PLYMOUTH MASTER PLAN

Charting our future together

PLYMOUTH'S EXISTING CONDITIONS

TOWN OF PLYMOUTH MASSACHUSETTS

March 2025

Stantec

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00 | INTRODUCTION

OVERVIEW

This report analyzes Plymouth's existing conditions organized by the elements of the Town's master plan: demographics, land use, housing, transportation, economic development, natural resources, open space and recreation, historic and cultural resources, public facilities and services, and climate resilience and sustainability. It provides a guide for understanding the trends, opportunities, and challenges affecting Plymouth to make informed decisions about its future.

This report will be included as an appendix to the final Plymouth Master Plan. Data sources used for this analysis include the Town of Plymouth, MassGIS, the U.S. Census Bureau, the American Community Survey (ACS), On the Map, ESRI, UMass Donahue Institute Population Projections, ParkServe by the Trust for Public Land, and Replica.

CONTENTS

01 Demographics

02 Land Use

03 Housing

04 Transportation

05 Economic Development

06 Natural Resources

07 Open Space and Recreation

08 Historic and Cultural Resources

09 Public Facilities and Services

10 Climate Resilience and Sustainability

01 | DEMOGRAPHICS

REGIONAL CONTEXT

The Town of Plymouth is located in southeastern Massachusetts between Boston and Cape Cod. It has the second largest population in Plymouth County and the Old Colony Planning Council (OCPC) region, representing approximately 15.6% of the area's total population. While Plymouth is the largest Massachusetts municipality by land area, it has a lower population density (596 people per square mile) than most other communities in the OCPC region.

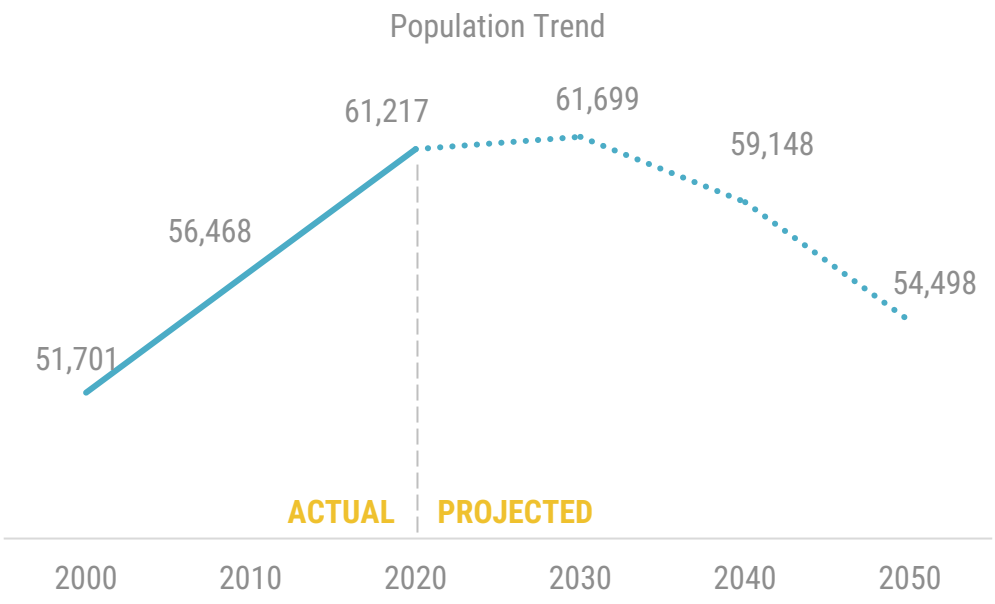
The region has undergone significant population growth over the past 50 years which has led to demographic changes, particularly in Plymouth and many of its neighboring coastal communities.

POPULATION

Plymouth's population experienced substantial growth in recent decades, increasing by 8.4% over the last decade and 18% over the last twenty years.

Population projection data from the UMass Donahue Institute suggests that Plymouth's population growth rate may start tapering and could begin a gradual decline following 2030. This trend is consistent with projections for the county and several nearby communities including Marshfield, Pembroke, Carver, and Sandwich.

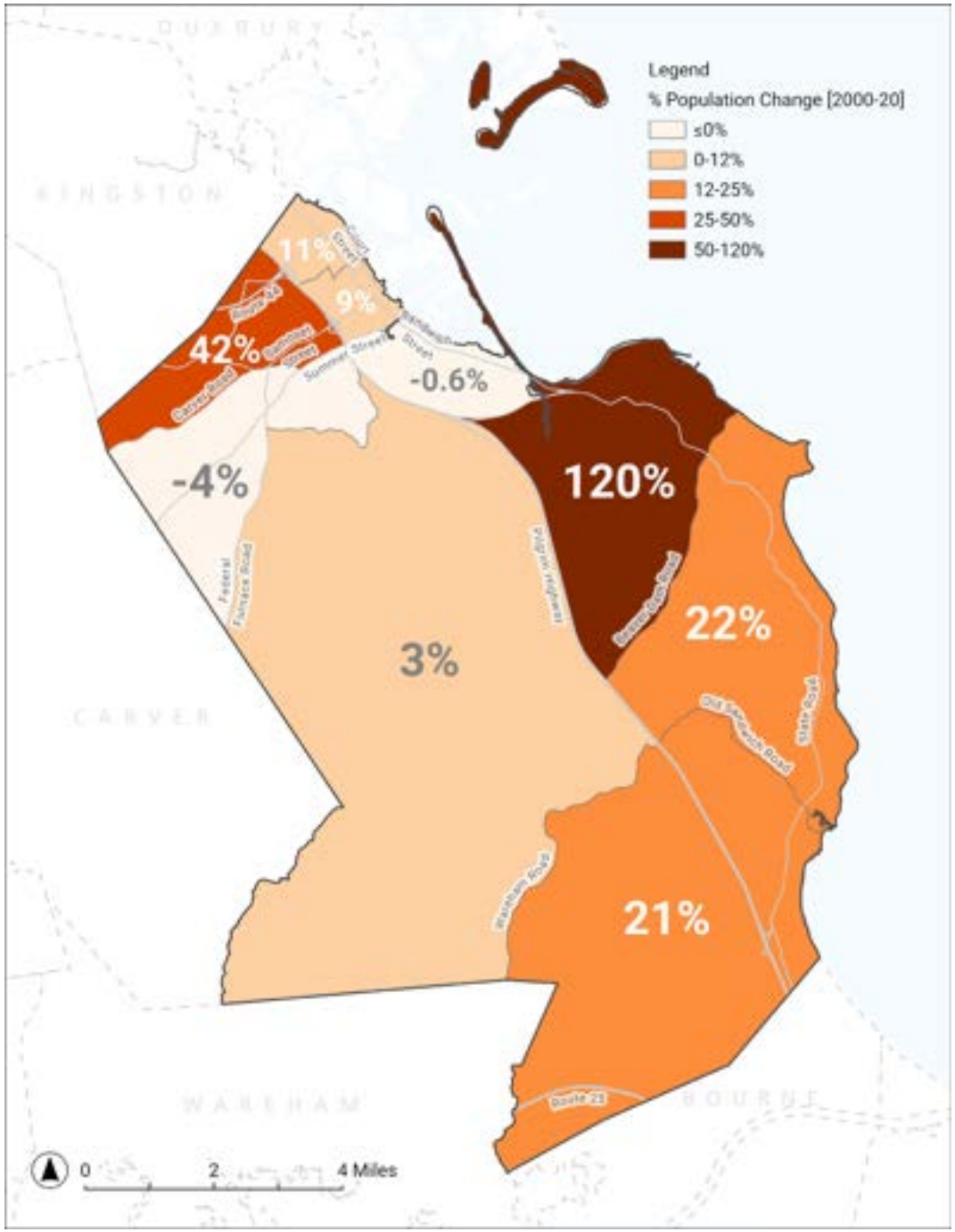
It is important to note that modeled projections like these do not predict the future but rather serve as points of reference. Like all forecasts, these projections make assumptions about how past or recent trends will continue into the future. These trends include population fertility rates, mortality rates, and migration-by-age. Projections do not consider other variables like local housing and job markets, quality of life, cost of living, and the many other factors that influence population change.



