

# Barnstable Digital Equity Plan

## PROJECT KICKOFF MEETING

AUGUST 15, 2024  
BARNSTABLE TOWN HALL



CAPE COD  
COMMISSION

**MBI**  
MASSACHUSETTS  
BROADBAND INSTITUTE



at the MassTech  
Collaborative



## INTRODUCTIONS

Please share your:

- Name
- Organization or Department
- Role
- First memory of using the internet or a device

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## AGENDA

- Introductions
- Project overview
- Defining key terms
- Existing conditions in Barnstable
- Community engagement exercises
- Wrap-up





# Project Overview

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# Project Background



## AMERICAN RESCUE PLAN

- COVID-19
- ARPA, IIJA Digital Equity Act, BEAD



- MBI developing State Digital Equity Plan (SDEP)
- Programs and funding for municipalities: planning, implementation, and more to come



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- Commission is a service provider for municipalities
- Supporting regional digital equity & broadband initiatives
- Barnstable embarking on municipal plan

*This project was funded by the Massachusetts Broadband Institute at the MassTech Collaborative under the Municipal Digital Equity Planning Program. Funding was provided by Massachusetts ARPA State Fiscal Recovery Funds.*

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## WHAT IS A DIGITAL EQUITY PLAN?

# Purpose of the plan

- 
- Understand current landscape of digital equity
  - Prepare for future funding opportunities
  - Equitable implementation: ensure that all benefit from infrastructural and programmatic investments
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## WHAT IS A DIGITAL EQUITY PLAN?

# Plan Elements

1

**Introduction & Town Vision for Digital Equity**

2

**Current State of Digital Equity**

*Existing conditions, knowledge gaps, challenges, and opportunities*

3

**Community Engagement Process**

*Who was engaged and how were they engaged*

4

**Key Findings**

*Discoveries from data collection and community engagement*

5

**Recommendations**

*Recommendations for driving solutions, funding, and evaluation*

# Tasks and Timeline





# Project Roles

## Commission staff:

- Project management
- Conduct stakeholder & community outreach
- Collect and compile data
- Facilitate community workshop
- Draft digital equity plan

## Town of Barnstable:

- Inform town vision & goals
- Local guidance & sounding board
- Support outreach
- Participate in community workshop
- Implement digital equity plan!

## Community members:

- Contribute to town vision & goals
- Provide information that will inform plan: challenges, opportunities, recommendations
- Engage in community outreach activities
- Take the MBI survey
- Attend a community workshop
- Support town implementation of digital equity plan



# What is Digital Equity?

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# Digital Equity: *The Goal*

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“A 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*



# Components of Digital Equity

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## Internet Connection

Affordable, fast, reliable,  
accessible.



## Devices

Adequate, needs-  
appropriate, affordable,  
accessible.

