



BARNSTABLE TOWN HALL

Town of
BARNSTABLE
Digital Equity Plan



ACKNOWLEDGEMENTS

The Town of Barnstable Municipal Digital Equity Plan was made possible through funding from the Massachusetts Broadband Institute (MBI) and the Massachusetts Technology Collaborative (MassTech) as a grantee under the Municipal Digital Equity Planning Program. Funding for this statewide program was provided through Massachusetts American Rescue Plan Act (ARPA) State Fiscal Recovery Funds.

Many community members across the Town of Barnstable played a critical role in developing this plan. A full list of participatory entities is available in the *Community Engagement* chapter. The Town of Barnstable Planning and Development Department played a critical role in guiding and supporting this digital equity planning process.

The Cape Cod Commission was pleased to partner with Barnstable to develop this municipal digital equity plan and looks forward to supporting implementation strategies and opportunities for regional collaboration.



Figure 1: Barnstable Town Hall.

Table of Contents

Introduction	6
Project Background.....	7
Project Purpose	8
Barnstable's Vision For Digital Equity	8
Existing Digital Equity Conditions	12
Setting	12
People	13
Housing	21
Connectivity	22
Information Gaps	32
Community Engagement	35
Process Overview	35
Project Kickoff.....	36
Survey Distribution.....	36
Stakeholder Interviews	36
Community Workshops and Pop-Ups	38
Focus Groups.....	39
Additional Outreach and Engagement.....	40
Findings.....	42
Barriers and Challenges.....	42
Connectivity	42
Devices	44
Skills And Community	46
Strengths and Resources.....	49

Digital Equity Assets	49
Additional Community Strengths.....	50

Implementation 56

Recommendations 56

Connectivity	56
Devices	60
Skills.....	61
Community	66
Support regional collaboration	68
Funding	76
Measuring Success	79
Continued Learning.....	80
Advancing Digital Equity in Barnstable	80

Figure 1: Barnstable Town Hall.....	2
Figure 2: Age Diversity in Barnstable	15
Figure 3: Population by Race in Barnstable.....	16
Figure 4: Barnstable Student Population Demographics...	18
Figure 5: Households per income bracket in Barnstable ...	19
Figure 6: Covered populations comparison	28
Figure 7: Covered populations and Internet subscriptions	30
Figure 8: Community Pop-Up event.....	38
Figure 9: Small Business Focus Group.....	39
Figure 10: Handouts at the Community Pop-Up.....	40

Table 1: Key Demographic Information.....	11
Table 2: Barnstable Public Schools Demographics.....	17
Table 3: Providers Serving Barnstable.....	24

Table 4: Types of Household Internet Subscriptions..... 22

Table 5: Digital offerings at libraries in Barnstable..... 51

A dark blue silhouette of Cape Cod is centered on a light blue background. Overlaid on the map and background is a network of thin white lines connecting small white circular nodes, suggesting a digital or communication theme. The background also features several horizontal, slightly blurred light blue bars.

INTRODUCTION & TOWN VISION

May 2025

INTRODUCTION

During the COVID-19 pandemic, when many activities related to work, school, public service, and healthcare moved to a virtual setting, inequities were further exposed related to how communities across the nation experience the internet and technology. These inequities constitute the digital divide – the gap between those who have access to, and ability to use, the internet and computing devices, and those who do not.

Today, the ability to engage in the digital world varies broadly across our communities, including the Town of Barnstable. Digital inequities inhibit many from meeting their civic, social, educational, health, and employment needs. As the digital world continues to advance, all community members must have the opportunity to meaningfully engage with the internet and technology to thrive professionally, academically, civically, socially, and personally. Advancing digital equity will require universal internet connectivity, device adoption, and digital skills.

Digital equity is essential for healthy, engaged, and thriving communities. Municipalities, community organizations, and other actors across our communities have a critical role to play in making digital inclusion a reality for all.

What is Digital Equity?

“The condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.”

National Digital Inclusion Alliance

Key components of digital equity include:



Internet Connection: Do all populations experience internet connection that is affordable, fast, and reliable? Can all populations access the internet?



Devices: Do all populations have devices that are adequate, needs-appropriate? Are devices affordable or otherwise accessible?



Literacy and Skills: Do all populations have the ability to use technology and the internet to achieve their needs? Do concerns around trust, privacy, and safety exist?

Project Background

Following the passage of An Act Relative to Immediate COVID-19 Recovery Needs, also known as the Massachusetts “ARPA 1.0” legislation (codified as Chapter 102 of the Acts of 2021), a Broadband Innovation Fund was established to bridge the digital divide as a component of the Commonwealth’s COVID-19 recovery and response efforts.

The [Massachusetts Broadband Institute](https://broadband.masstech.org/)¹ (MBI), a division of the Massachusetts Technology Collaborative, has led the planning process and development of a statewide digital equity plan known as the “[Massachusetts Internet for All Plan](https://broadband.masstech.org/mainternetforallplan)”². It is also leading the deployment of roughly \$530 million in state and federal funding to expand high-speed internet access and digital equity programming across the state over the next two fiscal years.

To fully understand local digital equity needs, MBI established a Municipal Digital Equity Grant Planning Program (“Municipal Planning Program”). This program enables municipalities across the state to engage in digital equity planning activities that ultimately yield a town-adopted digital equity plan. Municipalities select a pre-qualified planning service provider, such as the Cape Cod Commission, to support the development of their digital equity plan.

¹ <https://broadband.masstech.org/>

² <https://broadband.masstech.org/mainternetforallplan>



Project Purpose

Project Purpose

The Cape Cod Commission (Commission) assisted the Town of Barnstable in this planning effort to assess the digital divide in its community and to develop a Municipal Digital Equity Plan. The purpose of the plan is to understand the current landscape of digital equity in Barnstable, to prepare the town for future funding opportunities, and to help guide equitable implementation to ensure that all benefit from infrastructural and programmatic investments.

The Municipal Digital Equity Plan is designed to accomplish two goals:

- Guide municipal decision-making and investments to increase access, adoption, and usage of the internet for the populations most affected by the COVID-19 pandemic; and,
- Prepare municipalities to submit grant proposals to existing or forthcoming state or federal programs to support digital equity activities.

The Town of Barnstable Digital Equity Plan includes a community-driven vision for digital equity and inclusion, an overview of existing conditions of the current state of digital equity in Barnstable, a description of the community engagement process, and recommendations and solutions based on the sum of these findings.

Considerations throughout the development of this plan were contextualized through the three primary components of digital equity: connectivity, devices, and skills. This plan also considers community-wide challenges and solutions within this framework.

Recommendations and strategies derived from this plan will lay a foundation for access to future implementation funding, which, in addition to MBI's implementation programs, may be derived from public, philanthropic, or private sources.



Barnstable's Vision For Digital Equity

Barnstable's Vision For Digital Equity

Overview

The vision and goals for the Town of Barnstable Digital Equity Plan were synthesized from a robust community engagement process. Recommendations provided within this plan seek to realize this vision through actions that align with each of the below goals.

The town's vision statement and goals complement those as outlined in the Massachusetts Internet for All Plan. The statewide plan, and Commission participation in the statewide planning process, has informed the development of the Town of Barnstable Digital Equity Plan and will guide future implementation actions.

VISION

The Town of Barnstable envisions a future where all community members will have the opportunity to safely and meaningfully access the internet. Digital inclusion efforts across Barnstable will prioritize values such as affordability, accessibility, and equity to ensure that those who are most vulnerable can fully participate in personal, civic, and economic life. Barnstable's robust network of municipal and community organizations will work collaboratively to ensure that services are needs-responsive and empowering.

GOALS

To achieve the community's vision, the Town of Barnstable should strive to meet a handful of key, high-level goals:

All community members across the Town of Barnstable will have the opportunity to:

- Access an array of affordable, consistent, and safe internet connectivity options within their homes and across key community locations.
- Avail themselves of computing devices required to fully engage in community and economic life, including affordable device ownership and publicly available devices, and understand where to receive support to effectively use these devices.
- Gain the skills and confidence necessary to safely and effectively participate in the digital world and access essential services, supported by diverse and needs-responsive services offered by trusted community entities.

Municipal and community entities across the Town of Barnstable will:

- Gain capacity, funding, and resources to enhance existing digital equity programs and to advance new solutions.
- Collaborate with each other and with regional entities to provide complementary and community-responsive services and to connect with individuals with the greatest need.



CURRENT STATE OF DIGITAL EQUITY

Table 1: Key Demographic Information for Barnstable. (Various Sources)

Setting

KEY DEMOGRAPHIC INFORMATION

POPULATION	HOUSEHOLDS	HOUSEHOLD SIZE	HOUSING UNITS	MEDIAN SALES PRICE	HOUSEHOLD INCOME (median)	MEDIAN AGE
49,232	20,614	2.39	27,488	\$650,000 (2023)	\$97,348	48.6

Table 2: Key Town of Barnstable demographic information, various sources.

EXISTING DIGITAL EQUITY CONDITIONS

Introduction

Digital equity efforts seek to ensure everyone has the same access and opportunities to the information technology needed for full participation in society, democracy, and the economy. A core element of this planning process was to understand the unique needs of community members across the Town of Barnstable – understanding who lives in the town and what social and connectivity conditions may affect their ability to experience digital equity.

Setting

Barnstable is the largest town on Cape Cod, in both population and land area, with an estimated year-round population of more than 49,200 across 60 square miles. It is centered on the “bicep” of Cape Cod’s curled arm. Barnstable is also the economic center of the Cape, providing approximately 30% of the region’s 81,400 full-time, year-round jobs, and thousands of other part-time and seasonal positions. A majority of these jobs are concentrated in the Village of Hyannis, which is home to Cape Cod Hospital, the regional retail corridor of Route 132 and Hyannis’s downtown and harbor areas. Reliable internet connectivity is necessary for both the town’s vitality as a regionally important economic center

People

and its attractiveness for year-round and part-time residents, as well as visitors.

Seasonal properties in Barnstable represent about 20% of all housing units. While a lower percentage than much of the Cape, it represents more than 5,800 units, the third highest number of units in any given town within the county. This presents infrastructure challenges for water and sewer, which require capacity to handle peak seasonal needs. The same holds for private infrastructure, such as broadband and cellular services.

People

To ensure resources are directed at bridging the digital divide for those who are most in need, the federal Digital Equity Act of 2021 identified certain populations that are more likely to experience difficulty accessing and using broadband internet. These include:

- Low-income households (at or below 150% of the federal poverty level)
- Aging individuals (60 and older)
- Incarcerated individuals
- Veterans
- People with disabilities
- People with language barriers (limited English proficiency or low literacy levels)
- Members of racial or ethnic minority groups
- Rural residents

Covered Populations

Defined by Digital Equity Act of 2021

- ★ Low-income households
- ★ Aging individuals (60 and older)
- ★ Incarcerated individuals
- ★ Veterans
- ★ People with disabilities
- ★ People with language barriers
- ★ Racial and ethnic minorities
- ★ Rural inhabitants

Underrepresented Communities

Defined by Broadband, Equity, Access and Deployment (BEAD) Program

- ★ Indigenous and Native American individuals
- ★ Members of ethnic and religious minorities
- ★ Women
- ★ LGBTQI+ individuals
- ★ Persons of color
- ★ People adversely affected by persistent poverty or inequality

People

In [Visions of Digital Equity](#), the Benton Institute provides a useful outline of how covered populations experience the digital divide. While some of these dynamics are described in the section to follow, referencing this report will provide a more complete understanding of the challenges faced by these populations.³

The Broadband, Equity, and Access Deployment Program also identified key populations to consider throughout digital equity planning efforts. These populations are reflected in the “Underrepresented Communities” portion of the table

For the purposes of this planning effort, Commission staff explored data and experiences from populations that are particularly present in the Town of Barnstable, with a focus on covered populations.

Covered populations as defined by the federal Digital Equity Act focus on populations historically most affected by the digital divide. Individuals may fall into multiple covered populations, increasing their likelihood of experiencing digital inequities.

In the section that follows, the individual covered populations will be reviewed first, followed by an analysis of where individuals are likely to experience multiple barriers.

³ [Visions of Digital Equity](#), the Benton Institute for Broadband and Society, August 2023.

AGING INDIVIDUALS

For more than half a century, Cape Cod has been a popular retirement destination, resulting in an increase in aging residents. More recently, the Cape has become an increasingly challenging place for young people to live year-round. This dynamic boosts median ages higher than the state and nation in all 15 towns of Barnstable County. For the Digital Equity Act, “Aging Population” is defined as those 60 and older. A third of Barnstable’s population meets this definition, which is the lowest in the County (41.7%) but nonetheless higher than both the state (24.2%) and nation (23.2%).

The county’s median age is high at 55.1 years, but Barnstable has the lowest median age of all Cape towns (48.6 years). As with the aging population percentage, this remains higher than both Massachusetts (40.0 years) and the nation (38.7 years).

The U.S. Census Bureau measures the Age Dependency Ratio, which considers the number of individuals in a community who are outside of working years compared with working age individuals. According to this calculation, working age is within the range of ages 18 to 64; those younger than 18 and older than 65 are dependent on the

AGE DIVERSITY

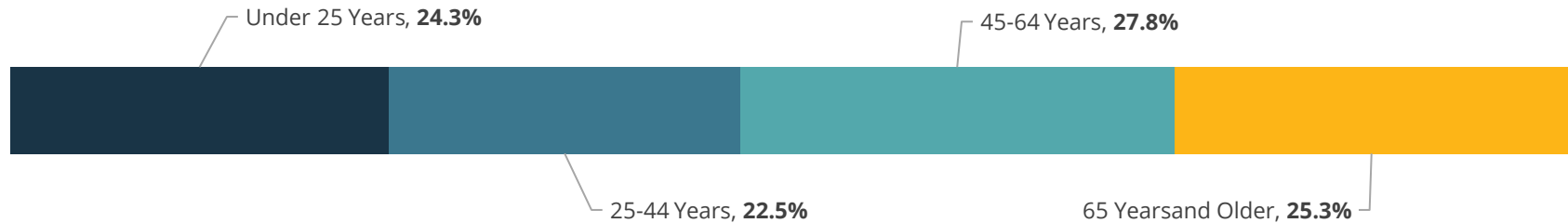


Figure 2: Age Diversity in Barnstable

economically-active segment of the population to some extent. A high Age Dependency Ratio can have implications for social support systems, healthcare needs, and workforce sustainability.

In Barnstable, as with the rest of the Cape, a higher-than-average number of aging residents drives a higher Age Dependency Ratio of 80.1. This means that for every 100 residents presumed to be in the workforce (those aged 18 to 64), there are about 80 outside of it, both younger and older. The State ratio is 58.

Barnstable's aging population is reflected in other data. Close to half of all households are run by householders over the age of 60. Close to 40% of households reported Social Security income and 32% retirement income.

From a digital equity perspective, a larger aging population may represent skills and knowledge gaps in how to use internet-based systems and an understanding of what

represents quality internet service. This may be especially true for aging residents living alone without family nearby or strong social networks. In Barnstable, 17.7% of all year-round households are run by someone aged 60 or older and living alone.

People

Members of racial or ethnic minority groups

Barnstable has the greatest racial and ethnic diversity of any Cape town. A little more than three-quarters of all residents identify as White only, with another 2.5% identifying as White, but also Hispanic or Latino. Those identifying as two or more races represent 9% of the population, Black 6.3% and "some other race" at 4%.