Source: U.S. Census Bureau Decennial Census data, UMass Donahue Institute Population Estimates v2024

POPULATION

Population growth has not been distributed evenly across Plymouth. The highest rates of population growth between 2000 and 2020 occurred in Census tracts containing two Master Planned Developments, The Pinehills and Redbrook, located in the central and southern parts of town. West Plymouth also experienced a high rate of growth due to several large new housing developments. Other areas including Downtown Plymouth saw relatively modest rates of change.



Source: U.S. Census Bureau's 2000 and 2020 Data [MASSGIS]

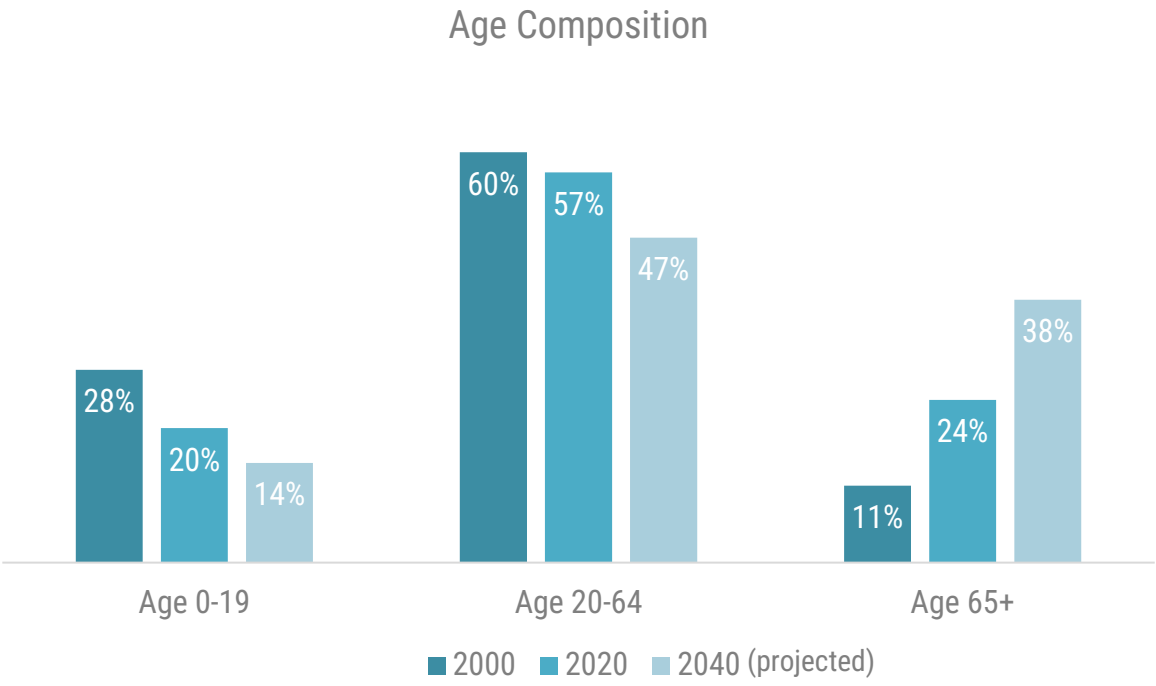
AGE COMPOSITION

The median age of Plymouth residents is 44.5 years, compared to just under 40 years in Massachusetts. The population composition is increasingly becoming older. The share of the population aged 65 years and above has more than doubled since 2000. This age cohort is projected to continue growing, with the potential to make up one-third of Plymouth's population by 2040. Seniors aged 80 years and over are forecasted to double between 2020 and 2030.

The share of working-age adults (aged 20-64 years) has been decreasing over the last decade and could decline to less than half of Plymouth's total population by 2040 if recent trends continue. Similarly, the share of the population 19 years and younger is also decreasing. This age group makes up 20% of Plymouth's population today and is projected to decline to 14% by 2040.

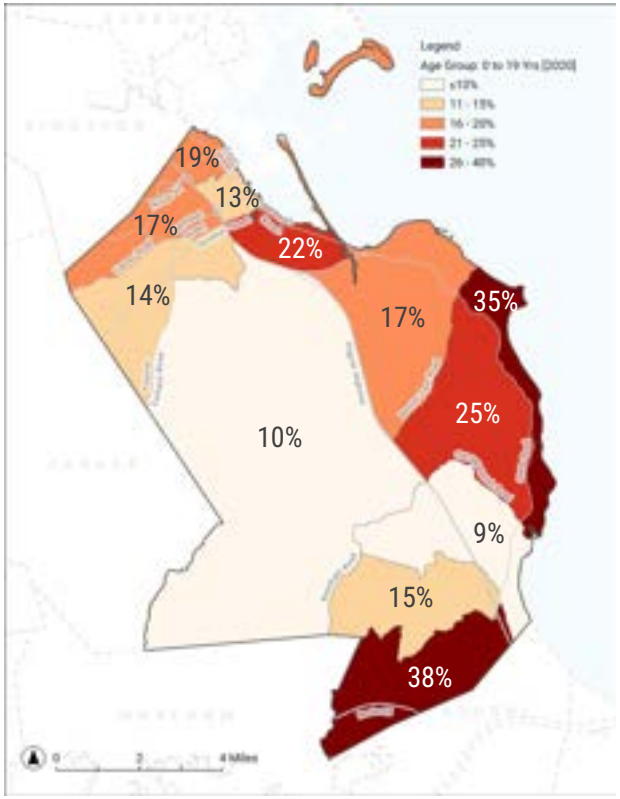
As of 2020, the area around Manomet and Cedarville (Census Tracts 5309.04 and 5308.02) have the highest percentage of young people under the age of 19, while North and West Plymouth generally have the least. The population aged 20 to 64 years old is distributed more evenly across town, with a slightly lower proportion in parts of Manomet and The Pinehills (Census Tract 5307). This region, in contrast, has the highest percentage of people over 65 years old. Similarly, while parts of southern and West Plymouth have the lowest percentage of older residents, they have the highest percentage of those aged 20 to 64 years. North Plymouth generally has a higher proportion of working-age adults.