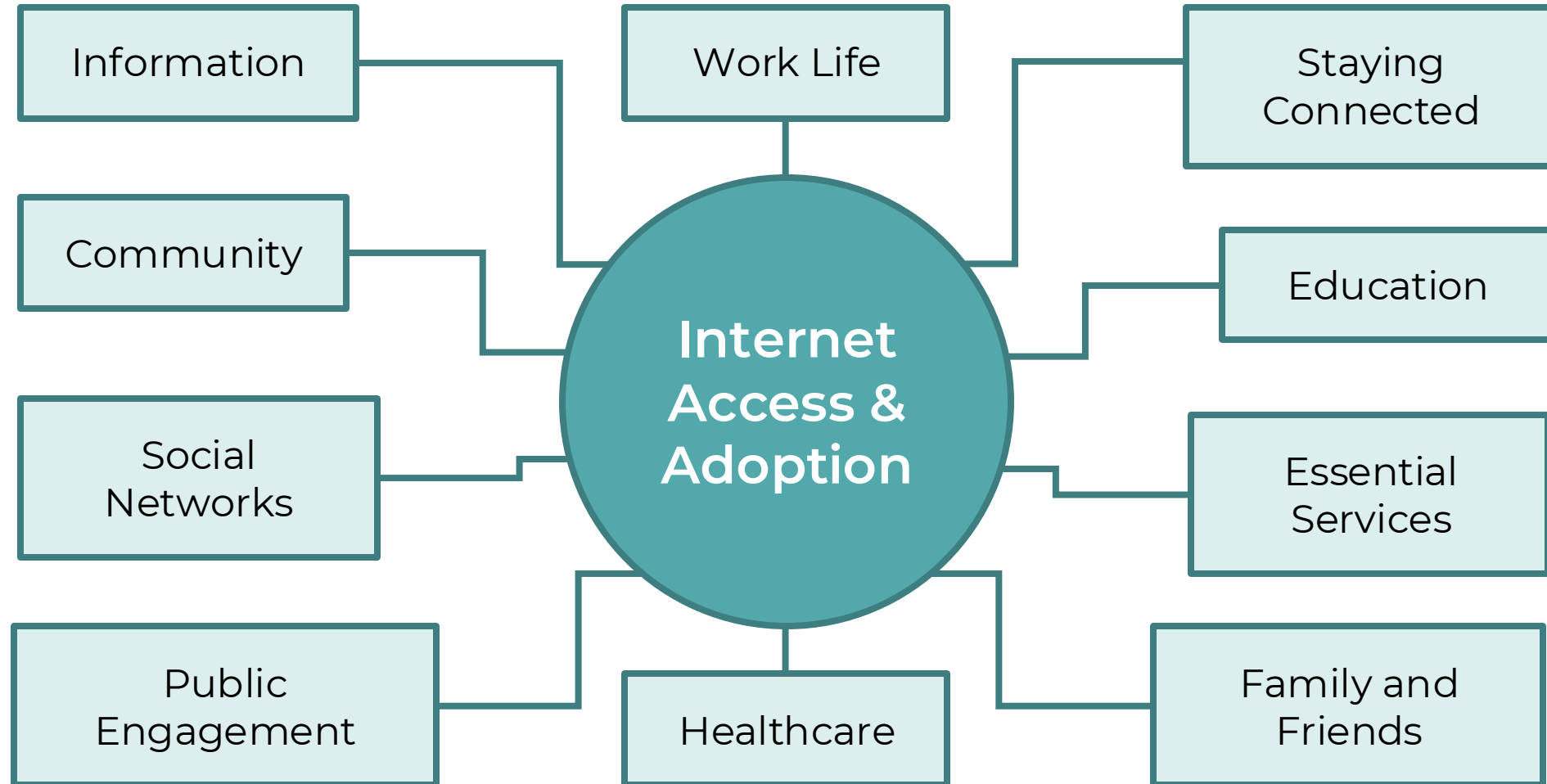


## Literacy/Skills

Ability to use technology,  
functionality, trust,  
privacy concerns.

# Impacts of Digital Equity

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# Covered Populations

## Digital Equity (DE) & Broadband, Equity, Access, and Deployment (BEAD)

### Covered Populations and Underrepresented Communities

*Identify groups and communities disproportionately impacted by digital inequity*



Low-income households



Indigenous and Native American persons



People with language barriers



Aging individuals



Members of ethnic and religious minorities



Racial and ethnic minorities



Incarcerated individuals



Women



Rural inhabitants



Veterans



LGBTQI+ persons



Persons adversely affected by persistent poverty or inequality



Persons of color



Persons with disabilities



The background image shows the exterior of the Barnstable Town Hall, a red brick building with a white window frame. A large, leafless tree stands in the foreground, and another leafy tree is on the right. A blue network overlay with glowing nodes and connecting lines is superimposed over the scene. In the top left, a blue banner features the Seal of the Town of Barnstable, Massachusetts, with the text "SEAL OF THE TOWN OF BARNSTABLE MASS. 1639 ADOPTED MAY 4, 1888".

# Existing Conditions

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Demographics and Internet Connectivity



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## EXISTING CONDITIONS

# Data Reviewed

## American Community Survey, 2022 5-year Estimate Tables

- **DP02**, Selected Social Characteristics In The United States
- **DP03**, Selected Economic Characteristics In The United States
- **DP04**, Selected Housing Characteristics
- **DP05**, ACS 5-Year Demographic and Housing Estimates
- **S0101**, Age And Sex
- **S1602**, Limited English Speaking Households
- **B16005**, Nativity By Language Spoken At Home By Ability To Speak English For The Population 5 Years And Over
- **S1701**, Poverty Status In The Past 12 Months
- **S1901**, Income In The Past 12 Months (In 2022 Inflation-adjusted Dollars)
- **S2802**, Types of Internet Subscriptions by Selected Characteristics
- **B25093**, Age of Householder by Selected Monthly Owner Costs as a Percentage of Household Income in the Past 12 Months
- **B25072**, Age of Householder by Gross Rent as a Percentage of Household Income in the Past 12 Months
- **B01001A - B01001H**, Sex by Age and Race

- **B19037A** though **B19037H**, Age and Race of Householder by Household Income in the Past 12 Months

## 2020 Decennial Census Tables

- **DP1**, Profile Of General Population And Housing Characteristics

## Other

- **Affordable Connectivity Program** Enrollments And Claims, Through December 2023
- **FCC National Broadband Map Data**
- **Massachusetts Broadband Institute** Digital Equity Survey, Preliminary Barnstable Results