While collectively the town is more diverse than the rest of the county, much of that is focused on the greater Hyannis area. Greater than 60% of those identifying as a race other than White live in the four predominately Hyannis Census tracts. This will be important when considering outreach and implementation strategies, especially for areas where resident face multiple barriers, including limited English households and individuals.

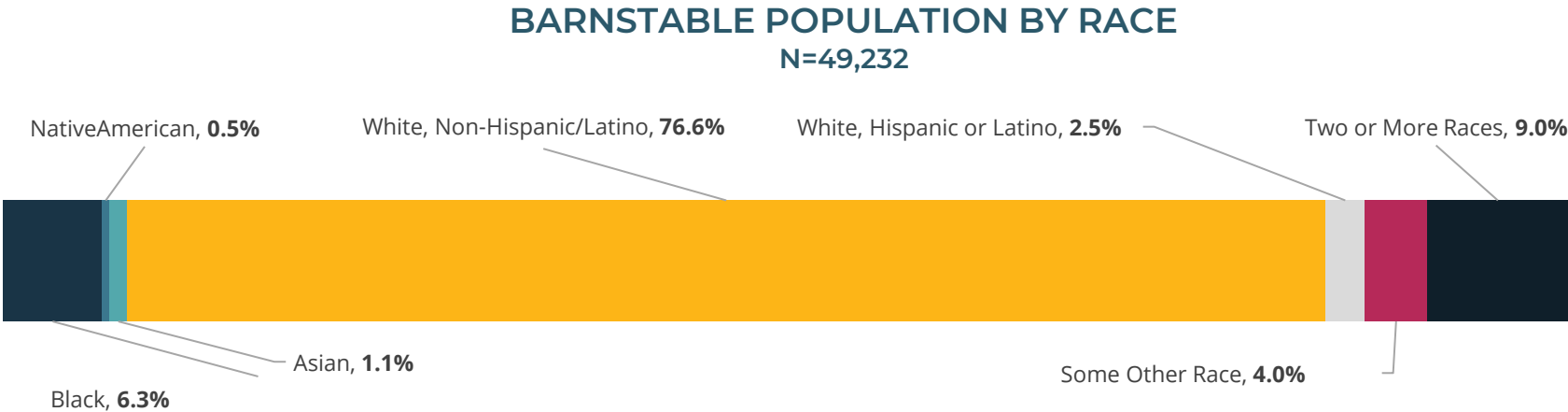


Figure 3: Population by Race in Barnstable

Barnstable Public Schools Changing Demographics

Table 3: Barnstable Public Schools Demographics, 10-year change, 2013/14-2023/24

Barnstable Public Schools 2013/14-2023/24		
	2013/14	2023/24
Enrolled*	5,914	4,662
White	4,039 (77.8%)	2,352 (50.5%)
Black	350 (6.7%)	432 (9.3%)
Asian	134 (2.6%)	94 (2.0%)
Hispanic**	392 (7.5%)	1,404 (30.1%)
Native American	221 (4.3%)	364 (7.8%)
Multi-race	43 (0.8%)	16 (0.3%)
Characteristics	Town	Schools
First language not English	619 (12.6%)	1,720 (35.7%)
English language learner	320 (6.5%)	1,125 (23.4%)
With disabilities	728 (14.7%)	868 (17.9%)
Low income	1,751 (35.7%)	2,569 (53.3%)
High needs	2,224 (44.9%)	3,274 (67.4%)
*Includes all students enrolled, regardless of hometown.		
** Town includes all identifying as Hispanic regardless of race		
Source: Mass. DESE 2023-24 enrollment by race/gender report		

As found in digital equity work in other towns, Barnstable's Public Schools are more diverse than the population at large. This points to greater diversity in the town's younger populations, which should be considered during digital

equity implementation. Significant differences between school-based and town-wide data are demonstrated with race and ethnicity and households with limited English proficiency.

It should be noted that the Massachusetts Department of Elementary and Secondary Education uses different methodologies in its diversity calculations than other datasets explored in this report. Nonetheless, Enrollment data for Barnstable Public Schools adds important details to the town's demographic picture.

There is a difference between the town's population with a disability (12.3%) and the student population with a disability (17.9%), but these are not directly comparable, as they are determined by different methods.

The same is true for the low-income category. Recognizing that different methodologies are used, the 400% difference between the town (13.1%) and schools (53.3%) cannot be disregarded.

In addition to the demographic difference between town and school populations, the growth in both diversity and students with high needs in the 10-year period between the 2013-14 school year and 2023-24 school year are significant. While the overall population decreased by roughly 1,250 students, the number of students whose first language is not English effectively tripled in both percentage and real numbers.

People

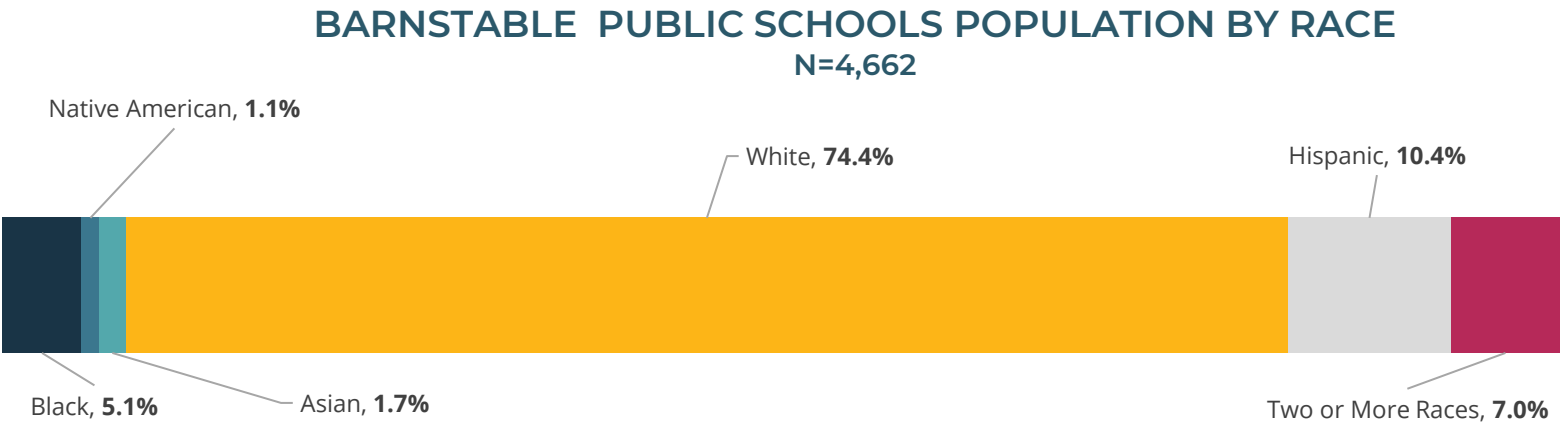


Figure 4: Barnstable Student Population Demographics

A 2024 report from Georgia State University⁴ found, “While the COVID-19 pandemic had adverse effects on all students’ learning, English Learners (EL) faced heightened challenges due to access to virtual learning, lack of digitally adaptable teaching strategies most useful for developing English language skills, and familial language and digital literacy barriers that hampered family-school district engagement.”

Families with multiple children living in the household may experience heightened challenges with the components of digital equity – for example, four people all trying to access

the internet at the same time is likely to exacerbate bandwidth.

⁴ [Academic Outcomes of English Learners Impacted by the COVID-19 Pandemic - Georgia Policy Labs \(gsu.edu\)](#)

Income

Income affects an individual or family's experience within the digital world, with a greater household income offering the ability to afford high-quality internet plans, own effective devices, and experience opportunities to advance digital skills. Low-income households may have greater difficulty affording and accessing the internet and technology needed to achieve basic stability or to thrive.

Barnstable's \$97,348 median household income is higher than the County's \$94,452. It includes a lower percentage of households reporting wage and salary earnings (76.3%), which is below the state (79.1%) and higher than the county (69.7%). The number of households in Barnstable reporting retirement income (31.7%) is lower the county, and higher than the state (22.9%).

Notably, household income is uneven geographically within Barnstable, ranging from \$142,200 a year in Cotuit to \$43,900 a year in the Hyannis Downtown/Route132 area. Some of this disparity can be seen in the covered population data, which will be reviewed together in the "Multiple Barriers" section. This indicates that heightened and acute need for digital equity solutions, particularly related to affordability, may be experienced in certain geographies.

HOUSEHOLDS PER INCOME BRACKET

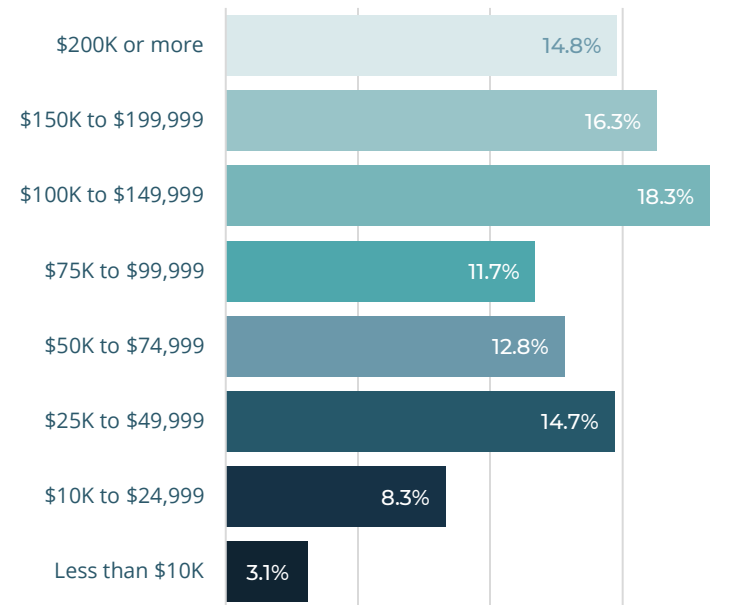


Figure 5: Households per income bracket in Barnstable

People

People With Disabilities

In June of 2022, the U.S. Department of Labor released a [report](#) describing the intersection between having a disability and internet subscription affordability and access, internet use, and employment outcomes, demonstrating inequities experienced by people with disabilities.⁵

As state in the report, “Working-age adults with disabilities (ages 25 to 64) also reported that cost or affordability was their household’s primary barrier to home internet use at higher rates than working-age adults without disabilities (22.3 percent vs. 18.9 percent).”

A lower percentage of Barnstable residents have a disability (12.3%) than the county (13.8%) and nation (13.0%). The town has a slightly higher percentage than the state (12.1%). Two-thirds of Barnstable’s population with a disability is aged 60 or older.

Barnstable’s aging population with a disability (24.4%) is higher than county (23.3%), but lower than state (26.3%), and national (29.5%) percentages. As noted in the “Aging Individuals” section, the high proportion of older residents pushes the town wide disability numbers higher than the state and county, but when reviewed by age groups, it is lower for each on a percentage basis.

⁵ Disability and the Digital Divide: Internet Subscriptions, Internet Use and Employment Outcomes, Office of Disability Employment Police, U.S. Department of Labor, June 2022.

Veterans

As described in “Veterans and Digital Equity: Planning for Success⁶,” published by the Benton Institute For Broadband & Society, “Veterans are more likely than non-Veterans to cite lack of a computer (or an inadequate computer) as the primary barrier to subscribing to an internet service.” The report also notes that affordability and demographic factors, such as that a majority of veterans are over the age of 65, are dynamics that may leave them digitally behind.

Barnstable’s 7.3% veteran population is somewhat lower than the county (7.6%), but higher then both the state, and nation. Additionally, 40.4% of Barnstable veterans report having a disability and 75.5% are 65 years old or above. These combined characteristics are likely to lead to heightened digital equity challenges for Barnstable’s veterans.

⁶ [Veterans and Digital Equity: Planning for Success](https://www.benton.org/sites/default/files/Veterans-Digital-Equity.pdf), November 2024, <https://www.benton.org/sites/default/files/Veterans-Digital-Equity.pdf>

Housing

Of the 27,488 housing units in Barnstable, 75% are occupied year-round. A high majority of year-round units are owner occupied (74.9%), with the remaining 25.1% used as year-round rentals, which is higher than the county (19.4%). More than half of these rental households are considered cost burdened, spending more than 30% of their monthly income on housing.

In Barnstable, 21.2% of all housing units are used seasonally. While this is on the lower side for Cape communities, it remains high compared to the state and nation, and still represents more than 5,800 units. The

percentage of seasonal housing stock in Barnstable County is among the highest in the United States, ranking fifth among 1,000 counties with populations of at least 50,000. In counties with more than 200,000 year-round residents, Barnstable County ranks first in the percentage of seasonal homes.

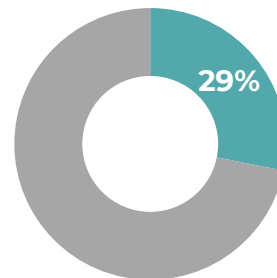
Understanding Barnstable's housing landscape supports the identification of barriers to achieving digital equity for residents. For example, internet service providers may develop and maintain broadband infrastructure to align with year-round housing needs, which may not account for seasonal population growth. This may contribute to poor

HOUSING STOCK

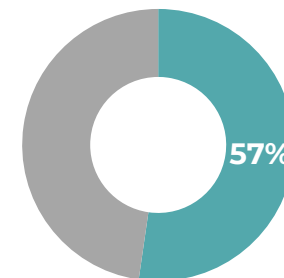
Average wages in the town's largest industries by employment fall well below what is needed to affordably purchase a home at median sales prices (affordably purchase means a household spends 30% or less on housing costs). Barnstable median household income is \$97,350.

Housing Cost Burdened

A household is considered cost burdened when housing costs exceed more than 30% of monthly income. (*ACS 2023 5-year Estimates*)



OWNERS spending at least 30% monthly



RENTERS spending at least 30% monthly

Connectivity

connectivity, particularly in highly seasonal neighborhoods, during peak summer months.

Additionally, housing challenges can serve as an indicator for other digital equity barriers, particularly when considering how the cost burden and the affordability gap may impact a resident’s financial stability

Connectivity

Massachusetts has among the highest percentages of broadband served locations in the country, meaning its overall number of unserved and underserved locations is relatively low compared to other states, with some

Table 4: Types of Household Internet Subscriptions

	Barnstable		County		State	
Service Type	Total	Percent	Total	Percent	Total	Percent
With an Internet subscription	19,571	94.9%	96,731	93.9%	2,539,575	91.9%
Without an Internet subscription	1,043	5.1%	6,250	6.1%	222,495	8.1%
Dial-up with no other type of Internet subscription	51	0.2%	189	0.2%	3,138	0.1%
Broadband of any type	19,520	94.7%	96,542	93.7%	2,536,437	91.8%
Cellular data plan	18,503	89.8%	88,112	85.6%	2,357,795	85.4%
Cellular data plan with no other type of Internet subscription	2,166	10.5%	8,437	8.2%	255,906	9.3%
Broadband such as cable, fiber optic or DSL	16,963	82.3%	86,342	83.8%	2,241,438	81.2%
Satellite Internet service	724	3.5%	3,359	3.3%	83,642	3.0%

Connectivity

exceptions. Barnstable's connectivity profile based on [Federal Communication Commission](#)⁷ (FCC) and [Massachusetts Broadband Institute](#)⁸ (MBI) broadband maps aligns with the statewide landscape, with wide availability of service.