Source: American Community Survey 5-Year Estimates, UMass Donahue Institute Population Estimates v2024, Esri

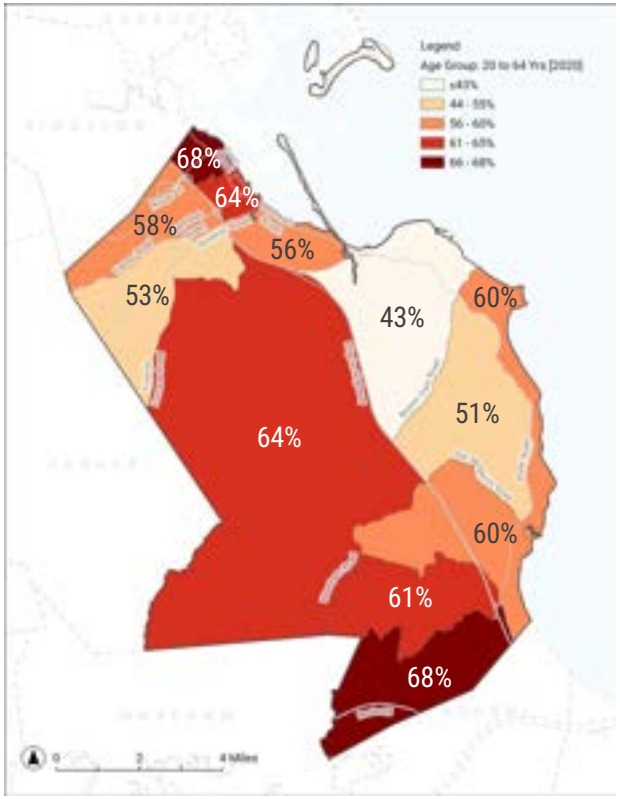


AGE COMPOSITION

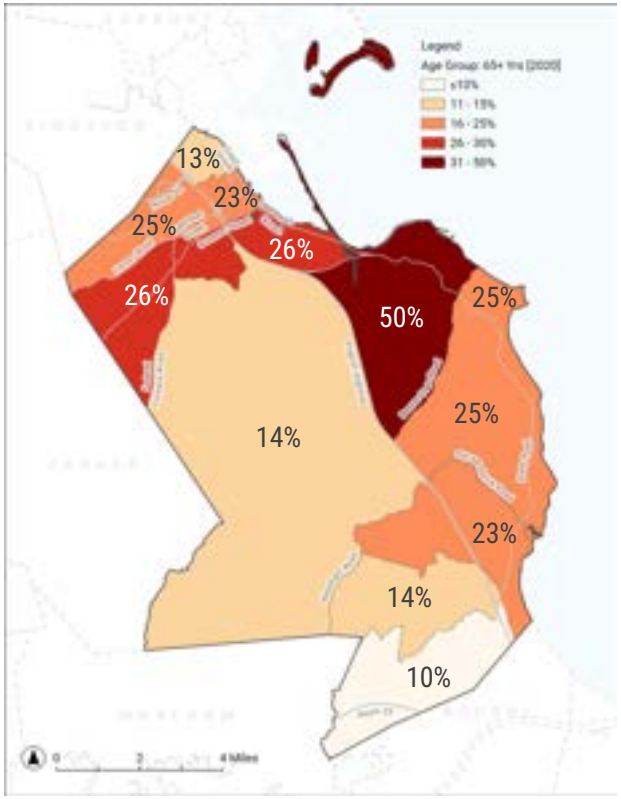
Age composition in 2020



Ages 0 – 19 years



Ages 20 – 64 years

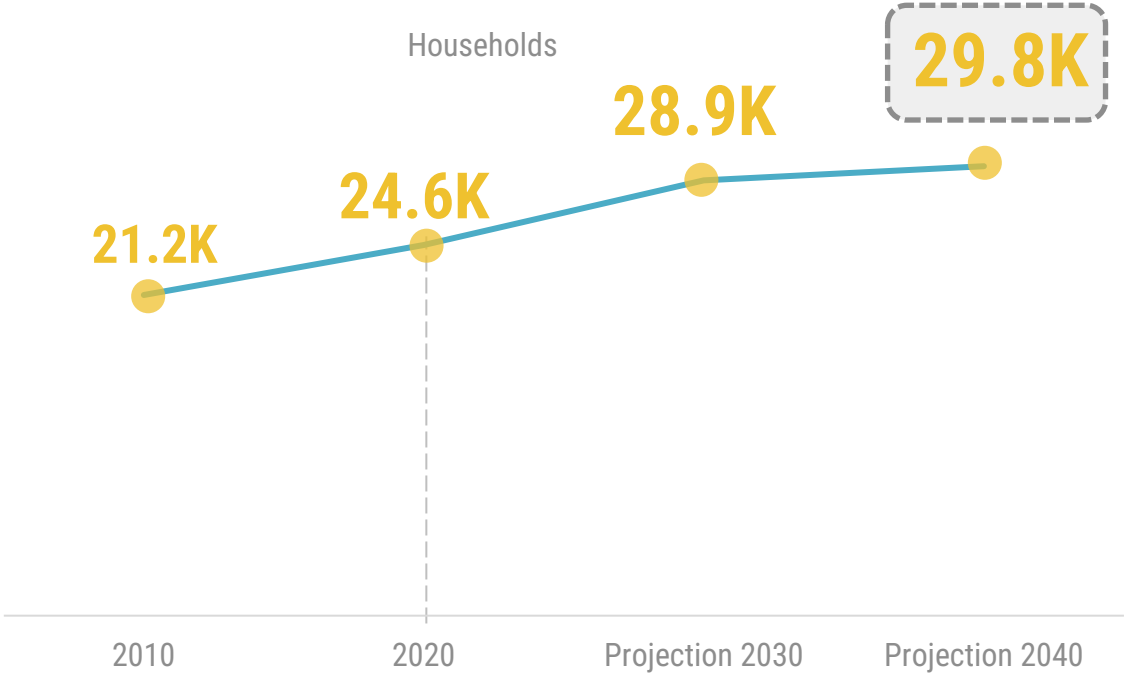


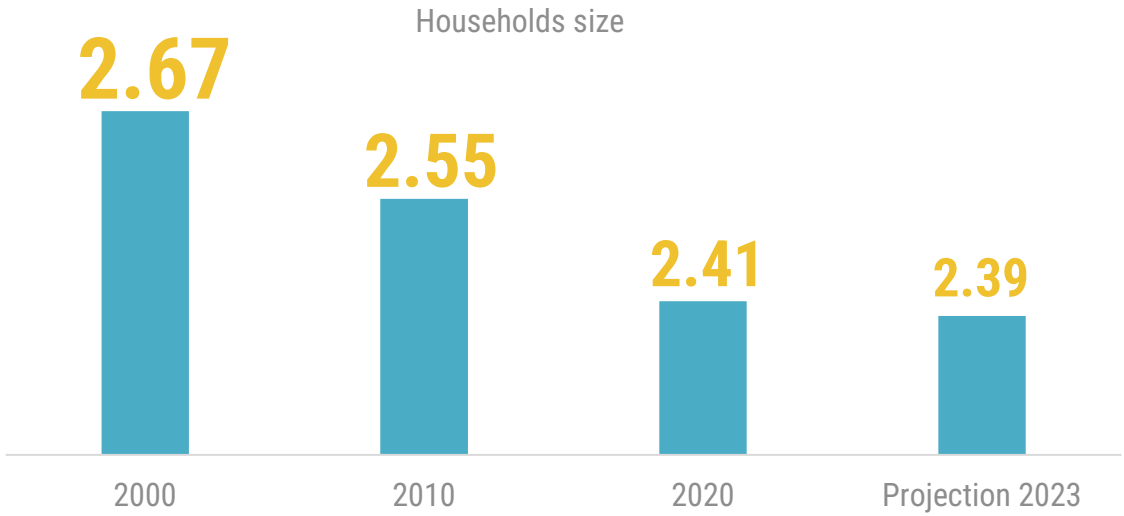
Ages 65+ years

Source: 2020 American Community Survey 5-Year Estimates

HOUSEHOLDS

The number of households in Plymouth has grown as the population has increased, but the average household size is decreasing. Plymouth's average household size of 2.4 people per household is lower than both Plymouth County (2.6) and Massachusetts (2.5). This represents a 10% decrease in average household size over the past two decades. Factors for this change include fewer families, smaller family size, more older adults living without children, and more single-person households.