# EXISTING CONDITIONS

# General Demographics

2022 American  
Community Survey  
5-Year Estimates

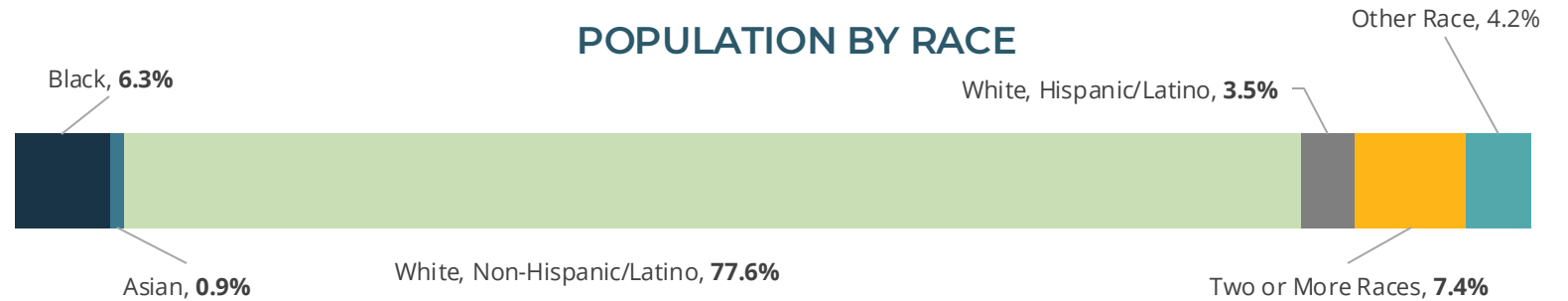
# Town of Barnstable

## KEY DEMOGRAPHIC INFORMATION

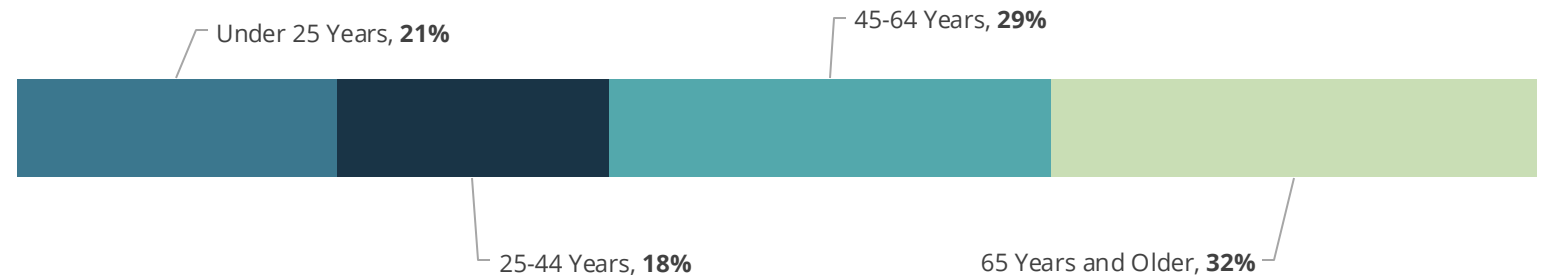
POPULATION <b>48,922</b>	HOUSING UNITS <b>27,040</b>	HOUSEHOLDS <b>3,004</b>	OWNERS <b>14,801</b> (75.6%)	BROADBAND <b>93.4%</b>	MEDIAN SALES PRICE <b>\$840,000</b> (2022)	HOUSEHOLD INCOME <b>\$94,387</b> Median
MEDIAN AGE <b>47.1</b>	SEASONAL <b>6,219</b> (23.%)	HOUSEHOLD SIZE <b>2.47</b>	RENTERS <b>4,773</b> (24.4%)	NO COMPUTER <b>3.6%</b>		

(Various Sources)

## POPULATION BY RACE



## AGE DIVERSITY





# EXISTING CONDITIONS

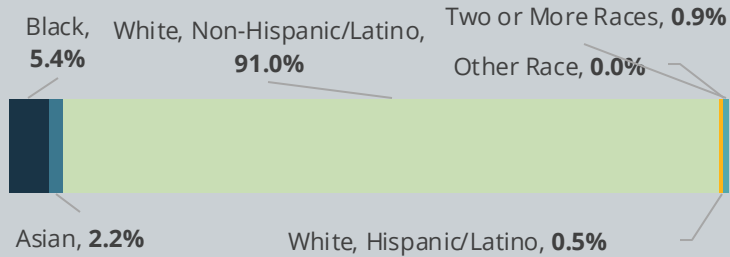
# General Demographics

2022 American Community Survey  
5-Year Estimates

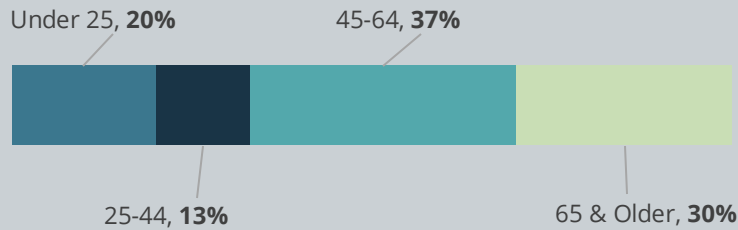
## Census Tract 133

Cotuit

POPULATION: 4,727



MEDIAN AGE: 56.8



### HOUSING AND INCOME

HOUSING UNITS <b>2,977</b>	HOUSEHOLDS <b>2,099</b>	OWNER UNITS <b>1,977</b> (94.2%)	HOUSEHOLD INCOME <b>\$125,964</b>
SEASONAL UNITS <b>754</b> (25.3%)	HOUSEHOLD SIZE <b>2.67</b>	RENTER UNITS <b>122</b> (5.8%)	% HH POVERTY <b>2.2%</b>