The past year has seen multiple developments that have already and will continue to change the connectivity landscape in Barnstable and the region.

Comcast began reporting partial coverage in Barnstable for its 2000/200 Mbps service as of December 2023. As of June 2024, Comcast reported it offered this higher-speed service at 31% of locations in Barnstable. As of February 1, 2025, this service was offered as low as \$95 per month, excluding taxes and equipment. Barnstable is among the first towns on Cape Cod to receive this higher-speed service.

Barnstable was also among towns included in MBI's GAP Network Grant awards in July 2024. Comcast was awarded a modest grant to connect the limited number of remaining unserved and underserved Barnstable locations.

This is part of more than \$30 million in backed broadband projects authorized in two rounds of GAP funding in eight Barnstable County towns.

There is no one source to measure or verify available internet speeds, but taken together, current data on the

experience of Barnstable internet users indicate pockets of poor performance with broad variability.

In a survey of Barnstable residents conducted by MBI, 39% of respondents indicated that their home internet was "Not good enough to meet my needs."

Data reviewed from multiple sources and in-person expressions of dissatisfaction during outreach sessions indicate a mismatch between stated availability of broadband and how many Barnstable users experience the Internet.

MBI provided a year's worth of download speed data from Ookla, a company that provides internet speed data and analysis. This data set covers users' speed tests taken from December 2021 to November 2022, with about 13,800 tests by nearly 2,900 users within the Town of Barnstable (*summary table in Appendix*).

In March 2024, the federal Communications commission updated the definition of "broadband" speeds to those at or over 100 Mbps download and 20 Mbps upload. An analysis of these tests shows about 29.4% of all Barnstable tests would qualify as underserved at this updated definition, which is slightly higher than all tests for Barnstable County (27.7%). It should be noted that the timing of these tests predate system updates performed by

⁷ Link to Federal Communications National Broadband Map: <https://broadbandmap.fcc.gov/area-zsummary/fixed?version=jun2023&geoid=250018>

⁸ Link to Massachusetts Broadband Institute Broadband Map: <https://mapping.massbroadband.org/map/>

Connectivity

Comcast since that time. They do, however, reflect speeds experienced by Barnstable residents during the pandemic and suggest a reason for the level of dissatisfaction that led to local action.

In Barnstable and Cape-wide there is a correlation between areas with higher percentages of seasonal housing and lower internet connection speeds. This may indicate that related infrastructure does not account for higher peak season usage, which may degrade overall performance.

While poor connectivity and a lack of competition can be barriers to digital inclusion, they can also exacerbate other factors, particularly for residents with limited digital skills and inadequate access to needs-appropriate technology and devices. This will be addressed in the section on multiple barriers.

Table 5: Providers Serving Barnstable by Availability at broadband serviceable locations (BSLs), As of June 30, 2024.

Provider	Technology	Advertised Download (Mbps)	Advertised Upload (Mbps)	BSLs	with Service	% with Service
Xfinity	Cable	2,000	200	23,798	7,344	30.9%
		1,200	35		16,371	68.8%
		Less than 100	Less than 20		10	0.0
T-Mobile	Fixed Wireless	Min. 100	Min. 20		3,605	15.1%
		Less than 100	Less than 20		11,054	1.0%
Verizon	Fixed Wireless	Min. 100	Min. 20		1,627	6.8%
		Less than 100	Less than 20		3,267	23.8%
AT&T	Fixed Wireless	Min. 100	Min. 20		33	0.1%
		Less than 100	Less than 20		722	21.2%

Connectivity

Devices and Connections

The majority of Barnstable households have one or more computing devices (96.6%) and some form of internet connections (94.9%).

Desktop and laptop computers are found in 85.5% of homes, with 3.9% relying on them as their only computing device. Smartphone (90.2%) and tablet (67.4%) adoption is consistent with the county, state and federal percentages.

The number of households with no computers (3.4%) is consistent with the county (3.4%), and lower than the state (4.9%) and nation (5.2%). It also represents a decrease (i.e.

more homes with computers) since the start of the pandemic (5.0 % in 2019).

Approximately 83.5% of Barnstable households have the possibility of redundant internet access through cellular data plans in addition to their primary internet subscription.

Post-pandemic data demonstrates that Barnstable households are trending positively for increased connectivity. A comparison between 2019 and 2023 American Community Survey data shows that more residents have adopted in-home devices and internet

More Than One Device in Household	Barnstable/ West Barnstable TRACT 122	Hyannis/ Hyannis Port TRACT 125.02	Hyannis TRACT 126.01	Hyannis TRACT 126.02	Centerville TRACT 127	Centerville TRACT 128	Centerville TRACT 129	Osterville TRACT 130.01	Marstons Mills TRACT 131	Cotuit TRACT 132	Hyannis/ Barnstable TRACT 153
Desktop Or Laptop	93.2%	90.6%	81.0%	88.8%	85.6%	85.4%	90.9%	90.8%	92.2%	87.4%	69.1%
Other Computer	5.4%	1.2%	3.3%	1.7%	2.8%	1.8%	2.8%	0.5%	1.2%	1.6%	0.0%
Smartphone	90.6%	91.8%	86.3%	77.2%	92.7%	89.8%	89.7%	84.1%	94.1%	88.5%	85.0%
Tablet/Portable Wireless Computer	77.3%	58.0%	71.3%	64.1%	65.6%	72.3%	67.7%	63.7%	73.0%	74.7%	46.1%
Likely Multiple Connections	90.5%	88.4%	76.5%	75.6%	85.5%	84.7%	88.1%	80.1%	88.3%	86.6%	71.5%

Table 6: Households with more than one computing device. (ACS 2023 5-year Estimates)

Connectivity

subscriptions. This is seen most dramatically in the number of households that rely solely on a cellular data plan.

In 2019 data, 10.6% of households had no internet subscription. This decreased to 5.1%, roughly 950 households. It seems likely that a majority of these new connections came via cellular data plans. In 2019, 1,100 households connected solely via cellular plans. In 2023 that nearly doubled to 2,150. This was particularly true for areas with low income and low connectivity.

In 2019 data, the Census tract that includes downtown Hyannis and Route 132 shows more than 35% of households without an Internet subscription and 2.3% relying only on a cellular data plan. In 2023 data, households without internet dropped to 14.1% and cellular data only households increase to 16.8%. In 2023, the median household income in this Census Tract was just under \$44,000.

Only One Device in Household	Barnstable/ West Barnstable	Hyannis/ Hyannis Port	Hyannis	Hyannis	Centerville			Osterville	Marstons Mills	Cotuit	Hyannis/ Barnstable
	TRACT 122	TRACT 125.02	TRACT 126.01	TRACT 126.02	TRACT 127	TRACT 128	TRACT 129	TRACT 130.01	TRACT 131	TRACT 132	TRACT 153
Desktop Or Laptop	2.4%	2.9%	9.5%	9.6%	4.7%	3.2%	3.1%	11.2%	4.0%	2.8%	2.3%
Other Computer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Smartphone	0.3%	2.8%	4.8%	5.2%	2.7%	2.6%	1.3%	3.4%	5.6%	0.0%	8.7%
Tablet/Portable Wireless Computer	1.2%	0.0%	0.0%	0.5%	0.0%	0.6%	0.0%	1.5%	1.1%	0.0%	1.4%
No Computer	3.3%	3.0%	1.1%	2.4%	1.4%	4.7%	4.0%	1.9%	0.0%	7.4%	10.2%

Table 7: Households only one computing device. (ACS 2023 5-year Estimates)

Multiple Barriers

Covered populations were used as the lens to examine the likelihood of individuals facing multiple barriers. The town as a whole, and then each of its 11 Census Tracts were compared with county, state and national percentages for the six most relevant covered populations in Barnstable – aging population, individuals with a disability, language barrier, race/ethnicity, low income, and veterans.

As is often the case, individuals may be represented across multiple populations. Based on available data, it is likely that at least 15% of Barnstable's population face multiple barriers with respect to connectivity. The highest crossover is in the aging population and individuals with disabilities, but with strong correlations to both income and race/ethnicity in some areas.

Identifying covered populations assists in identifying where barriers may be found, but they are not determinative in and of themselves. As is often the case, individuals may fall into multiple covered populations, increasing the likelihood that challenges are faced by these populations.

In the graphics that follow, icons represent each of the covered population. Those shown in red indicate an exceedance when compared to county percentages. Gray and red indicator arrows are also used for state and national percentages, with red again indicating an exceedance to comparison geographies of the tract in question. The more red shown, the greater the number of potential barriers within that geography.

Connectivity

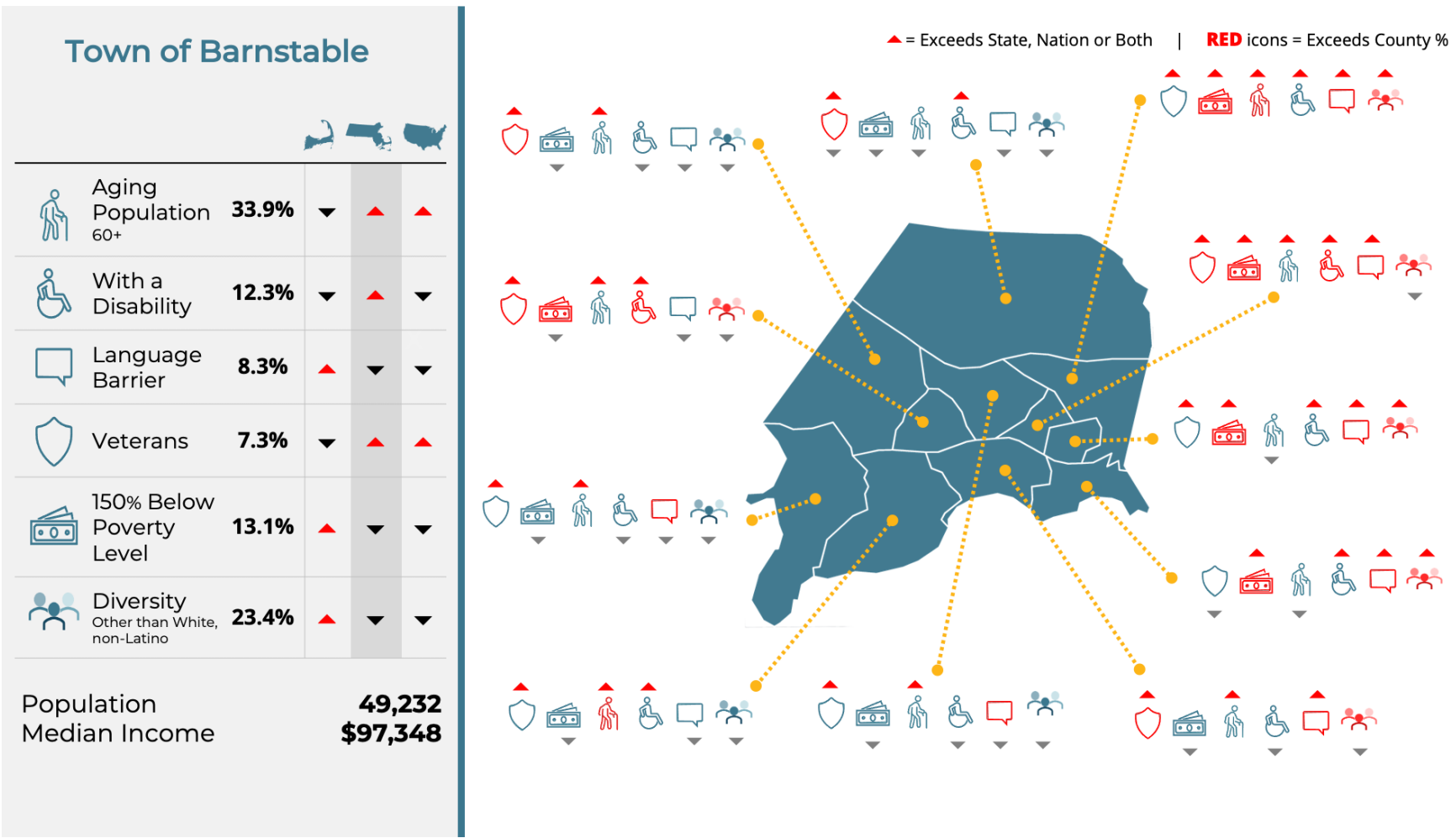


Figure 6: Covered populations in comparison to Barnstable County, Massachusetts and US percentages. (2023 ACS 5-Year Estimates)

Connectivity

The populations with the highest level of convergence are aging, veterans and those with disabilities. At the town wide level, these three exceed the county, state and nation. In the smaller geographies, there are varying combinations, but these three remain prevalent, with five of seven Census Tracts exceeding all three.

When the absence of a home Internet subscription is layered in, there is likewise a relationship for lower

subscriptions and areas with multiple exceedances to county, state and national percentages in these covered populations.

This becomes important for developing strategies to reach individuals and households that may face digital equity challenges, and what strategy or combination of strategies are best suited to help meet and overcome them.