Source: U.S. Census Bureau Decennial Census data, UMass Donahue Institute Population Estimates v2024

HOUSEHOLDS

Although the total number of households has been increasing, they have fewer children and include more people living alone. About 22% of households include children under the age of 18, but this share has declined by 11% since 2010.

The proportion of married and cohabitating couple households has increased from 2010, now making up 60% of Plymouth households. About one-quarter (26%) of households are one-person households, with half of these residents being 65 years of age or older.

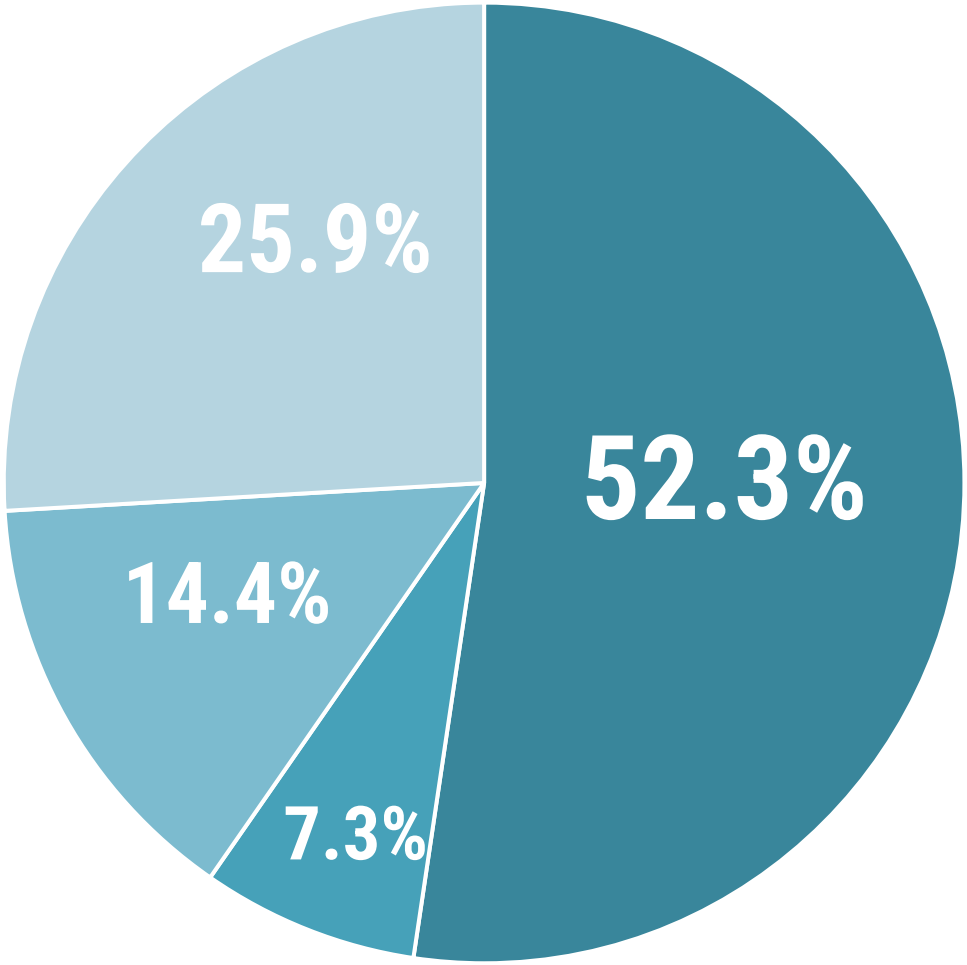
68% Family Households

25% Households with children <18 years

38% Householders older than 65 years

Source: U.S. Census Bureau. U.S. Census Bureau 2020 decennial Census data.