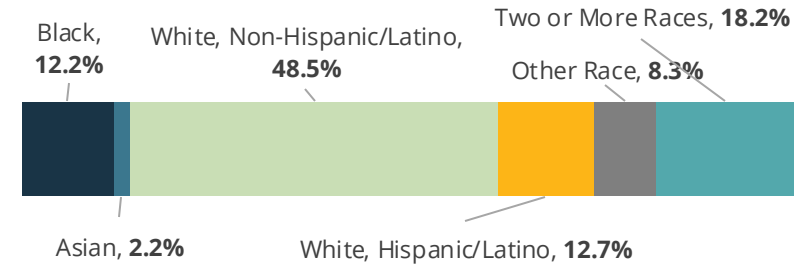
### CONNECTIVITY



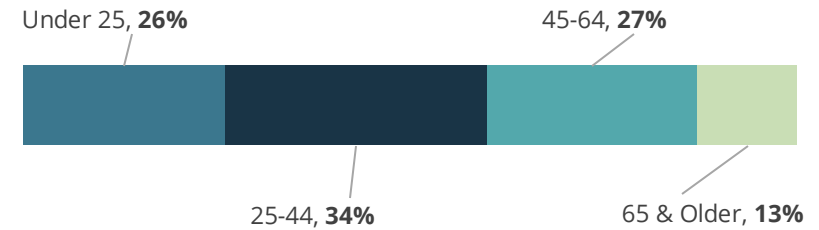
## Census Tract 153

Hyannis

POPULATION: 3,864



MEDIAN AGE: 40.2



### HOUSING AND INCOME

HOUSING UNITS <b>2,346</b>	HOUSEHOLDS <b>1,729</b>	OWNER UNITS <b>420</b> (24.3%)	HOUSEHOLD INCOME <b>\$42,227</b>
SEASONAL UNITS <b>250</b> (10.7%)	HOUSEHOLD SIZE <b>3.22</b>	RENTER UNITS <b>1,309</b> (75.7%)	% HH POVERTY <b>14.9%</b>

### CONNECTIVITY



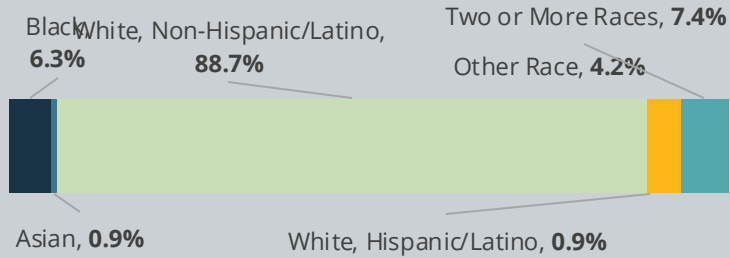
# EXISTING CONDITIONS

# Covered Populations

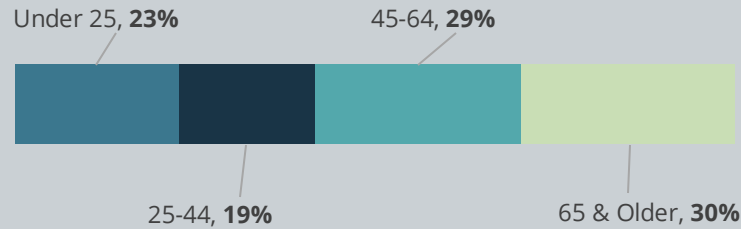
2022 American Community Survey 5-Year Estimates

## All Other Tracts (7)

POPULATION: 31,790



MEDIAN AGE: 51.3



### HOUSING AND INCOME

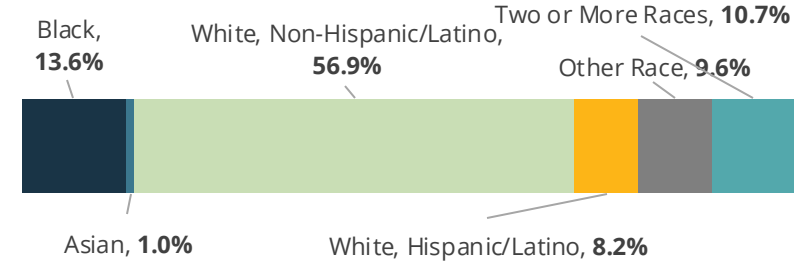
HOUSING UNITS <b>18,080</b>	HOUSEHOLDS <b>12,979</b>	OWNER UNITS <b>11,599</b> (89.4%)	HOUSEHOLD INCOME <b>\$113,600</b>
SEASONAL UNITS <b>4,411</b> (24.4%)	HOUSEHOLD SIZE <b>2.4</b>	RENTER UNITS <b>1,380</b> (10.6%)	% PEOPLE IN POVERTY <b>5.2%</b>