Connectivity

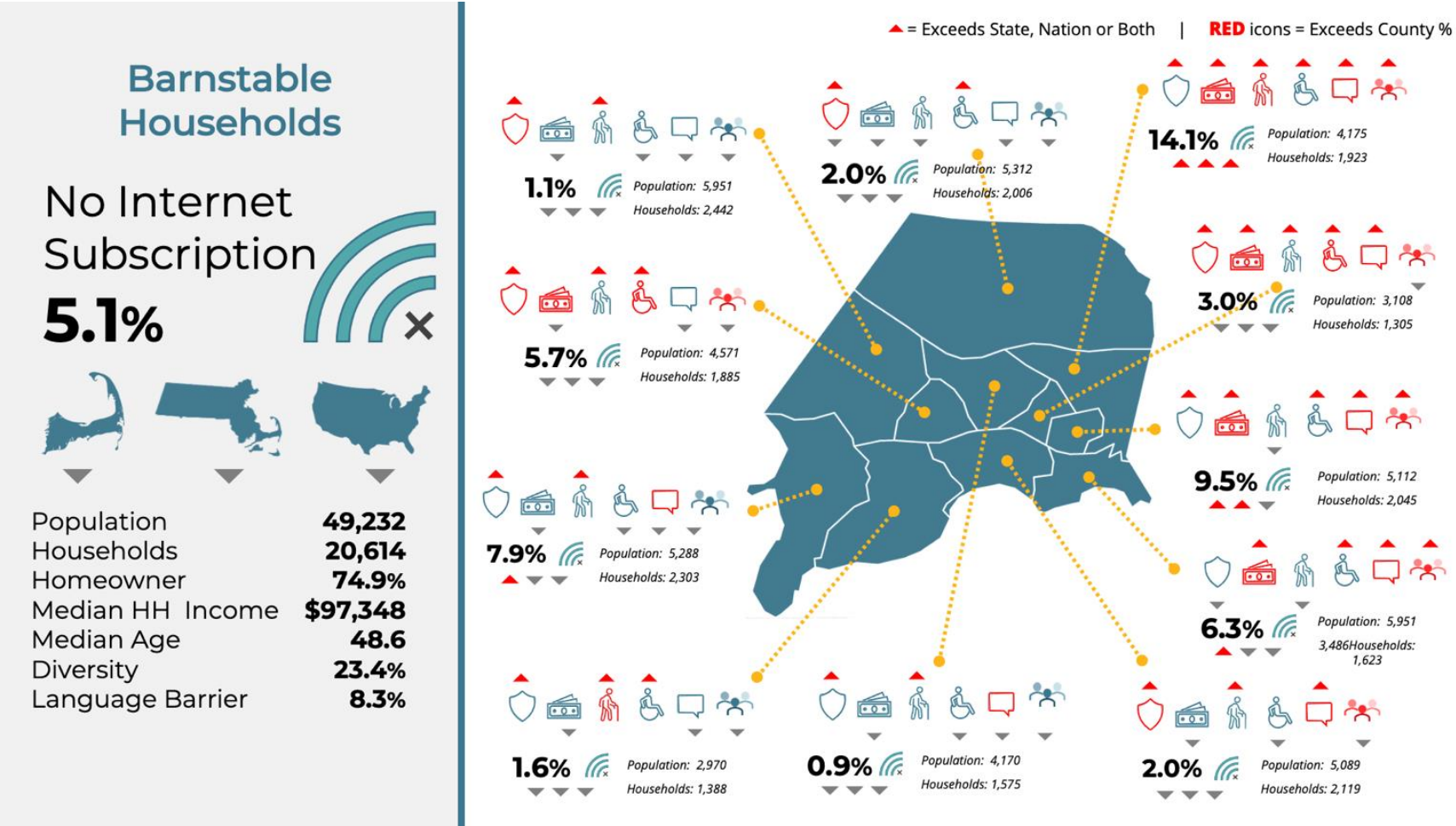


Figure 7: Covered populations and Internet subscriptions in comparison to Barnstable County, Massachusetts and US percentages. (2023 ACS 5-Year Estimates)

Connectivity

ACP and Affordability

The Affordable Connectivity Program (ACP) was an FCC benefit program that aimed to make more affordable the broadband households need for work, school, and more.

While the program was effectively discontinued in April 2024, the number of participants, and the difficulty reaching those who could qualify, serve as useful indicators for the level of need among Barnstable households.

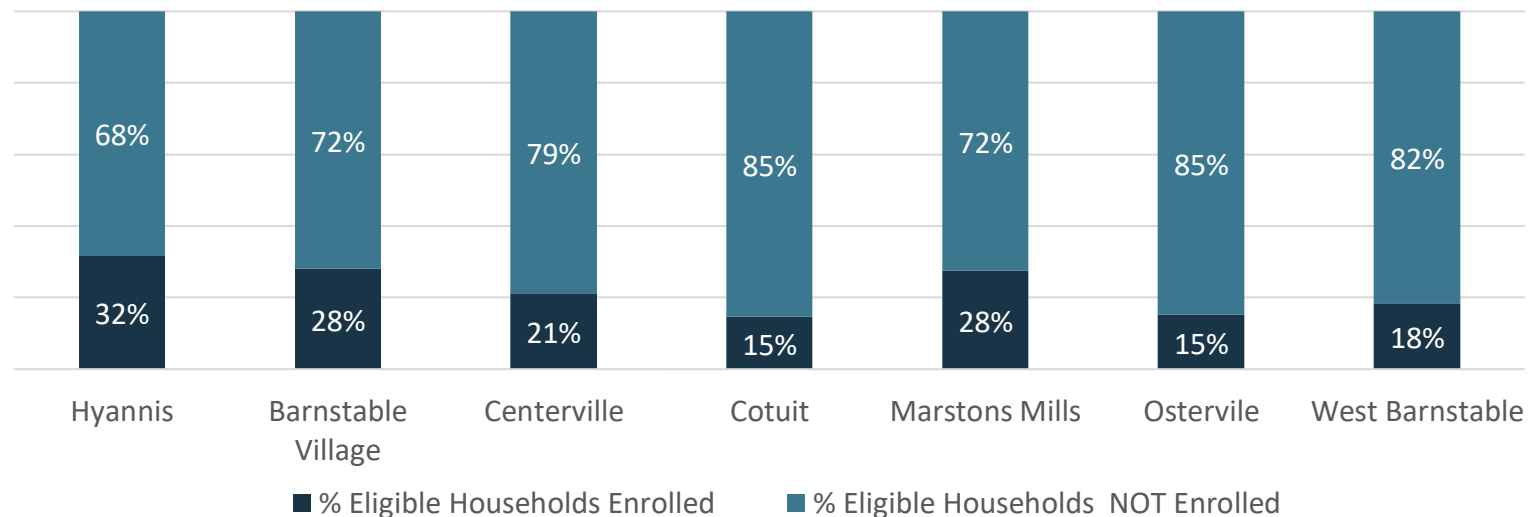
ACP provided:

- Service discount up to \$30/month
- Service discount up to \$75/month on qualifying Tribal lands
- Device discount up to \$100 for a qualifying device

There was a wide gap in eligible households and those enrolled prior to the program expiring in spring 2024.

Roughly 27% of the estimated 5,000 eligible households in Barnstable successfully enrolled. That means that 73%, or approximately 3,650 households that could have benefited during the program's run either chose not to participate, or more likely were unaware of its existence.

The end of ACP creates a financial burden for the families in Barnstable who relied on the subsidy to support their internet connections. ACP eligibility and uptake data remains useful because it can inform an understanding of populations struggling to afford internet access.



Information Gaps

Information Gaps

While many sources were reviewed in the compilation of the above data, information gaps still exist and data will continue to change. Ongoing data collection is a recommended action for the Town of Barnstable in the continued pursuit of advancing digital equity for the community. In particular, Commission staff recommend continued data collection in the following areas:

- The Massachusetts Broadband Institute’s Statewide Digital Equity Survey was well taken by residents in Barnstable. However, young families were

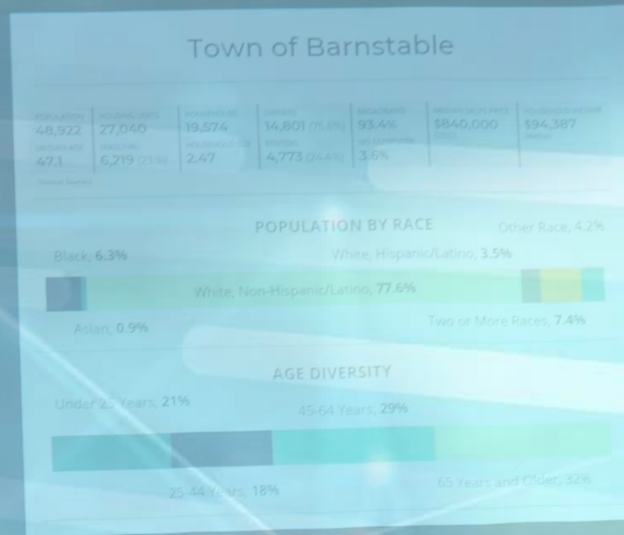
underrepresented in survey respondents. To better understand the digital equity landscape specific to young families in Barnstable, further distribution of the survey or a similar survey is recommended.

- This project explored covered populations identified by the Digital Equity Act. However, the federal Broadband, Equity, Access, and Deployment (BEAD) program identified “underrepresented communities” who may also face heightened barriers to achieving digital equity. Continued exploration of data related to the experiences of these populations would benefit future implementation strategies.

EXISTING CONDITIONS

General Demographics

2022 American
Community Survey
5-Year Estimates



COMMUNITY ENGAGEMENT

Process Overview

COMMUNITY ENGAGEMENT

Process Overview

Community engagement was central to the development of the Town of Barnstable Digital Equity Plan. Feedback, experiences, and perspectives shared by community members and stakeholders directly inform the Key Findings and Implementation sections that follow.

Municipal and community leaders were gathered at the onset of this project to provide guidance in terms of community engagement and areas to further explore with

the development of this digital equity plan. Commission staff then implemented a series of diverse activities to gather feedback from the Barnstable community. A key goal of this planning process was to engage individuals and organizations representing covered populations—communities who are particularly impacted by the digital divide.

Key community engagement activities included:

- Project kickoff meeting
- Survey distribution
- Stakeholder interviews
- Community workshops and pop-ups
- Focus groups
- Outreach to community organizations

**163****SURVEY RESPONSES****8****COMMUNITY EVENTS****275+****RESIDENTS ENGAGED**

Project Kickoff

On August 15, 2024, Commission staff facilitated a project kickoff meeting with leaders identified through coordination with The Planning & Development Department. The purpose of the kickoff meeting was to build a shared understanding about the Municipal Digital Equity Plan project, present and discuss data related to existing conditions in the Town of Barnstable, identify local digital equity assets, and elicit feedback related to effective community engagement strategies. This meeting was foundational to subsequent digital equity planning activities.

Meeting attendees included representatives of the following entities:

- Barnstable Planning & Development Department
- Barnstable Community Services Department
- Barnstable Information Technology Department
- Barnstable Human Resources and ADA Coordinator
- Cape Cod Regional Transit Authority
- Love Live Local
- Hyannis Public Library
- Barnstable Public Schools

Survey Distribution

Commission staff utilized the Massachusetts Broadband Institute Statewide Digital Equity Survey to gain feedback from residents about their experiences with the internet and technology. The survey link was shared with members of the municipal project kickoff team and was hosted on the Commission's project [webpage](#).

Survey responses have been incorporated into *State of Digital Equity* chapter and have also informed the *Implementation* chapter.

Stakeholder Interviews

Stakeholder Interviews

At the project kickoff meeting, participants identified individuals and organizations that would be critical to engage throughout the digital equity planning process. Commission staff hosted one-on-one meetings and/or shared a stakeholder survey with these key entities.

Through this activity, Commission staff shared information about the digital equity planning process and gathered stakeholder perspective. This included: current state of practice, barriers and opportunities to achieve digital equity in Barnstable, vision for digital equity and recommended solutions, and feedback on effective community participation in the planning process. Participating entities included:

- Barnstable Youth Commission
- Barnstable Information Technology Department
- Barnstable Community Services
- Barnstable Council on Aging
- Love Live Local
- Brazilian Resource Center
- Barnstable Human Resources & ADA Coordinator

During this planning process, Cape Cod Commission staff also considered information gathered through conversations hosted to support the Massachusetts Broadband Institute Statewide Digital Equity Asset Inventory. These organizations were ultimately identified in MBI's asset inventory. This includes the following entities:

- MassHire Cape Cod & the Islands
- YMCA Cape Cod
- Amplify POC Cape Cod
- Cape Cod Healthcare
- Duffy Health Center
- Cape Cod Community College
- Vinfen

These conversations directly informed the *Key Findings* and *Implementation* chapters.

Community Workshops and Pop-Ups

Public community events were hosted at locations across Barnstable, open to all community members. These events provided a platform to share essential feedback that has directly informed this digital equity plan.

These events were diverse in nature, endeavored to meet the community “where they are at,” and were developed to offer geographic spread and target different potential audiences. The focus of these activities was to facilitate conversation on digital equity barriers and potential solutions. Offered activities included the following:

- Cotuit Center for the Arts, November 12, 2024
- Hyannis Youth and Community Center, November 14, 2024
- West Barnstable Community Center, November 19, 2024

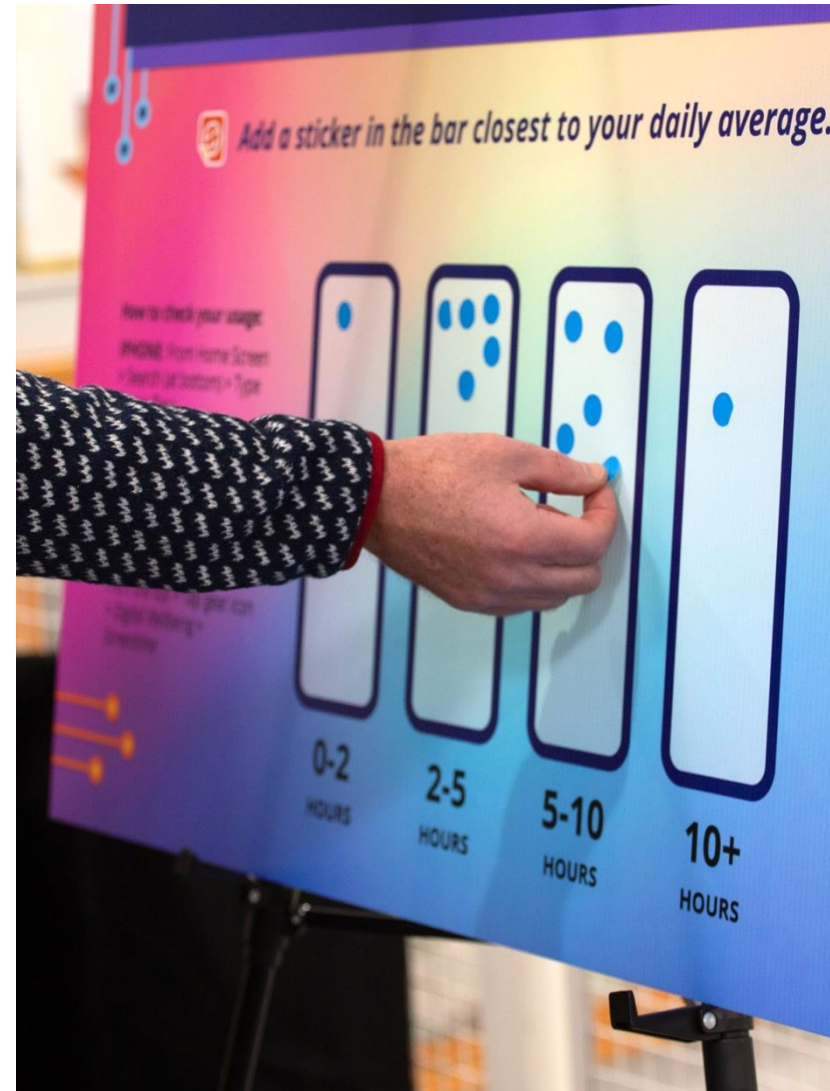


Figure 8: Community Pop-Up event at the Hyannis Youth and Community Center, November 14, 2024

Focus Groups

Focus Groups

Focus groups were offered to gain insight from targeted populations that were identified at the project kickoff meeting as key populations to engage in the development of the Barnstable Digital Equity Plan. This included youth, people with language barriers, aging individuals, and small businesses.

The goal of each focus group was to learn about barriers faced by individuals across the digital divide and understand priority solutions. Focus groups were held in partnership with community organizations, including Love Live Local, MassHire Cape and Islands Workforce Board, the Barnstable Adult Community Center, and the Hyannis Public Library. These focus groups, and other relevant focus group conversations held as part of the Cape Cod Commission's Regional Broadband Needs Assessment, directly informed this digital equity plan.



Figure 9: Jan. 9, 2025 Small Business Focus Group, South Street, Hyannis.

“ Cell connectivity is trash. ”

Small Business Focus Group

Additional Outreach and Engagement

Outreach to community organizations: Barnstable has many well-regarded organizations and groups who support the community. Informing these groups about the digital equity plan and workshop, and requesting their support in spreading the word with their individual community, was a goal of the project team. While not all groups actively engaged with the project, building these connections should benefit future implementation efforts.