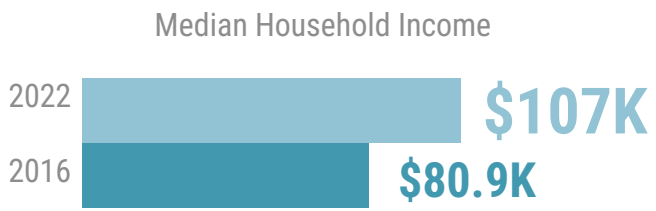
Household Types



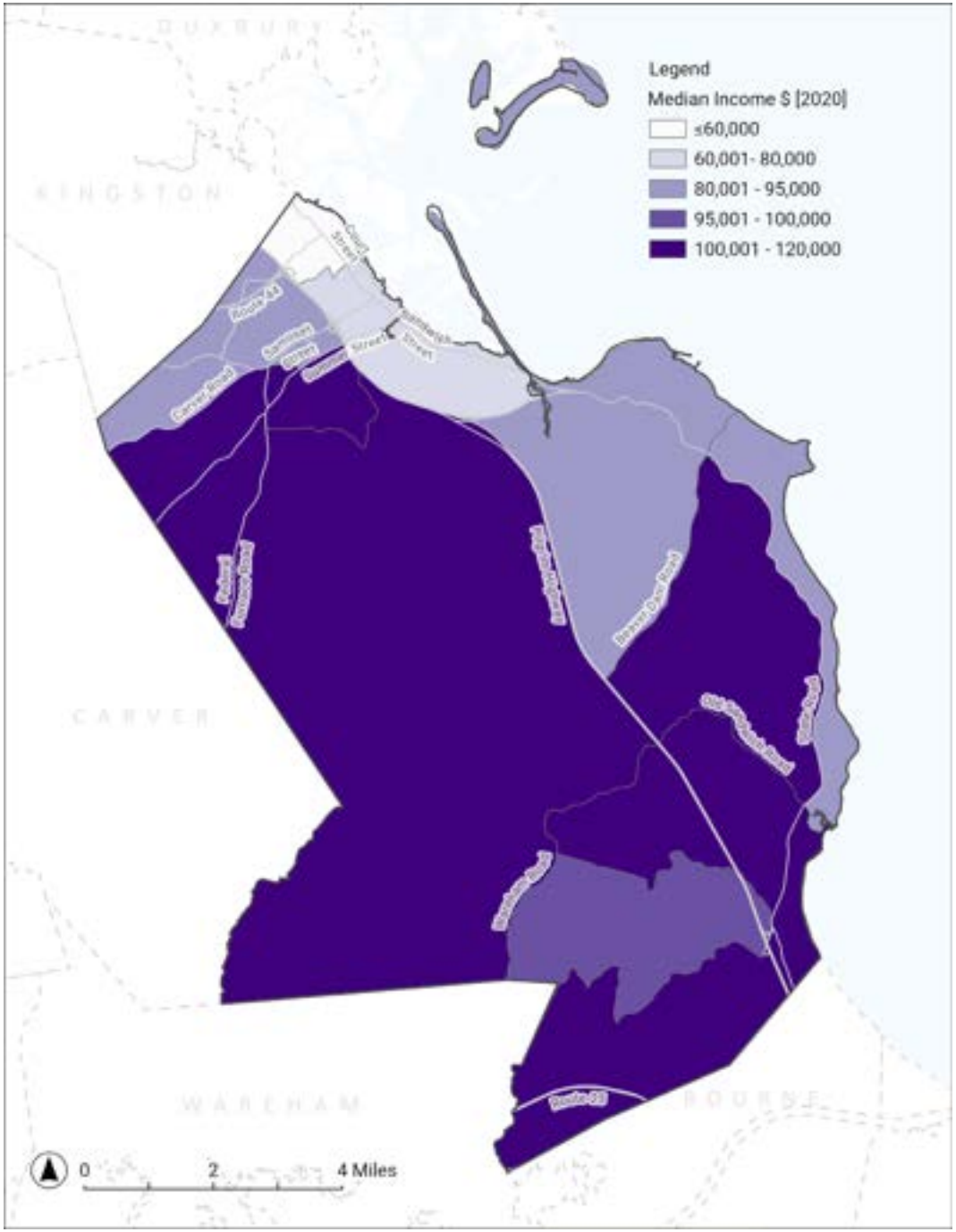
- Married Couple Households
- Cohabitating Couple Households
- Male Householder, No Spouse/Partner
- Female Householder, No Spouse/Partner

MEDIAN INCOME

Median household income increased by 32% in recent years, from $80,900 to $107,000. Median household income is highest in parts of southern and western Plymouth and lowest in North Plymouth and Plymouth Center.



Source: 2020 American Community Survey 5-Year Estimates



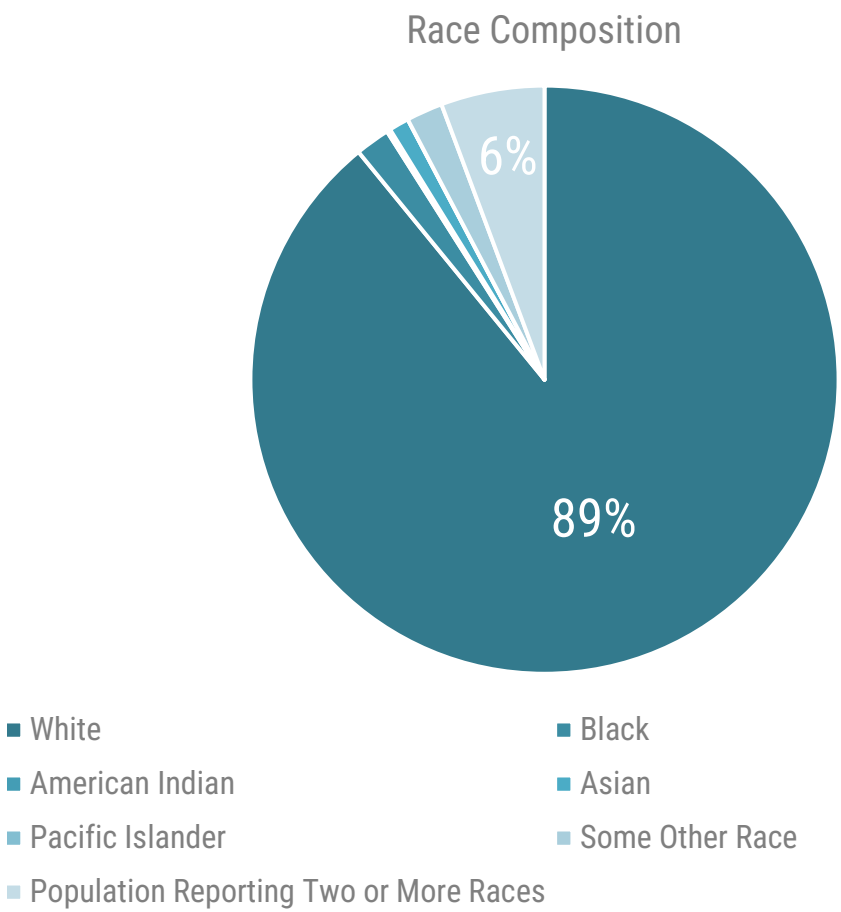
EDUCATION

More than one-third (44.5%) of Plymouth residents hold a bachelor degree or higher. This is consistent with county (40.5%) and state (45.9%) rates.

	Bachelor's degree	Graduate degree or higher
Plymouth	26.1%	15.6%
Plymouth County	26%	16.7%
Massachusetts	25.3%	21.3%

RACE AND ETHNICITY

The majority (89%) of Plymouth residents identify as white. Since 2010, this share has decreased slightly while the share of the population reporting two or more races increased by a similar amount. About 3% of the population identifies as Hispanic or Latino, up from about 2% in 2010.



PERSONS WITH DISABILITIES

More than 5,500 households in Plymouth (22% of all households) are estimated to have one or more person with a disability.

Source: U.S. Census Bureau 2020 decennial Census data, 2017-2021 American Community Survey 5-Year Estimates

02 | LAND USE

PREVIOUS PLANS

2006 Town of Plymouth Master Plan

Plymouth's previous Master Plan, titled "Growing Smarter in Plymouth's Fifth Century", highlights the Town's significant growth over the past 30 years and the challenges that have resulted. Housing, transportation, water use, and Town finances were identified as key issues. The plan recommended a series of strategies to address them, posing it as a choice between sprawl or Smart Growth and promoting mixed-use development in existing Village Centers as the way forward.