### CONNECTIVITY

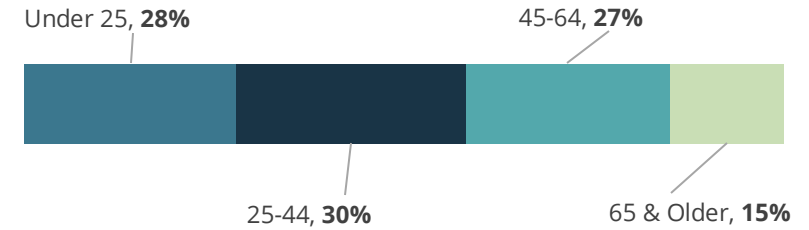


## Hyannis Tracts (4)

POPULATION: 17,132



MEDIAN AGE: 38.7



### HOUSING AND INCOME

HOUSING UNITS <b>8,960</b>	HOUSEHOLDS <b>6,595</b>	OWNER UNITS <b>3,202</b> (48.6%)	HOUSEHOLD INCOME <b>\$61,216</b>
SEASONAL UNITS <b>1,808</b> (20.2%)	HOUSEHOLD SIZE <b>2.6</b>	RENTER UNITS <b>3,393</b> (51.4%)	% PEOPLE IN POVERTY <b>13.2%</b>

### CONNECTIVITY



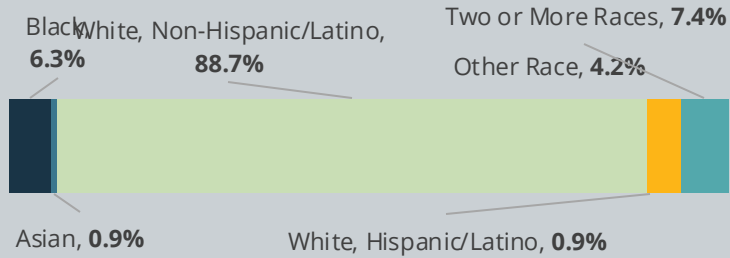
## EXISTING CONDITIONS

# Covered Populations

2022 American  
Community Survey  
5-Year Estimates

## All Other Tracts (7)

POPULATION: 31,790



Veterans  
**6.6%**



People in Poverty  
**5.2%**



Aging Population (60+)  
**37.3%**



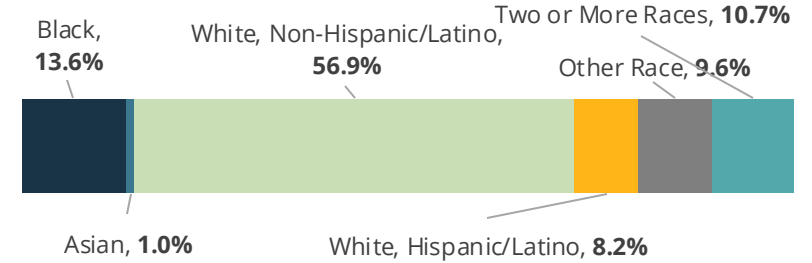
With a Disability  
**11.7%**



With Language Barrier  
**4.1%**

## Hyannis Tracts (4)

POPULATION: 17,132



Veterans  
**4.9%**



People in Poverty  
**13.2%**



Aging Population (60+)  
**20.9%**



With a Disability  
**11.6%**



With Language Barrier  
**17.1%**



**EXISTING  
CONDITIONS**

**Barnstable  
Public Schools  
Student Population**

**Barnstable Public Schools**

	2013-14	2023-24
<b>Enrolled*</b>	5,194	4,662
<b>Race*</b>		
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%)
<b>Characteristics*</b>	<b>2013-14</b>	<b>2023-24</b>
First Language Not English.....	619 (12.6%)	1,720 (35.7%)
English Language Learner.....	320 (6.5%)	1,125 (23.4%)
Students 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.

**SOURCE:** Mass. DESE 2023-24 Enrollment By Race/Gender Report

**Barnstable**

**School-Aged  
Children**

<b>Total</b>	<b>5,897</b>
<b>Local Public</b>	<b>4,677</b>
Vocational	185
Collaboratives	29
Charter	373
Other Districts	0
Private/Parochial	557
Home Schooled	76

*Total Public Schools 5,264*

**SOURCE:** Mass. DESE  
2023-24 School Attending  
Children Report

# Student Diversity

School	Grades	Enrolled	White	Black	Hispanic	Asian	Multi-Racial	Native American	Native Hawaiian Pacific Islander
<b>Barnstable Community Innovation School</b>	<b>K-3</b>	<b>309</b>	29.4%	10.0%	50.8%	1.9%	7.8%	0.0%	0.0%
<b>Hyannis West Elementary</b>	<b>K-3</b>	<b>342</b>	21.9%	13.2%	55.0%	1.8%	7.6%	0.6%	0.0%
<b>Centerville Elementary</b>	<b>K-3</b>	<b>260</b>	66.9%	6.5%	16.2%	1.9%	8.5%	0.0%	0.0%
<b>West Barnstable Elementary</b>	<b>K-3</b>	<b>253</b>	58.1%	3.6%	20.9%	3.2%	14.2%	0.0%	0.0%
<b>West Villages Elementary School</b>	<b>K-3</b>	<b>399</b>	69.4%	4.3%	14.0%	1.5%	10.8%	0.0%	0.0%
<b>Barnstable United Elementary School</b>	<b>4-5</b>	<b>706</b>	51.6%	9.1%	28.2%	2.1%	8.5%	0.6%	0.0%
<b>Barnstable Intermediate School</b>	<b>6-7</b>	<b>639</b>	50.1%	10.0%	29.4%	2.7%	7.8%	0.0%	0.0%
<b>Barnstable High</b>	<b>8-12</b>	<b>1,756</b>	51.5%	10.5%	29.7%	1.8%	5.9%	0.6%	0.1%
<b>Total</b>		<b>4,664</b>	<b>50.4%</b>	<b>9.3%</b>	<b>30.1%</b>	<b>2.0%</b>	<b>7.8%</b>	<b>0.3%</b>	<b>0.04%</b>

•Includes all students enrolled, regardless of hometown.