Public comment form: A comment form was available on the Commission's project webpage during the project planning period. Public feedback was incorporated into plan development.

Outreach Toolkit: A publicity toolkit, including newsletter copy, graphics, social media language, and posters, was available on the project webpage and was shared with key stakeholders. Information promoting the community workshop was sent to key locations across town. Examples of outreach materials are available in the Appendix.

Media: A press release was jointly issued by the Town of Barnstable and the Cape Cod Commission. A segment detailing the project and encouraging attendance at the community workshop appeared on Barnstable's local access program. The goal of media publicity was to

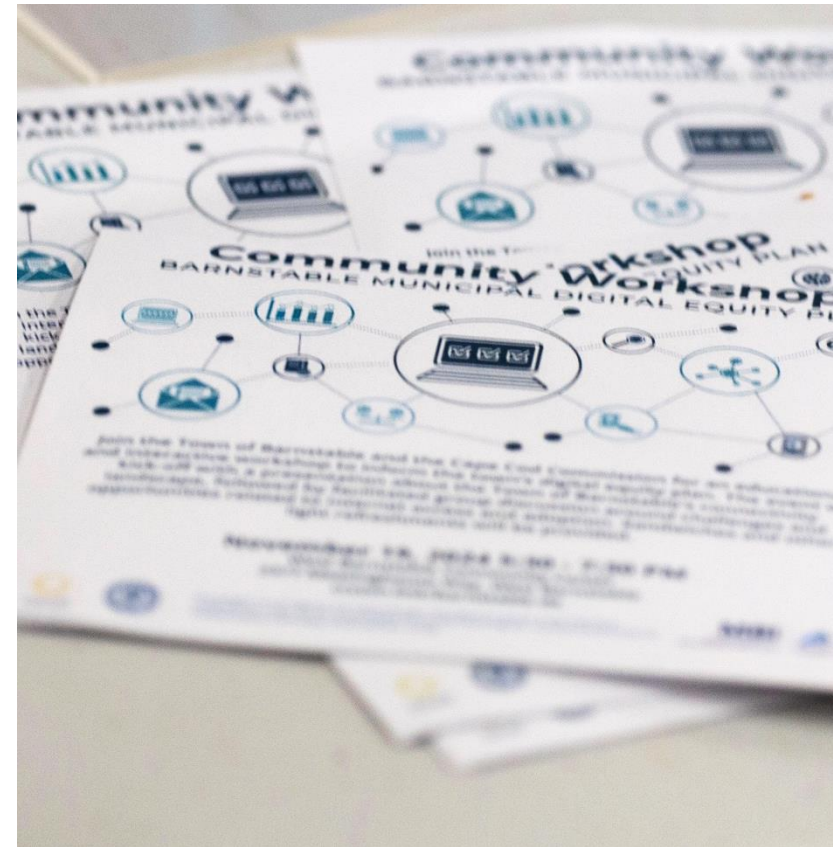


Figure 10: Handouts at the November 14, 2024 Community Pop-Up at the Hyannis Youth and Community Center.

increase community awareness about the planning process and opportunities for participation.

The background is a deep blue gradient. It features a network of thin, light blue lines connecting small, glowing blue dots, resembling a molecular or data network. Overlaid on this are numerous horizontal bars of varying lengths and shades of blue, some appearing as bright, glowing streaks and others as more muted, solid bars. The overall effect is a sense of dynamic, interconnected data or technology.

FINDINGS

FINDINGS

Throughout the digital equity planning process, residents, community members, and local leaders shared their unique perspectives related to digital equity. Individuals reported barriers and challenges to achieving digital equity, as well as assets and strengths that will support the advancement of digital equity into the future. The following section synthesizes feedback shared with Cape Cod Commission staff throughout all community engagement activities outlined in the previous chapter.

Barriers and Challenges

The barriers and challenges outlined below are categorized within four areas that are essential to achieving digital equity: connectivity, devices, skills, and community. Many challenges have a ripple effect and, in reality, impact multiple areas of digital equity. For example, connectivity challenges in the home will also impact an individual's ability to build the skills needed to achieve personal or professional goals.

CONNECTIVITY

Unreliable internet and cellular service across Barnstable impacts residents, small businesses, and community organizations

Community members reported poor internet and cellular service in their homes and across key locations in their community. Community members named geography, weather, infrastructure, seasonal population growth, and a lack of competition as contributing factors towards unsatisfactory service.

Municipal stakeholders cited the following locations as having internet and mobile service issues: near the center of Hyannis, by the high school, along pockets of Route 6A, at beach locations, along Bearses Way, Osterville, Hyannis Youth and Community Center, and in West Barnstable.

Small businesses cited frequent and year-round internet outages, which impact business operations and sustainability, particularly in the height of the summer. Connectivity issues can be so acute that businesses struggle to make sales online and are often disconnected from the internet. Connectivity issues are experienced in downtown Hyannis, which is a hub of economic activity and includes the busy Hyannis Main Street. Small business owners report a ripple effect of internet outages on the Town's economic development— if it is difficult for businesses to sustain themselves due to inconsistent

CONNECTIVITY

service, this will impact future economic growth across the Town.

Small businesses expressed a desire for the Town to invest in strategies that will help businesses to be resilient in the face of internet connectivity challenges. Service disruptions during the busy summer months (when outages feel most frequent) can severely impact productivity, operations, and sales at a critical time of year given the seasonal nature of the region's economy. The Regional Broadband Needs Assessment considered connectivity data that supports the notion that seasonal population growth negatively impacts connectivity.

Community members, including covered populations, youth, and small business owners, recommended an increase in public Wi-Fi locations as one way to increase economic resiliency and public safety. This includes spaces such as main streets and community activity centers, parks, recreational spaces, and beaches.

Residents reported that internet outages impact their professional, educational, and personal life. Some residents suggested that speeds seem slowest when operating multiple devices at once in the household. Residents and small businesses feel the impacts of inconsistent connectivity conditions more acutely if they do not have other means to complete necessary activities when the internet is down.

Connectivity inequities exist across town geographically and demographically

While the majority of Barnstable households (94.9%) report having a home internet connection, 5.1% do not report a home internet connection. Looking at the town by census tracts offers more insight on how residents connect. For example, Census Tract 153, which includes downtown Hyannis and Route 132 neighborhoods, reports 14.1% households without an internet connection. This also happens to be a tract with a high non-English speaking population (24.3%), high renter population (76.7%), and who may also experience affordability challenges as indicated by the median household income (\$43,900).

This data is backed by resident feedback. Some adult English language learners reported using only their cellphone data plan to access the internet, using their cellphones as hotspots, or frequently using library hotspots. Additionally, individuals in both the English language learner and small business focus groups reported varying situations related to how their internet is selected, managed, or available, with a lack of control sometimes cited for renters and for those living in affordable or community housing.

Concerns over lack of internet service provider options

Community members frequently reported concern about a lack of local competition, which they believe impacts

affordability, reliability, and overall service. Some residents reported unreliable internet service, slow internet speeds, and issues with internet service when multiple devices are used in the household simultaneously. Some community members expressed that they do not believe they are actually experiencing the internet at the speed they pay for from their internet service provider.

Community members shared that they would like to see more local options for internet service. Community members expressed interest in the expansion of connectivity options available through Open Cape, particularly through the town's community activity centers. Community members believe that any fiber competition is promising. Generally, community members cited concerns with service quality and affordability of their incumbent provider.

Challenges understanding internet service plans and identifying affordable and appropriate bundles

Community members reported challenges understanding what sort of internet service plan they actually require to meet their daily needs. Residents shared that the inability to create your own bundle, right-priced for preferred services, is limiting and can lead to signing up for expensive packages. Some residents shared that they would consider a simpler package or "cutting the cord" but would miss one or two services that are important to them.

Residents also reported challenges understanding internet service charges as it relates to their plans and bundles. For example, one resident who previously benefited from the Affordable Connectivity Program (ACP) shared that it was difficult to find an appropriate replacement, as Comcast Internet Essentials, which was the next closest fit, did not completely meet their family needs.

Residents reported difficulties when communicating with their internet service provider's customer service line to discuss billing (including changing rates), bundles, and maintenance and repairs. Keeping up with technical language related to the internet (such as that related to speeds and equipment) can be a challenge. This was particularly the case for aging adults and for people with language barriers.

DEVICES

Need for increased access to hotspots and high-quality computing devices for all populations

Community members frequently shared feedback that indicates a need to increase hotspot and computing device offerings, with attention paid to offering needs-appropriate devices to covered populations. Digital equity practitioners and English language learners pointed to a need to increase hotspots in the community.

Some community members reported that they do not have laptops at home and primarily rely on their smartphone.

DEVICES

While this may be adequate some of the time, there are instances where access to a personal loaner laptop or Chromebook would make a particular task less challenging and would offer greater privacy than using a public computer lab. Some community members also pointed to devices at the local library as their primary means of accessing the internet; those who did report reliance on public lending devices or device stations typically represent covered populations.

Students also reported that school-issued devices can occasionally be slow, unreliable, and fail to update properly. Some students reported that data blockers can have an unintended consequence of negatively impacting their learning and suggested more individualized safety plans. Some students reported that their school-issued device feels outdated. As education so heavily depends on the internet and devices, functionality concerns have potential to impact student learning.

Additionally, there may be instances where a school-issued Chromebook are used as the primary household device. Although this is not the intention of school-issued devices, it may be a by-product. Consequently, device functionality issues may cause strains even beyond student educational experiences.

Students also reported concerns about how to obtain a device after they graduate given the potentially steep cost of finding a replacement. All of these factors point to a need for increased community-based devices.

Inadequate support with new devices

Community members expressed that they receive inadequate support when purchasing a new device. English language learners reported a lack of comfortability when immediately faced with new technology and aging individuals reported that better instructions are necessary when receiving a new device so they can be used to their full potential. Small business owners also reported inadequate support when receiving a new device, which can impact business operations.

Community members also expressed concern about keeping up with changes to computing devices and technology. As devices and operating systems are continually updating and changing, it can be difficult to stay on top of changes. Community members shared that while they may be comfortable with the technology they grew up with, it can be difficult to adjust to new technologies as they advance. Community members reported a lack of local device support.

Device replacement and affordability consequences

Community members reported a variety of concerns about the lifespan of their devices, including computing devices and smartphones, and a lack of affordable replacement options. Community members reported that devices seem to only be built to perform at optimum functionality for a few years and that devices can malfunction or break easily,

SKILLS AND COMMUNITY

oftentimes through no fault of the owner. Replacing devices is typically costly, and community members, particularly youth, reported the perception that keeping up with the latest technology is essential for social, academic, and economic life. Community members reported that it can be burdensome to afford necessary devices and device repairs. Small business and nonprofit leaders reported that replacing and maintaining devices is a challenge and can impact business operations and profit. Community members also reported concerns around excessive electronic waste, and how this may pose environmental hazards into the future.

SKILLS AND COMMUNITY

Relationship between youth and the internet

The relationship between Barnstable youth and the internet is complex and evolving. While youth expressed the importance of the internet for their social and academic lives, they also reported concerns about the impact of the internet on their wellbeing and development. Youth concerns about the internet included:

- Sharing personal information publicly
- Artificial intelligence integration with social media and academic life
- Being exposed to harmful content or ideas
- Online predators

- Cyberbullying
- Being influenced to do something you wouldn't typically do
- Social media addiction
- Cybersecurity and scams, with worry expressed for older generations (grandparents)

Concerns reported by youth can have potentially significant life impacts.

Youth also reported that it is necessary to use "common sense" about what you should and should not do online but also expressed that decision-making is increasingly difficult as the digital landscape evolves. Community members reported that the online environment can be "toxic" and social media pressure can negatively impact mental health on young people. Interestingly, high school aged students regularly reported concerns related to the younger generation, who they perceive as having an even greater dependence on the internet and technology.

Parents reported needing more education to learn about how to responsibly monitor youth internet use. Parents and youth suggested that current school offerings, like digital citizenship lessons, are good, but could be expanded by offering more sessions with varied topics throughout the year, both within and outside of the schools.

Internet safety concerns expressed by all populations

Building on the prior finding, community members across all generations and backgrounds frequently reported

SKILLS AND COMMUNITY

“ Don’t believe everything you see online. ”

Comment from Barnstable Adult Community Center Pop-up

concerns with safety, cybersecurity, and privacy online. This can create significant trust issues for individuals if they are wary of using the internet, especially for covered populations who may already face added barriers online. While some community members attribute concerns to a lack of personal skills, many expressed worries about increasingly sophisticated threats.

Safety concerns, in addition to those reported by youth, included the following:

- Financial scams targeting aging adults
- The impact of artificial intelligence on scams and misinformation
- Untrustworthy news
- Identity theft
- Personal data: breaches and data mining
- Cybersecurity
- Fraudulent websites or product scams

Many community members have already experienced a threat to their safety or privacy online, or knew someone who had. Safety threats can impact willingness to access essential services, such as banking and healthcare, online.

Safety concerns also exacerbate existing skills-based insecurities and self-doubts. Community members reported a lack of interest in engaging in the digital world at all, in part due to the potential risks.

Broad digital skills challenges and lack of individualized learning opportunities impact ability to access essential services

Many community members reported insufficient skills in using the internet and devices. Skills challenges were most acutely reported by community members representing, and practitioners supporting, covered and underrepresented populations.

Community members shared that skills issues can impact their ability to access essential services, such as healthcare applications, doctor consultations, job-seeking platforms, government websites, and food access. Individuals reported that education, ability, and willingness to engage impact their likelihood of having the skills necessary to achieve their online goals. Community members also reported that digital skills are imperative to advancing in or

“ Technology is becoming smarter and smarter and it is hard to keep up. ”

Barnstable Adult Community Center Focus Group

re-entering the workforce. Community members reported that they would benefit from programs that combine skills-based learning with access to essential services and professional training.

Some community members reported having issues with using their personal devices. Technical barriers included basic troubleshooting, internet and device operations, completing specific online forms, and navigating webpages.

Community members reported a need for increased workshops or classes to address skills challenges. While there are digital skills offerings hosted at the Barnstable Adult Community Center, aging residents reported a need for more one-to-one support at a slow speed and the need to receive help multiple times in a similar fashion in order to fully learn a new skill.

Furthermore, internet skills education is needed for populations beyond aging adults (including, but not limited to: parents of school-aged children, veterans, English language learners, low-income individuals, and small business owners). Community members perceive a lack of local options when they are faced with an internet or technological issue. Small business owners reported a need

for local, affordable, and easily accessible technological support for small businesses.

Language barriers exacerbate existing digital skills challenges

Community members reported that language barriers exacerbate limited skills or may cause issues where there would not otherwise have been one. For example, an English language learner reported that they were recently navigating an important webpage that would have been far more manageable if its prompts were in their native language. Community members who speak a language other than English reported feeling panicked or scared when they are required to learn to use new digital skills, which can occur in their profession, education, or personal life (for example, communicating online with children's teachers or doctors). Community members reported that using the internet for financial reasons is particularly important to the immigrant community, but as such they can be targeted for scams.

Community members also reported cultural differences with using the internet that can require them to increase or

Strengths and Resources

improve existing skills. For example, American employers and institutions rely more heavily on email or text messaging (as opposed to phone calls or WhatsApp) as a common communication tool. Dynamics such as these can create an additional layer where skills must be developed in order to gain comfortability and flourish.