Village Master Plans

The following Village Master Plans include specific recommendations for Plymouth's five Village Areas. They cover land use, open space, economic development, and other topics:

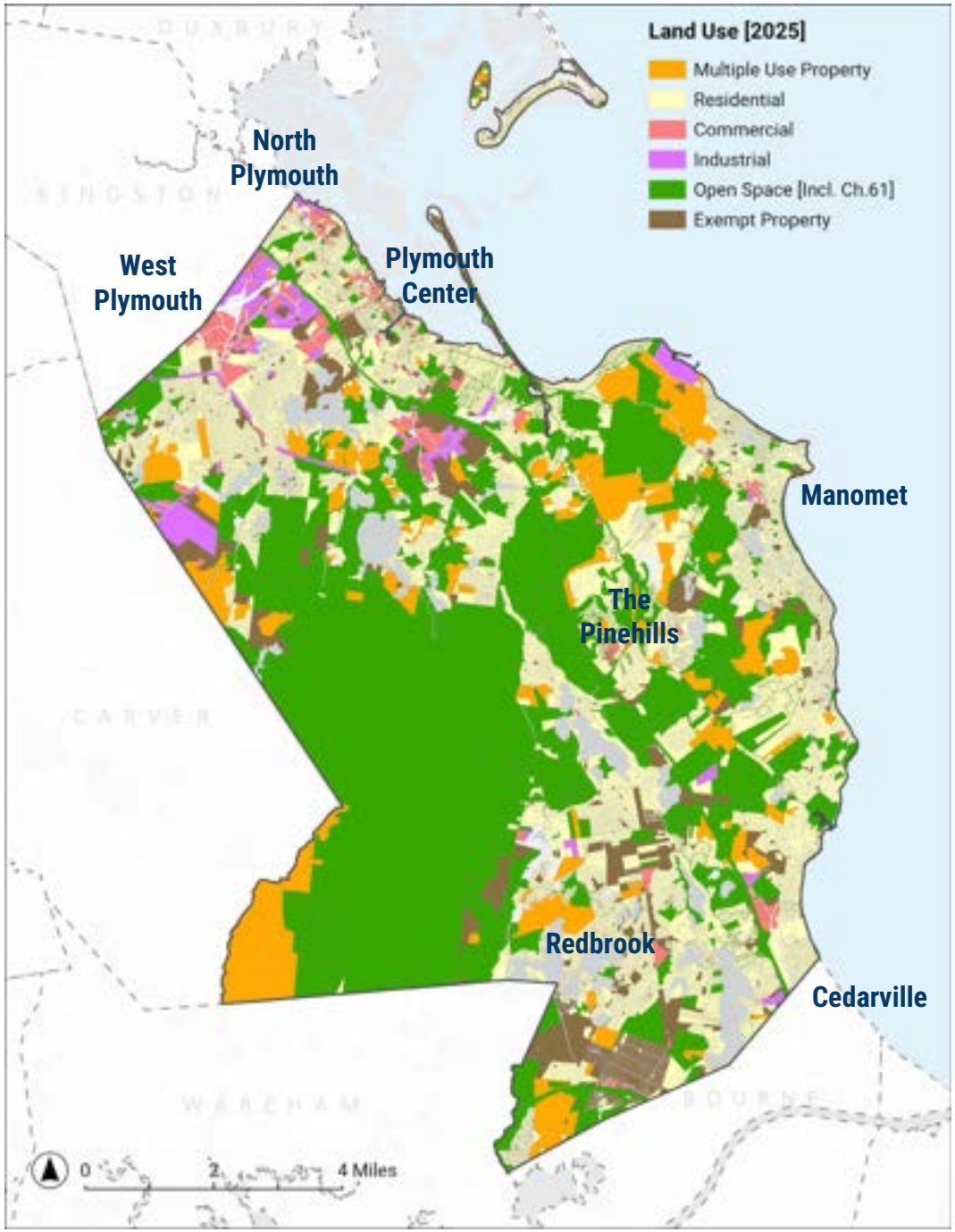
- 2019 Plymouth Center/Plymouth Waterfront Area Master Plan
- 2016 West Plymouth Village Center Master Plan
- 2014 Manomet Village Center Master Plan
- 2011 North Plymouth Village Center Master Plan
- 2009 Cedarville Village Center Master Plan

Source: GIS data set from Town of Plymouth

EXISTING LAND USE

Plymouth covers nearly 65,920 acres*. While around a quarter of land in Plymouth (28%) is used for residential, more than one-third of it is open space, which includes Chapter 61 land and protected and recreational open space. The Commonwealth of Massachusetts owns 11,725 acres, most of which is used for publicly accessible state forests and parks, primarily in Myles Standish State Forest which is adjacent to Carver.

The majority of Plymouth's developed land is clustered around the Town's five established Village Service Areas: North Plymouth, Plymouth Center, West Plymouth, Manomet, and Cedarville. Two additional community nodes are emerging in The Pinehills and Redbrook as these master-planned communities continue to be built out.



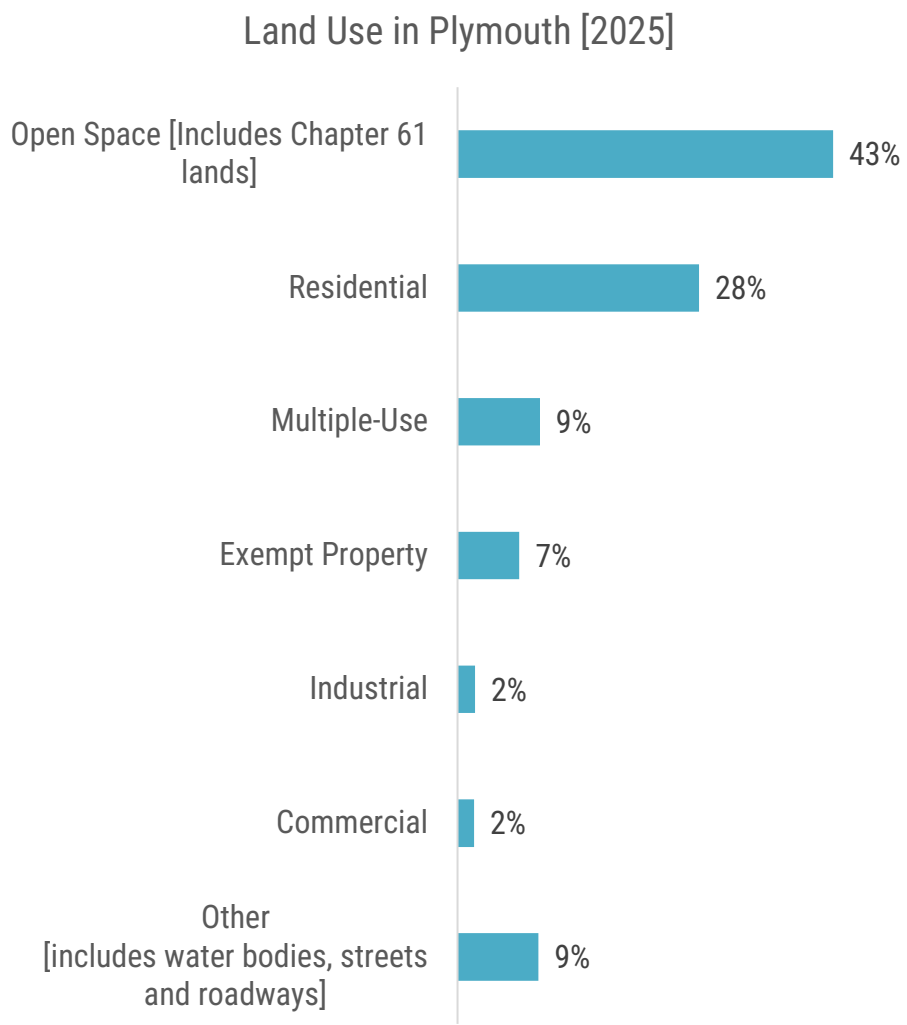
** Note that the area 65,920 acres is based on 2004 Master Plan. The MassGIS data, which is used in several calculations throughout this report, calculates Plymouth's total area at 65,775 acres. .*