 Townwide Student Population

**SOURCE:** Mass. DESE 2023-24 Enrollment By Selected Population Report

## EXISTING CONDITIONS

# Barnstable Public Schools Student Population

# Selected Populations

School	Grades	Enrolled	Low Income	First Language Not English	English Language Learner	High Needs
Barnstable Community Innovation School	K-3	309	61.8%	57.6%	46.9%	80.3%
Hyannis West Elementary	K-3	342	76.6%	60.5%	53.8%	92.1%
Centerville Elementary	K-3	260	44.2%	22.7%	20.4%	52.7%
West Barnstable Elementary	K-3	253	45.8%	27.7%	22.9%	58.1%
West Villages Elementary School	K-3	399	40.6%	17.3%	12.3%	52.9%
Barnstable United Elementary School	4-5	706	50.1%	33.9%	21.4%	64.9%
Barnstable Intermediate School	6-7	639	55.1%	38.2%	18.6%	70.6%
Barnstable High	8-12	1,756	53.5%	33.6%	17.6%	65.0%
<b>Total</b>		<b>4,664</b>	<b>53.4%</b>	<b>35.5%</b>	<b>22.9%</b>	<b>66.7%</b>

•Includes all students enrolled, regardless of hometown.

 Townwide Student Population

**SOURCE:** Mass. DESE 2023-24 Enrollment By Selected Population Report

## EXISTING CONDITIONS

# Barnstable Public Schools Student Population

**EXISTING  
CONDITIONS**

# Devices in Use by Household

<b>More Than One Device</b>	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
<b>Desktop Or Laptop</b>	93.2%	90.6%	81.0%	88.8%	85.6%	85.4%	90.9%	90.8%	92.2%	87.4%	<b>69.1%</b>
<b>Other Computer</b>	5.4%	1.2%	3.3%	1.7%	2.8%	1.8%	2.8%	0.5%	1.2%	1.6%	<b>0.0%</b>
<b>Smartphone</b>	90.6%	91.8%	86.3%	77.2%	92.7%	89.8%	89.7%	84.1%	94.1%	88.5%	<b>85.0%</b>
<b>Tablet/Portable Wireless Computer</b>	77.3%	58.0%	71.3%	64.1%	65.6%	72.3%	67.7%	63.7%	73.0%	74.7%	<b>46.1%</b>
<b>Likely Multiple Connections</b>	90.5%	88.4%	76.5%	75.6%	85.5%	84.7%	88.1%	80.1%	88.3%	86.6%	<b>71.5%</b>
<b>One Device Only</b>											
<b>Desktop Or Laptop</b>	2.4%	2.9%	9.5%	9.6%	4.7%	3.2%	3.1%	11.2%	4.0%	2.8%	<b>2.3%</b>
<b>Other Computer</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
<b>Smartphone</b>	0.3%	2.8%	4.8%	5.2%	2.7%	2.6%	1.3%	3.4%	5.6%	0.0%	<b>8.7%</b>
<b>Tablet/Portable Wireless Computer</b>	1.2%	0.0%	0.0%	0.5%	0.0%	0.6%	0.0%	1.5%	1.1%	0.0%	<b>1.4%</b>
<b>No Computer</b>	3.3%	3.0%	1.1%	2.4%	1.4%	4.7%	4.0%	1.9%	0.0%	7.4%	<b>10.2%</b>



## EXISTING CONDITIONS

# Internet Coverage

## Internet Service Providers in Barnstable Marketing Speeds: Self-Reported to FCC

### FCC Methodology

- A census block is considered to have access if at least one broadband provider **advertises speeds of 100 Mbps download and 20 Mbps upload** of higher.
- Download and upload speed represent maximum advertised speeds providers report making available.
- A property is considered connected if a provider can install connections within 10 business days.

		<b>Download</b> (Max MBPS)	<b>Upload</b> (Max MBPS)	<b>Coverage</b>
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### Cable

Xfinity	1200	35	17,666	74.%
Xfinity	2000	200	6,099	25.6%
<i>Combined Townwide Coverage</i>				<b>99.6%</b>

### Licensed Fixed Wireless

T-Mobile	100	20	2,521	10.6%
VERIZON	200	30	89	0.4%
VERIZON	300	20	1,411	5.9%

### Fiber-to-Premises

Xfinity	100	100	25	0.1%
Xfinity	200	200	8	0.0%
Xfinity	500	500	6	0.0%
Xfinity	1000	1000	7	0.0%

**NOTE:** OpenCape and other similar services are not required to self-report advertised speeds to the FCC and are not included in the data.