Digital accessibility concerns

Community members shared concerns that digital equity values are not incorporated in resources offered by government of all levels, including the Town of Barnstable. Navigating government websites can be challenging and not intuitive for all populations. All organizations, and particularly local government, should incorporate digital accessibility best practices into resource development. This includes ensuring that resources are screen-reader friendly, that there are complementary supports in place to accompany online tools (for example, having a staff member trained on-site to walk someone through a beach sticker webpage), and to ensure that there is local assistive technology available that can be used to access municipal webpages and beyond.

Strengths and Resources

The Town of Barnstable offers strengths and existing resources that can provide a foundation for advancing digital equity into the future. Barnstable is home to many critical community organizations providing support for covered population and is also filled with a variety of comfortable community spaces where digital equity offerings are already happening, such as the many libraries and the Barnstable Adult Community Center, or could very well happen in the future.

Digital Equity Assets

The following organizations were identified through this project as digital equity assets. These may be entities that are already offering digital equity solutions to some extent, places that are well-connected to covered populations, or spaces that have potential to offer services into the future:

- Libraries based in the Town of Barnstable: Hyannis Public Library, Osterville Village Library, Centerville Public Library, Cotuit Library, Marstons Mills Public Library, Sturgis Library, Whelden Memorial Library
- Barnstable Adult Community Center
- Hyannis Youth and Community Center
- Brazilian Resource Center
- MassHire Cape and Islands Workforce Board

- Community Action Committee of Cape Cod and the Islands
- Barnstable ADA Coordinator and Barnstable Disability Commission
- Barnstable Youth Commission
- Barnstable Community Services
- Barnstable Recreation Department
- Barnstable Information Technology Department
- Love Live Local
- Barnstable Housing Authority
- Barnstable Public Schools
- Sturgis Charter School
- Elder Services of Cape Cod & the Islands
- Vinfen
- Cape Cod Community College, including the college library
- Cape Cod Community College Adult Education Center
- Private businesses such as: Mobile Mac Doctors, Gadgets Made Eazy, Osterville Wi-Fi and Smarthome, Cape Computer Help.
- Cape Cod Technology Council
- And, local health, human, housing and social services agencies such as: YMCA, We Can, Cape Abilities, Community Connections, HAC, Duffy Health Center, Community Health Center, Gosnold, LatinX in Action, Independence House, Cape Cod Healthcare, and the Preservation of Affordable Housing (POAH).

Additional Community Strengths

Municipal departments and facilities

Barnstable has municipal departments and public facilities that could play a stronger role in bridging the digital divide for residents. Departments such as Barnstable Community Services, the Barnstable Council on Aging, and Barnstable Information Technology were all participatory in this planning process and expressed an appetite to further support digital equity efforts, though may require expanded capacity and resources.

Furthermore, Barnstable has unique community spaces that distinguish it from many other towns in the region that could serve as ideal hosts for new programs. This particularly includes the Hyannis Youth and Community Center, which is an ideal location to better meet individuals in the community where they are at and already offers a computer lab facility.

Finally, Barnstable has a handful of committees and departments well-positioned to offer guidance as recommendations are developed due to their strong connection to covered and underserved populations. This includes the Barnstable Disability Commission, the Barnstable Youth Commission, and the Barnstable Department of Recreation.

Additional Community Strengths

Current digital equity offerings through the libraries offer geographic spread

Barnstable has more libraries than any town on Cape Cod, and this is certainly a strong digital equity asset. Each library provides digital equity offerings (please find a table

below, with additional information about library offerings available in more detailed table within the Appendix). Libraries across Barnstable can play a significant role in the implementation of this plan, building off of services already in place and expertise that library staff and directors can offer.

Library	Devices Onsite?	Hotspots to lend?	Devices to lend?	Tech help?	Tech workshops / classes?	Printer/copier/fax/scan?	Suitable Wi-Fi?
Centerville Public Library	✓	✓	✗	✓	✓	✓	✓
Cotuit Library	✗	✓	✓	✓	✓	✓	✓
Hyannis Public Library	✓	✓	✓	✓	✗	✓	✓
Marstons Mills Public Library	✓	✓	✓	✓	✗	✓	✓
Osterville Free Library	✓	✓	✗	✓	✗	✓	✓
Sturgis Library	✓	✓	✗	✓	✓	✓	✓
Whelden Memorial Library	✓	✗	✗	✓	✓	✓	✗

Table 8: Digital offerings at libraries in Barnstable

Barnstable has unique community spaces that distinguish it from many other towns in the region that could serve as ideal hosts for new programs.

Local community organizations who can play a role in implementation

The Town of Barnstable has a robust array of community organizations that are currently providing support to covered populations through programs, services, and resources. This includes health and human services agencies, various schools and academic institutions, congregations, and other nonprofit or community groups. Entities supporting covered populations that were contacted during this planning process expressed an understanding of digital inequities experienced by those they serve. Staff and volunteers at these trusted entities may already triage internet and technology challenges experienced by constituents to some extent. Leveraging these trusted entities will be critical to the success of implementing many of those solutions detailed in the *Implementation* chapter.

Regional partnerships and networks

Throughout the planning process, community members and stakeholders identified already-existing partnerships

that could be advanced to further digital inclusion. While this includes partnership examples within the Town of Barnstable, this may also include regional partnerships and peer-learning opportunities.

For example, Barnstable-based libraries are part of the CLAMS Library Network, a nonprofit cooperative association of libraries from across Cape Cod and the Islands. The mission and activities of this network are intrinsically linked with digital equity values and goals. The CLAMS Library Network and associated libraries were identified as a regional digital equity asset within the Massachusetts Statewide Digital Equity Plan. Many libraries within the network are offering innovative digital equity programs and resources; continued participation will benefit Barnstable based-libraries in advancing their own digital equity strategy. Similarly, the Adult Community Center is a member of the COAST network which is comprised of COA leaders from across the region. COAST is a member of Healthy Aging Cape Cod which is a network connecting public and private organizations and stakeholders in Barnstable County.

Additional Community Strengths

Continued partnership opportunities with OpenCape

In 2023, the Town of Barnstable dedicated close to \$300,000 on Community Development Block Grant funds to expand the OpenCape network in Downtown Hyannis. More than 350 locations, including businesses, residences and town facilities will be able to connect to the high-speed network at affordable rates.

The OpenCape network has backbone fiber throughout Barnstable, which presents an opportunity for similar projects to serve low- to medium-income communities and increase broadband competition for the town's many commercial areas.

The background is a deep blue gradient. It features a network of thin, light blue lines connecting small, glowing white nodes, creating a web-like structure. Overlaid on this are numerous horizontal bars of varying lengths and shades of blue, some appearing as bright, glowing streaks and others as more muted, solid bands. The overall effect is one of dynamic, interconnected digital energy.

IMPLEMENTATION

Expanding public Wi-Fi availability will benefit residents, business owners, tourists, and seasonal workers, supporting economic growth and recreational activity.

IMPLEMENTATION

This section provides recommendations and related actions to address the challenges and opportunities outlined in Key Findings and is similarly categorized by four components essential to achieving digital equity: connectivity, devices, skills, and community. Recommendations seek to advance the vision and goals for this digital equity plan as developed by the Town and community members, further described in the Introduction.

This section also provides considerations on how the Town of Barnstable can measure its progress throughout the execution of this plan.

The majority of these recommendations require expanded capacity for key entities. Additionally, in many cases, digital equity cannot be furthered without increased funding. The Funding Opportunities section below describes funding mechanisms and strategies identified by Cape Cod Commission staff.

Generally, recommendations provided to the Town of Barnstable will ring true for municipalities across the County. Municipal leadership across the region should consider opportunities for peer-learning, cost-sharing, and streamlined strategies. Cape Cod Commission staff are available to support the consideration of regionalized solutions.

RECOMMENDATIONS

Connectivity

Support improved internet connectivity by offering public Wi-Fi in key locations

Community members frequently identified a need for improved connectivity conditions and public Wi-Fi availability throughout key town locations and community activity centers.

Connectivity

Expanding public Wi-Fi availability will benefit residents, business owners, tourists, and seasonal workers, supporting economic growth and recreational activity.

Community members also commented that spotty cellular coverage across town led to safety concerns in the event of an emergency. Providing public Wi-Fi in key locations can mitigate risks as it offers a means of communication. A stronger public Wi-Fi network will also support the ability of individuals without a cellular data plan (such as newly arrived seasonal workers) to communicate and would support other emergency management situations.

Generally, the Town of Barnstable should work with key community locations, which may include partnership with public, private, and nonprofit entities, to map locations with public Wi-Fi and to ensure that existing public Wi-Fi availability and strength accommodate needs of the general public and is of a high and consistent quality.

After developing an understanding of existing public Wi-Fi locations, the town should consider opportunities to offer free public Wi-Fi along key economic corridors (such as along Main Street, within village centers, the Town Marina, and other commercial areas) and at popular community or recreational spaces (such as the beaches, community buildings, bike trail, and community parks).

The expertise of the Town of Barnstable Information Technology department can be leveraged throughout these considerations. It is important to consider issues such as

required maintenance, safety, and liability when developing a public Wi-Fi network.

The Town of Barnstable may consider developing a simple, user-friendly a map of Wi-Fi locations across town as a resource for the public.

Incorporate connectivity considerations within the construction and maintenance of municipal and community buildings, particularly housing

The Town of Barnstable is home to many residential and community buildings that are managed by the Barnstable Housing Authority, nonprofits, and private entities. These buildings are critically important to the town's residents, and are especially imperative to supporting covered populations.

Connectivity should be incorporated within the planning and operations of these properties. With new property development underway, there are opportunities to extend broadband or internet access within these spaces. This may include residential buildings and community buildings (such as nonprofit locations), and applies to both new builds and those that would require retrofitting.

Opportunities to connect residents and community members to the digital world should be incorporated within early planning and budgeting phases of projects. Prioritizing connectivity is forward-thinking and will

Connectivity

ultimately yield health, social, and economic benefits for the community into the future.

A similar consideration is to ensure that equitable service is available across all municipal locations. This will ensure operational consistency across town departments and services, and will also improve experiences by community members availing of municipal services and spaces (such as staff, residents, committee members, and volunteers).

Continue to learn about and advocate for improved internet service and increased competition

A lack of competition was frequently cited as a contributing factor to unreliable, unaffordable, and inconsistent internet service across town. This is true within the Town of Barnstable and broadly across the region. The Town of Barnstable should continue to monitor activity within the internet service provision landscape and learn more about available options to better connect the community.

The Town of Barnstable should explore opportunities to advocate for improved service, encourage competition, and

partner with internet service providers with the aim of increased affordability, speeds, and service quality for all residents, prioritizing fiber-to-the-premises when feasible. The Town should develop a public mechanism for community members to share their internet service challenges and develop a structure to track provider performance, infrastructure, and accountability. This will be particularly critical as the internet service landscape evolves across the region.

The Town of Barnstable should do its utmost to ensure that residents are offered more affordable internet options and work with community groups to make community members aware of these options. Affordability was a frequent concern reported by community members, which is true both within Barnstable and broadly across Cape Cod. Municipal and community entities across Barnstable should understand how residents can obtain affordable and high-quality options, and should be able to walk residents through that process.

To provide more informed advocacy and information for community members, the Town of Barnstable should

Affordability was a frequent concern reported by community members, which is true both within Barnstable and broadly across Cape Cod.

Connectivity

identify existing fiber networks within its borders. At a minimum, it is recommended that the Town map any municipal network and request of a map of the operational network from their cable license operator, if this has not yet been done already. This is a standard part of the 10-year contracts entered into with service providers. To the extent possible, the Town may consider identifying other private operators with fiber in Barnstable.

Finally, the town should address connectivity challenges experienced by key community institutions, such as nonprofits and businesses. Barnstable's small businesses cited unaffordable, inconsistent, and/or unreliable internet at their own location or at other key town locations. Connectivity challenges impact operations, economic development or financial growth, and emergency preparedness for these entities. Advocacy on behalf of a collective of businesses and nonprofits may be more successful than entities communicating with their provider individually. Businesses who participated in the focus group for this digital equity plan seemed eager to contribute to digital equity efforts and could be leveraged as a starting place for the Town's advocacy and future planning.

Provide supportive and educational services to help residents with internet service bundles

Community members reported troubles with their internet service package or bundle. Individuals reported trouble

understanding which internet bundle they really need, interpreting their bills, advocating with their internet service provider, and adapting to changes such as "cutting the cord" or an entirely new connectivity solution.

The Town of Barnstable should lead an effort to connect trusted community agencies with industry experts who can partner with that agency to provide educational offerings in this area. Trusted community agencies may include libraries, the Adult Community Center, Barnstable Community Services, and nonprofit organizations serving diverse constituencies. Local industry experts could include private companies (such as Gadgets Made Eazy, Mobile Mac Doctors, Osterville Wi-Fi and Smarthome, or Cape Computer Help), internet service providers (such as OpenCape or Comcast) or individuals with industry experience (such as those connected with the Cape Cod Technology Council).

Topics for workshops or 1-to-1 services could include:

- Connectivity terminology and best practices for communicating with internet and device professionals to address an individual's needs.
- Barnstable's connectivity landscape, service provider options, including information on alternative solutions such as Starlink, 5G networks, and hotspots.
- Understanding internet speeds, bundles, and "cutting the cord".
- Affordability solutions.

A program should be developed that bridges graduating seniors in need of a device with a high-quality laptop.

As challenges with internet packages were most acutely experienced by covered populations, the Town should ensure that any offerings are provided in a needs-responsive manner. For example, offering workshops in languages such as Portuguese, Spanish, or Haitian Creole, and ensuring that workshops move at a pace that is comfortable for all participants, including aging individuals or individuals with disabilities.

Devices

Monitor and promote hotspot and device lending programs

As described in the *Key Findings* chapter, the Town of Barnstable is fortunate to have an array of local libraries who provide hotspot, device, and technology lending programs. These offerings fill a critical gap for the 5.1% of households without a connection and the 4.7 % of households without a computing device other than a smartphone. The majority of libraries in the Town of Barnstable provide hotspots or devices for lending, with hotspots being far more common and generally easier to maintain.

It is also worth noting that library leaders, staff, and volunteers in Barnstable offer a wealth of expertise, innovative ideas, and passion in this area. Libraries have the opportunity to help lead the way for the Town of Barnstable in developing a more robust and organized

Devices

hotspot and device lending program. Libraries can also partner with nonprofit organizations to ensure that residents in greatest need are aware of existing resources.

Libraries should take stock of current resources and identify gaps that could be filled with additional funding. In doing so, libraries should coordinate amongst each other to ensure that efforts are complementary. For example, while one library may experience constantly checked-out hotspots, another may have a more ample supply. Additionally, one library may have experience and protocols in place for device lending and could be the most sensible host for additional devices or could provide peer-learning for libraries who would like to offer device lending but have not done so previously.

Introduce device provision programs

Technology is constantly changing, and it can be difficult for many community members to “keep up” with what is needed to achieve their personal and professional goals. Community organizations in the Town of Barnstable should explore opportunities to receive grant funding to offer new or refurbished devices to clients in need. This offering should be well-promoted, with consideration for promoting it in multiple languages and in partnership with other trusted community organizations.