Source: MassGIS 2025 data set

EXISTING LAND USE

LAND USE CATEGORIES	PERCENTAGE	AREA [ACRES]
Open Space [Includes Chapter 61 lands]	43%	28,177
Residential	28%	18,122
Multiple-Use	9%	6,178
Exempt Property	7%	4,634
Industrial	2%	1,319
Commercial	2%	1,233
Other [includes water bodies, streets and roadways]	9%	6,078
Total land use area	100%	65,742

Source: MASSGIS (Protected and Recreational Open Space updated 1/7/2025 and Property Tax Parcels updated 1/27/2025), Town



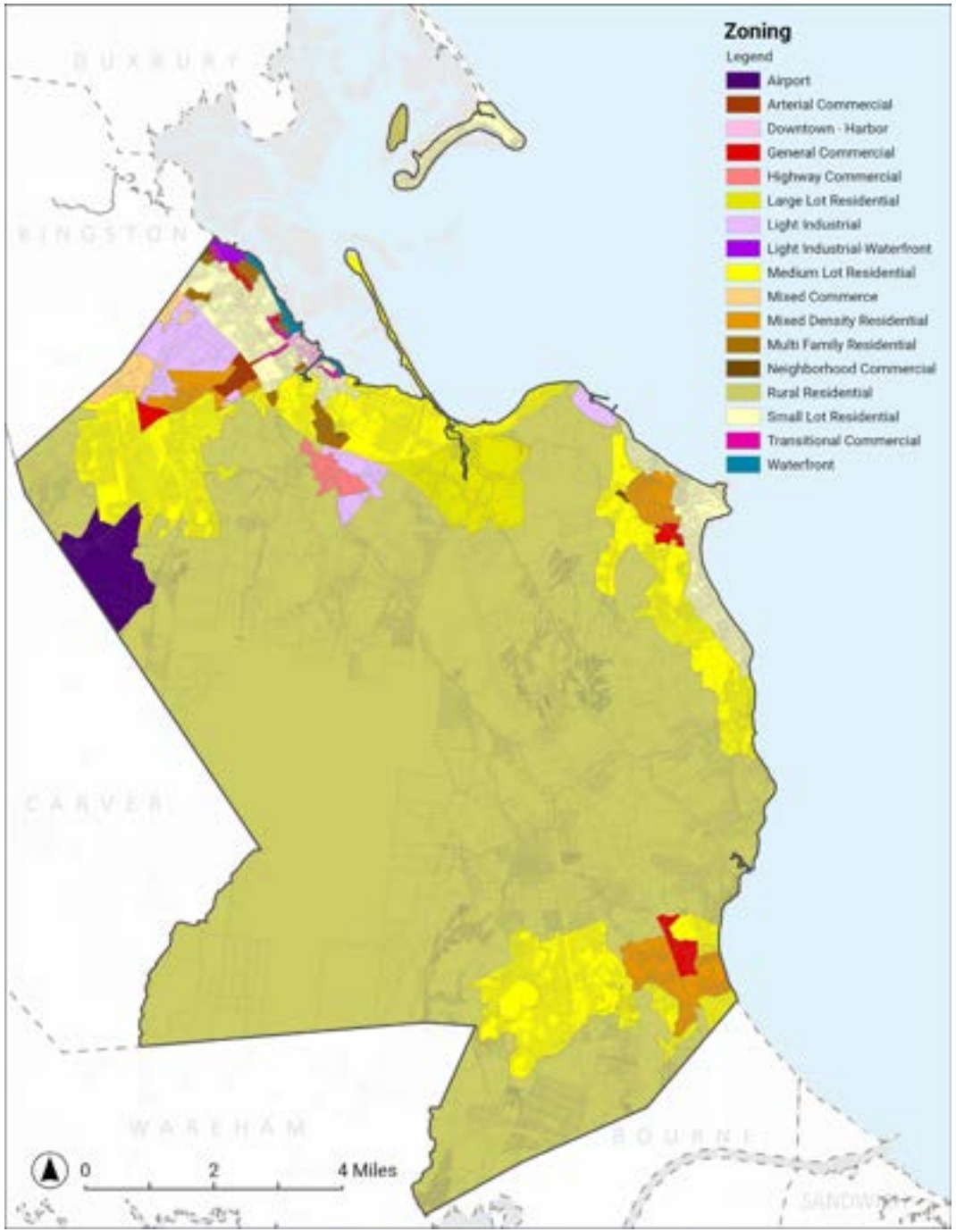
Source: MASSGIS 2025 data set

EXISTING ZONING

Plymouth is predominantly comprised of residential zoning districts (94.4%), with less than one-tenth of land zoned for commercial, industrial, airport, or waterfront use. More than two-thirds (71.9%) of residential districts are zoned for low density rural residential. The mixed-density residential and multifamily residential districts collectively make up less than 3%.

ZONING	ACRES	%
Rural Residential*	47,259	71.9%
Medium Lot Residential	9,050	13.8%
Small Lot Residential	2,655	4.0%
Mixed Density Residential	1,403	2.1%
Large Lot Residential	1,375	2.1%
Light Industrial	1,249	1.9%
Airport	994	1.5%
General Commercial	366	0.6%
Mixed Commerce	338	0.5%
Multi Family Residential	285	0.4%
Highway Commercial	251	0.4%
Arterial Commercial	130	0.2%
Waterfront	122	0.2%
Downtown - Harbor	86	0.1%
Transitional Commercial	76	0.1%
Light Industrial - Waterfront	70	0.1%
Neighborhood Commercial	21	0.0%
Total	65,730	100%

** 23% of Rural Residential Zone is the Myles Standish State Forest*
Source: GIS data set from Town; Town of Plymouth Zoning Map



EXISTING ZONING

Plymouth's Zoning Bylaw includes 14 zoning districts comprised of five residential districts, four commercial districts, two industrial districts, two waterfront districts, one village enterprise district, plus six overlay districts. The following provides a high-level overview of each district informed by Plymouth's Zoning Bylaw.