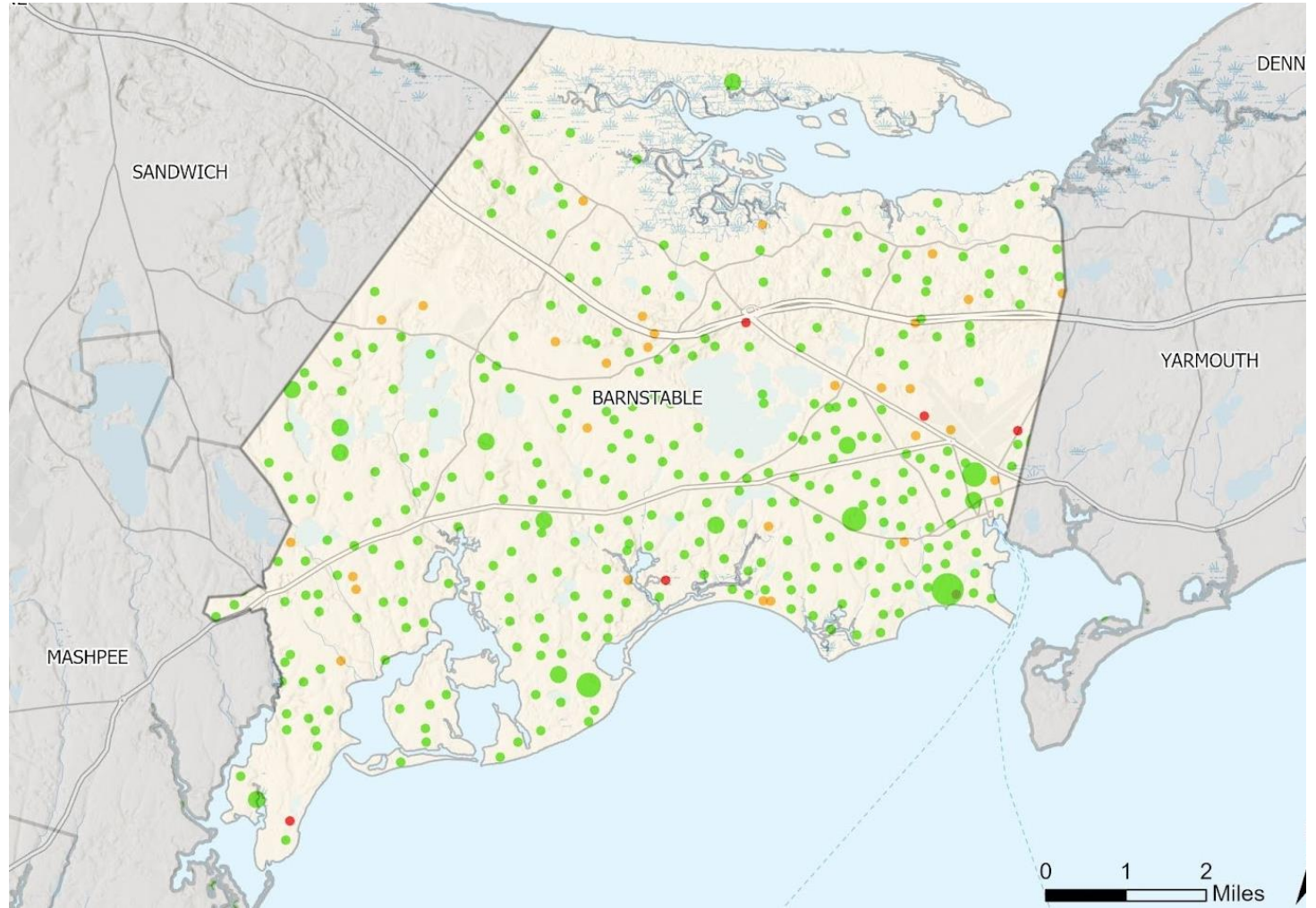
# EXISTING CONDITIONS

# Internet Coverage

## Fixed and Mobile Broadband Needs Assessment

CTC Technology and Energy  
Prepared for Barnstable County

# Average Download Speeds



Number of Speed Tests and Average Download Speed	Speed (Mbps)	Tests Taken	Created: February 7, 2024 by CTC Technology & Energy
City of Barnstable Barnstable County Massachusetts	<span style="color: green;">●</span> Above 100	<span style="font-size: 1em;">●</span> 100 <span style="font-size: 1.5em;">●</span> 300	Basemap: ESRI World Terrain
	<span style="color: orange;">●</span> 25 - 100	<span style="font-size: 1em;">●</span> 200 <span style="font-size: 1.5em;">●</span> 400	Coordinate System: NAD 1983 (2011) State Plane Massachusetts
	<span style="color: red;">●</span> Below 25		Data Sources: - MassGIS Data: Municipalities - Ookla (2022)