An additional need exists for high school seniors who have relied on school-issued devices and may be left without a device upon graduation. This may impact a graduate’s

ability to apply for jobs, succeed in higher education, or participate in the workforce. A program should be developed that bridges graduating seniors in need of a device with a high-quality laptop. As the Town of Barnstable has an array of public, private, and charter schools, it would be most efficient for such a program to be hosted by a nonprofit organization with a strong relationship between all of these schools, such as MassHire Cape and Islands Workforce Board.

Small businesses and community organizations also reported a need for high-quality devices to sustain operations. This need is further addressed in the *Digital equity support program for small businesses and nonprofits* recommendation (under Community).

Libraries and community entities across the Town of Barnstable may consider ways to incorporate device refurbishment programs and Fix-It clinics into their existing lending model.

Skills

Promote and enhance existing skills programs and introduce new group and individualized digital equity offerings

At present, the Barnstable Adult Community Center and local libraries are the primary providers of free and publicly available digital skills offerings for residents. This includes one-to-one support via the Adult Community Center's internet cafes and various library programs, classes via the Adult Community Center's partnership with Elder Services of Cape Cod & the Islands Senior Planet program, and occasional workshops. There are certainly other examples of digital skills support occurring in Barnstable, but most often those programs are for specific populations or have a narrow purpose (for example, patients or clients of an agency accessing agency-related applications or tools).

First, it is critical that community organizations supporting covered populations are aware of these services and can make referrals to clients in need. It would be beneficial for a lead agency to create a listserv of appropriate organizations that could be used to share updates and reminders about digital skills offerings. This could also serve as a platform for agencies supporting covered populations to ask questions about digital skills offerings, (for example: "Is anyone currently providing basic computer classes with Portuguese language capacity?").

Additionally, current services provided may not be adequate to meet community need in terms of frequency, geographic spread, and diversity. Residents frequently cited the need for more individualized and accommodative programming. The Town of Barnstable should consider opportunities to increase programs that are already working through additional funding, such as those cited above, and should consider opportunities to introduce new programs that reflect the demographic conditions of the community. For example, Barnstable Community Services expressed enthusiasm for introducing new regular workshops that fill existing gaps and address the needs of the individuals they serve.

Integrated technology and English language programs

Prioritizing internet and computer programs for the immigrant community is one such example that builds on the above recommendation. The Town of Barnstable is home to a variety of organizations that provide English language learner programs with leadership, staff, and students who expressed enthusiasm for courses that better combine English language learning curriculum with digital skills building. This includes the Brazilian Resource Center, Cape Cod Community College Adult Education Center, Hyannis Public Library, and LatinX in Action.

The intersection between language learning, digital skills, and fully participating in social and economic life, contextualized for the Town of Barnstable, is more fully described in the *State of Digital Equity and Key Findings*

Skills

chapters. Staff at the above mentioned community organizations are aware of how they could incorporate English language and digital skills curriculum to help students achieve their goals. It is recommended that the Town of Barnstable consider opportunities to support these organizations in acquiring funds that will enable them to purchase necessary devices, build needs-responsive programs, and expand capacity in this area.

Explore digital navigation models and offerings

Community members reported a need for personalized, hands-on support with the internet and devices to improve skills, troubleshoot issues, and achieve personal goals. One-to-one skills support would involve working with an individual, in a private setting, using their own device and moving at a pace that is comfortable for their own successful learning. Ideally, this support would be progressive in nature, building from one appointment or interaction to the next.

Community feedback reflects the need for digital navigators, trusted guides who assist community members with ongoing, individualized support for accessing affordable and appropriate connectivity, devices, and digital skills.⁹ While one-to-one learning opportunities exist

in Barnstable, detailed above, digital navigation models take this individualized learning a few steps further. Vinfen is an example of a local organization offering digital navigation to their clients. It is recommended that municipal and community entities within the Town of Barnstable explore opportunities to provide digital navigation, working in partnership to avoid duplication of services and maximize resources.

To explore this recommendation, the Town of Barnstable should consider appropriate community organizations to house a digital navigator, which could include augmenting a current staff position with appropriate training. Optimally, this community organization would have a strong relationship with covered populations within the Town of Barnstable, such as aging individuals, individuals with language barriers, or low-income individuals. A library may also be an ideal host, provided that the digital navigator be available to all of the Town's libraries. Sustainability for hosting such a position into the future, in terms of funding and staff capacity, should be a key consideration in identifying the appropriate host.

Once a lead organization is identified, the service should be promoted across Barnstable's network of organizations providing digital equity services or supporting covered

⁹ Digital Navigator Model, National Digital Inclusion Alliance:
<https://www.digitalinclusion.org/digitalnavigatormodel/>

Community feedback reflects the need for digital navigators, trusted guides who assist community members with ongoing, individualized support for accessing affordable and appropriate connectivity, devices, and digital skills.

populations to develop an appropriate referral and partnership system.

Ideally, a local digital navigator would tap into a network of such positions across the region. Digital navigation has been a recommendation in digital equity plans for the towns of Orleans, Sandwich, Bourne, and Falmouth, with a more detailed framework offered for the Town of Falmouth in light of already-existing community assets. More robust regional digital navigation is also being explored by key community organizations, such as Elder Services of Cape Cod and the Islands. If implemented, it would be critical for a Barnstable-based digital navigator to operate in collaboration with existing digital navigators in Barnstable County.

Youth-informed programming about internet safety

A significant theme across community engagement activities was concerns faced by Barnstable youth with their internet experiences, further described in the *Key Findings* chapter. Youth and their parents would like to see more

programming in this area. Increasing the frequency of digital citizenship courses and trainings for the parents of youth enrolled in local schools is one solution, which would typically be implemented by the school system itself. While this provides a starting place, it is recommended that the Town of Barnstable leverage existing youth-serving platforms to develop more responsive programming, and that this programming is developed by students-for-students or by parents-for-parents.

For example, the Town of Barnstable has a thoughtful and savvy Youth Commission, who expressed enthusiasm for further engaging the student population in digital equity implementation. The Youth Commission suggested offering a survey that they could share with students to inform the development of workshops or other offerings. It is suggested that the Town of Barnstable further collaborate with the Youth Commission to develop and distribute a survey that would inform digital skills and safety programming targeting the concerns and needs of local youth.

Skills

Additional resources for the development or implementation of youth-led and youth-informed internet skills and safety offerings include: MassHire Cape and Islands Workforce Board, Barnstable Community Services/Hyannis Youth and Community Center, parent-teacher organizations, Children or Youth librarians, schools across Barnstable, and the Barnstable Department of Recreation.

Community-wide programming on internet safety

Building on the above recommendation, concerns around safety, privacy, and security for all populations arose as a major theme throughout the community engagement process. Digital equity programs throughout town should always include security and safety as a core value of service provision. For example, teaching a resident how to use a financial banking app should also include components of safe online banking and scam identification.

Regular workshops covering online safety should be introduced in a coordinated fashion through entities such as the Adult Community Center, libraries, and with other interested community organizations. Workshops may target specific digital threats – such as how to identify a fraudulent email – and should also provide broad opportunity for residents to receive support with individual concerns. As these internet safety concerns may be of a personal or sensitive nature, workshops should foster a comfortable, safe space and should be accompanied by opportunities for one-on-one conversations.

Involving public safety officers in addition to those with technical expertise is often helpful in providing this service. Emergency management entities in the town should explore opportunities to coordinate outreach alongside trusted community agencies when a local scam is identified.

Generally, residents would benefit from increased communal education around digital safety and security that

Residents would benefit from increased communal education around digital safety and security that is practical, grounded in access to essential services and security tools, and unintimidating for new learners.

is practical, grounded in access to essential services and security tools (such as helping individuals install antivirus software), and unintimidating for new learners. Pursuing the above recommendations will be key to ensuring that community members trust themselves to use the internet and technology to achieve their everyday needs.

Community

Digital equity support program for small businesses and nonprofits

The Town of Barnstable would benefit from a digital equity program targeted to small businesses and nonprofits that:

- Provides funding to address connectivity, device, and security needs, and,
- Offers technical assistance to implement solutions related to the above and to advance digital skills supportive of business operations, marketing, and finance.

Such a program could be developed and implemented through a partnership between public, private, and nonprofit agencies. Entities with experience that could be leveraged to develop, manage, or promote such a program include Love Live Local, Hyannis Main Street Business Improvement District, Entrepreneurship for All Cape Cod, and Barnstable Planning and Community Development. There are also a variety of local companies that could contribute to such a program, such as Cape Computer Help, Osterville Wi-Fi and Smarthome, Secure Biz Networks,

Gadgets Made Eazy, and Mobile Mac Doctors. Barnstable Information Technology could be consulted to provide feedback as the program is developed or contribute to program implementation.

Support the town's libraries as critical hubs for digital equity

Libraries across the Town of Barnstable are critical to the community's digital equity ecosystem. The town is fortunate to have a wealth of digital equity resources and programs available through the libraries, and more can be done to coordinate digital equity offerings across these providers.

Leadership at multiple libraries have expressed enthusiasm for supporting digital equity programming and collaboration into the future. Continued coalition building across libraries and community organizations specific to implementing digital equity solutions will ensure that community members are aware of library resources and programs. This will also ensure that digital equity offerings at libraries are well-attended by those most in need.

As recommended previously, libraries could have an integral role in housing, coordinating, or partnering with a Barnstable-based digital navigator. For example, a local digital navigator could revolve their location across each library on a regularly scheduled basis.

Additionally, libraries expressed a variety of areas where additional funding and technical assistance would help them to support unmet community needs. For example,

Community

When digital equity issues arise, community members often lean on municipal and community-based staff and volunteers to resolve emergencies or for informal tech support.

the Town may consider opportunities to support libraries such as the Cotuit Public Library and the Whelden Memorial Library to secure funding for the purchase of additional computers for public use, mobile hotspots for lending, and/or ChromeBooks. The Town may also consider opportunities to support stronger public Wi-Fi at local libraries to ensure that service is of a consistent and high quality and extends to adjacent outdoor spaces.

Integrate digital equity and accessibility considerations into municipal and community-based services and communications

Digital equity values must be baked into all levels of municipal planning, programming, and policy. Information sharing about all municipal and community-based services should be diversely offered and should meet the target audience “where they are at” in the technical sense, which must include digital accessibility and language considerations.

When digital equity issues arise, community members often lean on municipal and community-based staff and volunteers to resolve emergencies or for informal tech support. It is important to remember that not all staff and volunteers are equally equipped to provide this level of service. Municipal and community-based entities should prioritize technical education for staff and volunteers, so they are empowered to best support residents.

Municipal and community-based services can better meet the diverse needs of all community members if staff have opportunities to increase their understanding of challenges that community members may face with the internet and technology and adopt best practices to address these challenges. This digital equity plan can serve as a catalyst and educational platform for the Town of Barnstable and partnering agencies to strengthen existing services, to train staff and volunteers, and to develop best practices and universal policies for the future. A few examples include the following:

Support regional collaboration

- Entities offering digital equity (or non-digital equity) programs should also ensure that sign-ups for these programs can happen either online or with support from staff over the phone or in-person. This acknowledges barriers faced by members of the community in completing online signups or learning about activities due to connectivity or skill-based barriers.
- The Town of Barnstable should provide literature, workshops, or other tutorials on using online resources (such as registration pages) to ensure residents are well-equipped to access important town tools and updates.

Municipal and community-based entities should prioritize accessibility across all digital platforms. This includes the incorporation of accessibility features and resources to support individuals with disabilities and individuals who speak a language that is not English. This is particularly important for entities that frequently engage covered populations. For example, registration tools and practices through the Hyannis Youth and Community Center or Barnstable Department of Recreation.

Support regional collaboration

There is a tremendous opportunity for increased regional collaboration to further digital equity services and resources across Cape Cod. However, making space for

new, effective partnerships is often “easier said than done.” While this recommendation is not specific to the Town of Barnstable alone, Barnstable can take a leadership role in initiating collaborations, such as those described below:

- Regional or statewide opportunities to develop a digital equity coalition to support education on best practices, peer-to-peer information sharing, and the creation of more streamlined programming. An example may include participation in efforts led by organizations such as the Cape Cod Technology Council and Health Aging Cape Cod.
- Building out a digital navigator program that not only addresses challenges shared by community members within the Town of Barnstable but also expands to those in need across the region. Ideally, Barnstable-based digital navigators will ultimately connect to similar efforts across the region.
- Increasing public understanding and resource sharing on existing regional or subregional services that advance digital equity, such as those available through community health centers, as this will be key to building new services into the future.
- Leveraging existing partnerships such as those through the COAST and CLAMS networks (described in *Key Findings*) and the public schools. Intentionally baking digital equity conversations into existing platforms may provide a starting place for increased peer-learning and service building discussions.

Category	Recommendation	Action	Champion	Funding	Page
Connectivity	Support improved internet connectivity by offering public Wi-Fi in key locations	Map and inventory public Wi-Fi locations to identify gaps and expand publicly available Wi-Fi in key town locations to support residents, tourists, businesses and economic development, and emergency management.	Planning & Development Department, Barnstable IT Department, Communications team	Municipal Digital Equity Implementation Program, Launchpad Grant Program	56
Connectivity	Incorporate connectivity considerations within the construction and maintenance of municipal and community buildings, particularly housing	Include broadband access in early planning and budgeting phases of new developments.	Town Council, Town Management, Planning & Development Department, Barnstable IT Department, housing entities	Residential Retrofit Program	57
Connectivity	Incorporate connectivity considerations within the construction and maintenance of municipal and community buildings, particularly housing	Ensure equitable internet service availability across municipal locations.	Town Council, Town Management, Planning & Development Department, Barnstable IT Department, housing entities	Municipal Digital Equity Implementation Program	57
Connectivity	Continue to learn about and advocate for improved internet service and increased competition	Map existing fiber networks within the town and identify expansion opportunities.	Planning & Development Department, Barnstable IT Department, Department of Public Works	N/A	58

Category	Recommendation	Action	Champion	Funding	Page
Connectivity	Continue to learn about and advocate for improved internet service and increased competition	Monitor the internet service provision landscape, advocating for internet service options and improved quality.	Planning & Development Department, Town Management, Town Council	N/A	59
Connectivity	Continue to learn about and advocate for improved internet service and increased competition	Develop a mechanism for the public to share feedback and track service provider performance.	Planning & Development Department, Town Management, Town Council	N/A	59
Connectivity	Provide supportive and educational services to help residents with internet service bundles	Connect community agencies with industry experts to offer educational workshops about internet service packages that are accessible to covered populations.	Planning & Development Department, libraries, Barnstable Community Services, Barnstable Adult Community Center, libraries in Barnstable and local nonprofits (health, human services, and education agencies), private consultants	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	59
Devices	Monitor and promote hotspot and device lending programs	Assess device lending needs from the local libraries and augment programs to address gaps.	Planning & Development Department, libraries in Barnstable	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	60

