026 prioritized projects improving digital accessibility for residents with disabilities.

Digital Opportunity Foundation Act of 2026

Potential Opportunity in the Pipeline as of 2026

This initiative seeks to establish a new nonprofit foundation that uses both public and private investments to expand digital opportunities nationwide. Goals highlighted by the foundation are awarding grants and supporting research, as well as providing training and education.

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.

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 and resource development. This program

builds the capacity of nonprofits, government entities (local, tribal, or state), and faith-based organizations while providing training opportunities to members.

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.

Massachusetts Broadband Institute at MassTech

A division of the Massachusetts Technology Collaborative, Massachusetts Broadband Institute (MBI) is working to extend high-speed internet access and availability across the state. To achieve this, MBI's Municipal Digital Equity Planning Program uses state and federal funding to launch infrastructure expansion programs that target areas of the state that lack high-speed internet access as well as digital equity programs that tackle barriers to internet adoption and increase availability, addressing critical issues around affordability, enhanced public Wi-Fi, the need for internet-enabled devices, and digital literacy training. In addition to the Municipal Digital Equity Planning program, MBI programs include the following:

Broadband Equity Access & Deployment Program (BEAD)

The Deployment Phase of the BEAD program will fund infrastructure projects that will connect the remaining Broadband Serviceable Locations that are unserved (below a 25/3 Mbps threshold) and underserved (below a 100/20 Mbps threshold), in addition to eligible Community Anchor Institutions that facilitate greater use of broadband service by vulnerable populations and lack access to 1 Gbps symmetrical service. In February 2026, the National Telecommunications and Information Administration approved the Massachusetts BEAD final proposal of $18.8 million for broadband connectivity for underserved homes and communities.

Connected & Online

The goal of the program is to expand access to education, workforce training and telehealth by establishing public device lending programs and on-site device stations, especially in Gateway Cities and rural communities. Devices will be fully loaded with software, selected accessories and warranties at no cost to awardees. Funding is provided by the U.S. Treasury Capital Projects Fund (CPF).

Mobile Beacon

Mobile Beacon is dedicated to connecting communities digitally through mobile connectivity solutions such as hotspots, tablets, laptops, and routers to provide high-speed internet to libraries, nonprofits, schools, healthcare, and government organizations. Mobile beacon provides qualifying organizations with affordable, unlimited, high-speed internet. 501(c)(3) nonprofits, schools, and public libraries are eligible for Mobile Beacon's TechSoup program.

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.

Northstar Digital Literacy Curriculum

The curriculum aligns with Northstar Digital Literacy standards and covers essential computer skills, essential software skills, and daily technology use. Each unit of curriculum contains 7-9 two-hour lesson plans (Career Search Skills includes 15 lesson plans to address the extensive standards for that topic). The curriculum is accessible as a resource to subscribing Northstar locations. Single-location subscription pricing for a non-profit, school, or library starts at $550/year. The website includes free online digital literacy skill assessments and other external resources.

Conclusion

The digital equity charette process in Berlin and Boylston has provided valuable insights into the digital divide facing these communities and laid the foundation for targeted interventions to promote digital equity and inclusion. Areas which would benefit from attention include the affordability of home internet subscriptions, coordination between community organizations, community-wide digital literacy, and online safety.

It is also worth noting that infrastructure limitations, particularly cellular dead zones, were frequently raised as a needed area of improvement. Addressing these limitations may be difficult and falls outside the scope of the recommendations in this report, but other communities have begun to take them up. For example, the Freetown Digital Equity Plan, also funded through the MBI's Municipal Digital Equity Planning Program, includes a goal to assess areas with low cell coverage and dead zones. Berlin and Boylston may wish to monitor these efforts as they continue to consider how best to address connectivity gaps in their own communities.

While work remains to be done, both Berlin and Boylston have a committed community of organizations and individuals invested in advancing digital inclusion. By tapping into the collective knowledge and resources of these stakeholders, the towns have the opportunity to implement meaningful and lasting solutions that have a positive impact on residents.

Moving forward, it is imperative that Berlin and Boylston continue their collaborative efforts, monitor progress, and base interventions and programs on evolving community needs. By prioritizing digital equity and inclusion, these two municipalities can create a more resilient and inclusive community where all residents have equitable access to the opportunities afforded by the internet and digital technology.

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