*Ookla speed tests by census block.*

## EXISTING CONDITIONS

# Data from Expired Affordable Connectivity Program (ACP)

As of Dec. 1, 2023

### 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

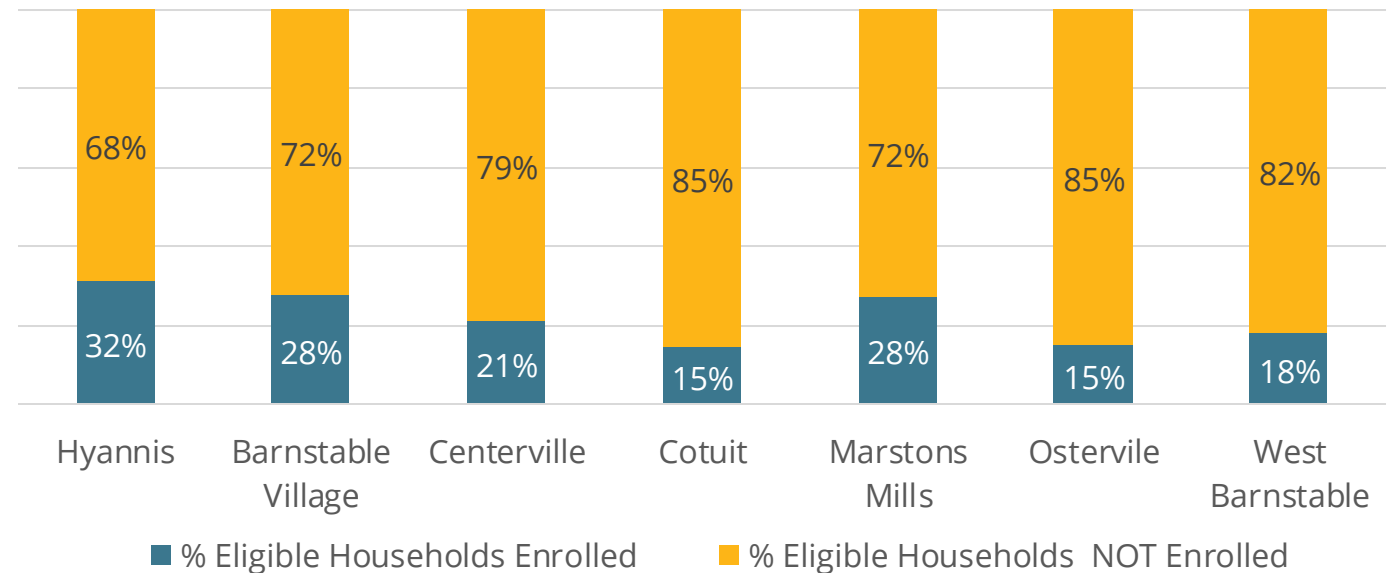
The **Affordable Connectivity Program** expired in April 2024. It was an FCC benefit program to assist households afford broadband connections for work, school, healthcare and more.



### Townwide:

- Eligible Households: **5,000** (Appx)
- Households Enrolled: **1,333** (27%)

### Missed Connections







# Community Engagement

Overview & Group Brainstorm



# Community Engagement Overview

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Learn from **practitioners** and **community members** on **challenges** within the digital world and **opportunities** to advance digital inclusion.

- **Public participation** to inform which will be developed by the community for the community.
- Continued **collection of data**.
- **Outreach responsive to diverse needs** that yields equitable participation.
- Engagement with **populations most impacted** by the digital divide.



# Community Engagement Strategy

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## Digital Equity Survey (MBI)

- Targeted and broad distribution of survey by entities across town.
- Offered online and in paper, in multiple languages.

## Focus Groups

- Partner with local service providers to meet folks where they are at.
- Guided, semi-structured conversations with residents to solicit authentic feedback.

## Stakeholder Interviews

- 1-to-1 and email-based communication between Commission staff and key stakeholders to inform final plan.

## Community Workshop Series

- Hosted in welcoming community locations, with geographic spread, to encourage participation.
- Attendees include municipal and community-based organization staff as well as the public broadly.



# Community Workshop Series

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- Hosted in welcoming community locations, ideally with geographic spread and connection to covered populations.
- Presentation: overview of plan, key definitions, and data.
- Exercises:
  - Asset mapping
  - Challenges and opportunities
  - Visioning and goal-setting
- Opportunities for feedback and questions.

# Digital Equity in Barnstable

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What does digital equity look like in Barnstable?  
What challenges do Barnstable residents, businesses, and service providers have?

How does your organization/department contribute to digital equity? Do you offer services that support residents with the internet or technology?

What other entities support Barnstable community members with internet and technology needs?

What would a successful digital equity plan look like for the Town of Barnstable? What will this process achieve?



# Planning Questions

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## Focus Groups

Which populations should we target for focus groups? Which community organizations should we partner with to host focus groups?

## Workshop Series

Where should community workshops take place? Other logistical considerations (dates, times, other accommodations)?

## Project Outreach

What outreach methods work across the villages of Barnstable to engage community members in projects?

## Stakeholders & Key Populations

Are there any stakeholders to incorporate in this process that we have not yet discussed? Key populations that we have not discussed?



# Next Steps

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- Town project webpage and outreach tools
- Share digital equity survey with community
- Community engagement preparation, planning, and outreach



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