Category	Recommendation	Action	Champion	Funding	Page
Devices	Monitor and promote hotspot and device lending programs	Partner with nonprofit organizations to promote existing lending resources to those most in need.	Libraries, nonprofits (health, human services, and education agencies)	N/A	61
Devices	Introduce device provision programs	Secure grant funding to provide new or refurbished devices to residents in need.	Planning & Development Department, nonprofits (health, human services, and education agencies)	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	61
Devices	Introduce device provision programs	Develop a device provision program for graduating high school seniors.	Barnstable Youth Commission, Planning & Development Department, Barnstable schools, Barnstable Community Services, nonprofits supporting youth such as MassHire CIWB	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	61

Category	Recommendation	Action	Champion	Funding	Page
Devices	Introduce device provision programs	Support small businesses and community organizations in acquiring technology.	Planning & Development Department, Love Live Local, Greater Hyannis Chamber of Commerce, Hyannis Business Improvement District, Cape Cod Foundation, and local nonprofit and business leaders.	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	61
Skills	Promote and enhance existing skills programs and introduce new group and individualized digital equity offerings	Expand existing digital skills programming through libraries and the Adult Community Center.	Libraries, Barnstable Adult Community Center, Planning & Development Department	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	62
Skills	Promote and enhance existing skills programs and introduce new group and individualized digital equity offerings	Develop a community listserv so that service providers can coordinate digital skills programs and share updates.	Libraries and schools in Barnstable, Barnstable Adult Community Center, and other community organizations providing digital equity services or supporting covered populations	N/A	62

Category	Recommendation	Action	Champion	Funding	Page
Skills	Develop integrated technology and English language programs	Support existing English language learning programs by developing complementary learning opportunities that integrate digital skills training.	Community organizations providing English language learning programs, such as Cape Cod Community College's Adult Education Center, LatinX in Action, Hyannis Public Library, and the Brazilian Resource Center.	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources (including ISP philanthropy)	62
Skills	Explore digital navigation models and offerings	Identify a host organization for a digital navigator position that would provide one-on-one support, seek funding for this position, and ensure position development and implementation complements regional efforts.	Leadership from Planning & Development Department, with support from municipal and community entities who are already offering digital equity services such as the libraries, Barnstable Adult Community Center, and healthcare agencies.	Municipal Digital Equity Implementation Program, Launchpad Program, and other private and philanthropic sources	63
Skills	Youth-informed programming about internet safety	Digital skills and safety programs for students and their families, engaging with entities such as the Barnstable Youth Commission to ensure programs are informed by lived experience,	Barnstable Youth Commission, schools in Barnstable, Barnstable Community Services	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources	64

Category	Recommendation	Action	Champion	Funding	Page
Skills	Community-wide programming on internet safety	Offer internet safety workshops through libraries and community centers and ensure these programs address key concerns such as scams and online security.	Libraries in Barnstable, Barnstable Adult Community Center, Hyannis Youth and Community Center, schools in Barnstable, public safety, and private consultants as necessary.	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources	65
Community	Digital equity support program for small businesses and nonprofits	Develop a funding and technical assistance program for small businesses and nonprofits to address digital equity challenges.	Planning & Development Department, Love Live Local, Greater Hyannis Chamber of Commerce, Hyannis Business Improvement District, Cape Cod Foundation, and local nonprofit and business leaders.	Public, private, and philanthropic funding sources with an economic development focus.	66
Community	Support the town's libraries as critical hubs for digital equity	Strengthen coordination among libraries to expand digital equity services.	All libraries in Barnstable, CLAMS Network	Explore funding as needed.	66
Community	Support the town's libraries as critical hubs for digital equity	Provide funding to libraries for additional devices, hotspots, and public Wi-Fi improvements.	Libraries in Barnstable, Planning & Development Department for grant writing support	Municipal Digital Equity Implementation Program, Launchpad Program, private and philanthropic sources	67

Category	Recommendation	Action	Champion	Funding	Page
Community	Integrate digital equity and accessibility considerations into municipal and community-based services and communications	Train municipal and nonprofit staff on digital equity best practices.	Leadership from Town Management, Barnstable IT department, Human Resources Department, Commission on Accessibility, Communications team, Planning & Development Department, with coordination and outreach to municipal and community-based entities.	Explore funding as needed.	67
Community	Integrate digital equity and accessibility considerations into municipal and community-based services and communications	Ensure digital platforms are accessible for all populations, including aging adults, people with disabilities, and people with limited English language proficiency.	All municipal and community based entities, with leadership from the Planning & Development Department, Human Resources Department, Communications team, and the Commission on Accessibility.	Explore funding as needed.	68
Support Regional Collaboration	Support regional collaboration	Participate in regional efforts, such as those related to coalition-building, digital navigation, and grant applications.	Municipal and community-based entities providing digital equity programming, with local coordination through a lead entity (such as the Planning & Development Department) to ensure representation.	Explore funding as needed.	68

Funding

Digital equity initiatives across the country have been supported by a combination of government (federal, state, and municipal), philanthropic, and private sector funding streams. The Town of Barnstable can leverage existing funding opportunities to advance the above recommendations. It will be important to monitor these and potential new funding streams as priorities evolve over the coming years.

Massachusetts Digital Equity Funding Context

Through the federal Digital Equity Act of 2021, \$2.75 billion was allocated for the development and support of digital equity programs across the country. Massachusetts received a \$1 million planning grant to develop a statewide digital equity plan, a process implemented through the Massachusetts Broadband Institute (MBI). MBI serves as the coordinating entity for broadband related funds, including those through the federal American Rescue Plan Act (ARPA). The statewide digital equity plan, Massachusetts Internet for All, lays the foundation for the advancement of future digital equity funding streams, which will be operationalized through a combination of forthcoming federal and state funding and coordinated through the Massachusetts Broadband Institute.

State-allocated ARPA funding supports the advancement of a Municipal Digital Equity Implementation Grant Program.

As a participant within MBI's Municipal Digital Equity Planning Program, the Town of Barnstable is eligible to apply for up to \$100,000 to operationalize and pilot strategies identified in this digital equity plan through the **Municipal Digital Equity Implementation Program**.

As of June 2024, the Town reserved state funding through MBI for this implementation effort.

The Cape Cod Commission remains available to support the Town of Barnstable in this process, which could include prioritizing this plan's recommendations, developing a funding application for MBI, connecting with strategic partners, and planning next steps for action in greater detail.

Additionally, the Department of Commerce's National Telecommunications and Information Administration (NTIA) allocated \$14.1 million to Massachusetts, secured in late 2024, from its Digital Equity Capacity Grant Program. This funding supports MBI's recently released **Launchpad Grant Program** and the expansion of its Municipal Digital Equity Planning and Implementation programs. The Launchpad program could be a particularly valuable funding opportunity for community-based organizations based in Barnstable looking to pursue many of the recommendations outlined in this digital equity plan.

Digital Equity Partnerships Program

Following the passage of An Act Relative to Immediate COVID-19 Recovery Needs, a \$50 million Broadband Innovation Fund was established to bridge the digital divide

Funding

as a component of the Commonwealth's COVID recovery and response efforts. MBI funded an initial nine organizations through the Digital Equity Partnerships Program, more recently announcing an additional \$20 million in grants to many of the same organizations to continue this work.

The following programs are most relevant to potential projects within the Town of Barnstable:

Metropolitan Area Planning Council Apartment Wi-Fi

Program: this program provides funding, project management, and procurement support to fund the construction of Wi-Fi networks which provide residents with equal or superior service than what is available from commercial ISPs, at no cost to residents. Funding covers all capital costs associated with network design, construction, and equipment, and the first year of ongoing operating expenses.

- **Massachusetts League of Community Health Centers:** Federally Qualified Health Centers (FQHCs) Telehealth Consortium to help 35 health across the state support telehealth services. The Consortium will provide required staff capacity, training and coaching resources, oversight, and evaluation to screen patients at FQHCs for digital access needs. The Town of Barnstable should learn how local qualifying health centers are operationalizing this funding to support residents of Barnstable and consider opportunities for partnership.

Massachusetts League of Community Health Centers:

Federally Qualified Health Centers (FQHCs) Telehealth Consortium to help 35 health across the state support telehealth services. The Consortium will provide required staff capacity, training and coaching resources, oversight, and evaluation to screen patients at FQHCs for digital access needs. The Town of Barnstable should learn how local qualifying health centers are operationalizing this funding to support residents of Barnstable and consider opportunities for partnership. The Community Health Center of Cape Cod (CHC) and Duffy Health Center are Federally Qualified Health Centers with locations in the Town of Barnstable.

While the grant solicitation is now closed for the Digital Equity Partnerships Program, the Town of Barnstable may consider opportunities to tap into the above programs. Connecting with the funded agencies may provide useful peer learnings or resources.

Capital Projects Fund (CPF)

GAP Network Grant Program: MBI designated \$145 million from the federal Capital Project Fund for this program. Its aim is to connect remaining unserved and underserved locations in advance of grants from the Broadband Equity, Access, and Deployment program. Projects in Barnstable were among eight Cape communities identified for funding in the first two rounds of this program. These grants, along with matching funds from the

awarded providers, total more than \$41 million. The MBI GAP Network Grant provides Comcast a modest amount to connect the limited number of remaining unserved and underserved Barnstable locations.

Residential Retrofit Program: This program deploys state of the art broadband infrastructure to Affordable Housing properties across Massachusetts. MBI will make available grants covering 100% of eligible capital costs associated with the retrofit of eligible properties. This program and the previously described MAPC Apartment Wi-Fi Program share the same expression of interest form for entities looking to pursue either opportunity.

BROADBAND EQUITY ACCESS DEPLOYMENT (BEAD) PROGRAM

Massachusetts was awarded \$147 million in BEAD funding to close remaining gaps in unserved and underserved locations. The guidance for awarding grants from these funds is heavily weighted toward existing services providers, whether private or public. As implemented through MBI, BEAD funding was to be awarded after the GAP Network Grant Program, which was expected to address a majority of underserved and unserved locations.

BEAD funding in excess of what is needed for broadband infrastructure will be used for non-deployment projects. Funding priorities are expected to strongly align with recommendations offered in this digital equity plan – ensuring that all communities are equitably able to adopt the internet. These priorities are also reflected in existing plans and programs such as the Massachusetts Internet for

All Plan, the Digital Equity Partnerships Program, and the Municipal Digital Equity Planning and Implementation Programs. Two quality-of-service programs, the Residential Internet Retrofit Program and the Front Door Program, are expected to absorb a portion of BEAD non-deployment spending.

The BEAD award process is ongoing. Should available funding remain available after an initial round, there are expected to be further grant rounds in support of digital equity.

MUNICIPAL FIBER GRANT PROGRAM

The Municipal Fiber Grant program is a competitive grant program that supports the closing of critical gaps that exist in municipal networks. Focused on connecting municipality-owned facilities, it assists municipalities in achieving many critical goals associated with municipal fiber networks. Grants to a single town can be up to \$250,000, and up to \$500,000 for joint applications.

AMERICAN CONNECTION CORPS

MBI has partnered with the Lead for America American Connection Corps program offered through Lead for America to establish a digital equity fellowship opportunity in Massachusetts, with funding available to place fellows at organizations across the Commonwealth. Digital equity fellows will support the development of digital inclusion programs by providing strategy, organization, and administration to hosting entities. Commission staff recommend a regional, interagency, or intermunicipal

Funding

approach for pursuit of this program. The program requires a lead agency to host the digital equity Implementation fellow, and entities within the Town of Barnstable, including the town itself, may be well positioned to support this effort given the completion of this digital equity plan.

RESIDENTIAL AFFORDABILITY PROGRAMS

As described in *State of Digital Equity* chapter, the Affordability Connectivity Program concluded in Spring 2024. Entities throughout the Town of Barnstable should identify organizations to support eligible residents in accessing both the Lifeline and Comcast Internet Essentials programs. Social workers, case managers, guidance counselors, and other professionals who work 1-on-1 with individuals and families to access subsidy programs are particularly well positioned to support enrollment in this type of program.

LEVERAGING ADDITIONAL FUNDING STREAMS

There are a number of public and philanthropic funding streams that are not specific to digital equity, but that could be accessed to further digital equity goals. The Town of Barnstable is a direct recipient of Community Development Block Grant (CDBG) funds, which allows it to disburse for a wide array of community projects. In 2023, Barnstable authorized \$297,000 in CDBG funds to expand OpenCape's

fiber network in downtown Hyannis. In other communities, CDBG funds have been used to provide digital literacy classes. Barnstable may look to future CDBG grant rounds to assist with this plan's implementation.

Workforce development funding may be another good avenue to pursue, as there is a connection between digital adoption and participation in the workforce. Similarly, educational funding streams and programs, particularly including those that benefit covered populations, may be aligned with digital equity goals.

Entities across the Town of Barnstable or that benefit the Barnstable community may be eligible for diverse funding streams that ultimately further digital equity. By developing a stronger digital equity network across town assets, the Town can learn of and strategically approach funding and programmatic opportunities.

Measuring Success

Measuring the successful implementation of this digital equity plan will require tracking existing individual programs, services, or strategies as well as those that may be initiated as a result of this plan. Coordination and information-sharing between involved entities will be critical in order to ensure that these activities are successful on a community-wide level. The Town of Barnstable may identify a lead staff member or department to identify and coordinate methods for the Town to employ in measuring the progress of this plan's implementation.

Understanding the success of individual digital equity activities will vary dependent upon the nature of that initiative or offering. Generally, identification of goals and measurement tools should guide the development of each activity. Targets should be set related to immediate outcomes that are tied to community need (for example, intended number of community members to benefit from any given program). Long-term goals for each activity should also tie in with an overarching, town-wide vision as identified through this digital equity plan.

Successful implementation of this plan will be continuous and evolving work, as residents move into and out of the community, as community members move along the continuum of digital equity, and as the digital world continues to progress.

Continued Learning

Ongoing learning is key to addressing the digital divide, particularly as the digital world will continue to advance. Commission staff have identified particular areas that were not addressed through this planning process, listed below:

Emergency communications: the Town of Barnstable should continue to consider how emergency communications must evolve to better reach residents who are impacted by the digital divide. Digital equity should not be assumed when planning emergency communications.

Data collection: the connectivity landscape in Barnstable and beyond is quickly evolving. Entities across the Town of Barnstable should continue to track connectivity. The [Regional Broadband Needs Assessment](#) offers a starting place for the Town of Barnstable to learn more.

Connecting with regional efforts: there is momentum across the region for continued digital equity learning, collaboration, and implementation. Leaders within the Town of Barnstable should continue to stay connected to regional efforts to maximize peer learning opportunities and available resources.

Advancing Digital Equity in Barnstable

Advancing Digital Equity in Barnstable

Advancing digital equity solutions in the Town of Barnstable will require collaboration and engagement from actors at all levels, including municipal, regional, and state entities, community-based, nonprofit, and private sector organizations, and individual advocates. This plan provides a starting place for the Town to convene local stakeholders

and practitioners to prioritize and develop implementation strategies.

Cape Cod Commission staff are available to support the implementation process and can better connect these efforts to other initiatives across the region.

Equipped with data, community feedback, and tailored recommendations, Barnstable is well-positioned to foster a more inclusive digital future for all community members.

The background is a deep blue gradient. It features a network of thin, light blue lines connecting small, glowing blue dots, resembling a molecular or data network. Overlaid on this are numerous horizontal bars of varying lengths and shades of blue, some appearing as bright, glowing streaks and others as more muted, translucent bands. The overall effect is one of high-tech, digital connectivity.

APPENDIX