Rural Residential – RR. The district directs development into Village Centers to discourage residential sprawl and preserve the natural and rural character of existing rural areas of town.

Large Lot Residential – R-40. Includes low density single-family residential development outside of Village Service Areas still within proximity to community facilities, services, and utilities.

Medium Lot Residential – R-25. Allows for higher density development within Village Service Areas consisting of both single- and two-family dwellings by means of planned open space and planned residential development techniques.

Small Lot Residential – R-20SL. Permits single-and two-family residential development in the historic New England building style on more compact lots within existing Village Service Areas. The district preserves rural areas of Plymouth in addition to encouraging a mix of lot sizes and housing types.

Multifamily Residential – R-20MF. Encourages compact development with a mix of lot sizes and housing types. Allows Multifamily dwelling units.

Waterfront – WF. Located in Plymouth Center, the district supports the development of marine, historical or tourism-related land use activities that utilize the distinct waterfront and historic areas this part of town offers. It aims to support district revitalization by encouraging pedestrian-oriented activities.

Neighborhood Commercial– NC. Allows for low intensity convenience retail and service establishments that are compatible with residential neighborhoods.

Transitional Commercial – TC. Preserves residential character while facilitating the transition to more intensive and compatible commercial uses. It allows for a mix of residential uses and compatible lower intensity commercial uses.

General Commercial– GC. Allows for retail, service, office, and other similar commercial uses that do not require large land area in a centralized commercial Village Center with limited residential development.

Arterial Commercial– AC. Encourages traffic-oriented commercial development that requires a large land area.

Light Industrial - LI. Allows for a wide range of non-polluting industrial uses and other commercial uses by right. More intensive industrial uses are allowed by Special Permit provided they are compatible with abutting uses and include measures for environmental protection.

EXISTING ZONING

Airport - AP. Encourages uses that support or are compatible with airport operations. The district also
allows a wide range of non-polluting light-industrial and commercial uses by right and more intensive industrial uses by Special Permit.

Light Industrial/Waterfront – LI/WF. Includes a mix of waterfront-related uses by right and other uses by Special Permit with a strong focus on protecting waterfront activities and promoting a pedestrian environment.

Cedarville Village Enterprise District– CVED. Added in 2018, the district provides land for a limited mix of office, light industrial, and commercial uses compatible with nearby residential neighborhoods. Projects are reviewed and approved on a case-by-case basis through Special Permit.

Aquifer Protection Overlay District – APOD. This overlay district protects, preserves, and maintains the Town's existing and potential groundwater and surface water. It includes significant restrictions on impervious surfaces and requirements for stormwater management.

Floodplain Overlay District – FPOD. Restricts development in existing floodplains to eliminate hazards, ensure public safety, and avoid loss or damage to utilities and public and private property from flood conditions.

Cordage Park Smart Growth Overlay District – CPSGOD.
Promotes continued development and redevelopment in Cordage Park to support the commercial revitalization of the North Plymouth Village Service Area. Established pursuant to State Smart Growth Zoning legislation (M.G.L 40R), the district allows for residential and mixed-use development with a strong focus on creating a walkable environment with a diverse housing stock.

Obery Street Overlay District - OSOD
Located in Plymouth Center, this district permits non-residential development compatible and consistent with the historic Obery Street residential neighborhood. As a transitional area, it supports a mix of uses including municipal and institutional, but only limited commercial development to preserve the quality of residential life.

Municipal Wastewater Overlay District – MWOD
Identifies appropriate areas for the siting of municipal wastewater facilities. Such facilities are allowed by right in addition to the other uses permitted in the underlying base zoning.

Multifamily Overlay District – MOD
Provides capacity for multifamily housing in accordance with the State's MBTA Communities Law (M.G.L. 40A, Section 3A). The district encourages the development of different housing sizes and types that can meet a variety of needs and income levels.

DEVELOPMENT OVER TIME

Plymouth has experienced significant growth over the past two decades, with a 67% increase in residential use, a 115% increase in commercial use, and a 146% increase in industrial use based on land area. Several factors have contributed to this, including growth and innovation in Plymouth's marine and blue economy, the availability of large tracts of developable land combined with high residential market demand, the implementation of Smart Growth Initiatives (M.G.L. 40R), and the development in the Cordage Park Smart Growth Overlay District. Other local economic development, planning, and development initiatives have also been contributing factors.

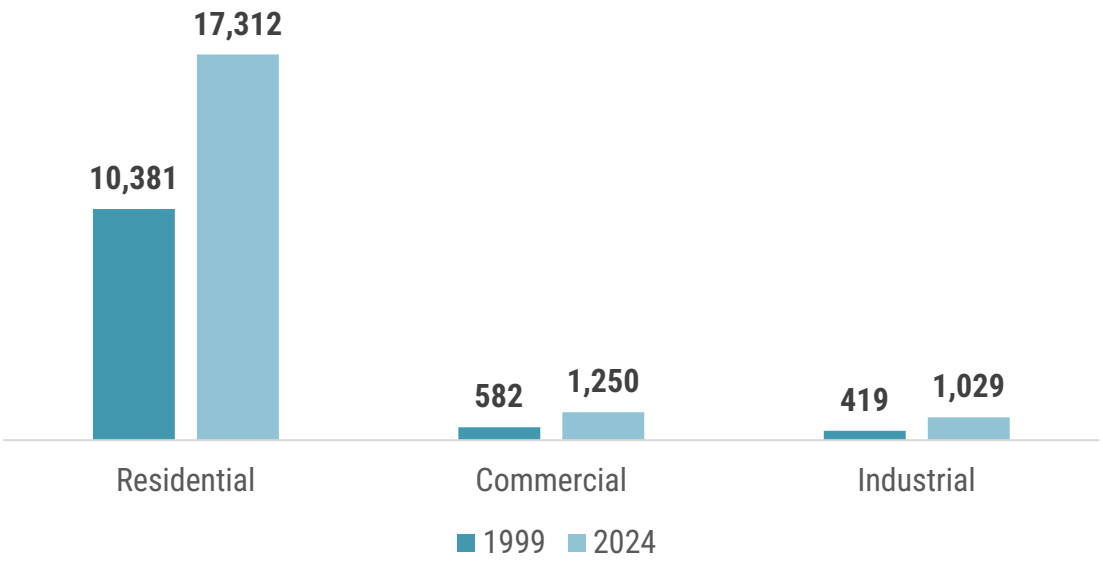
At the same time, the Town has seen a significant decline in its Chapter 61, 61A, and 61B land (74% collectively), which includes forest, agricultural/horticultural, and recreational land.

Change in Chapter 61, 61A, and 61B Land [199 vs. 2024]

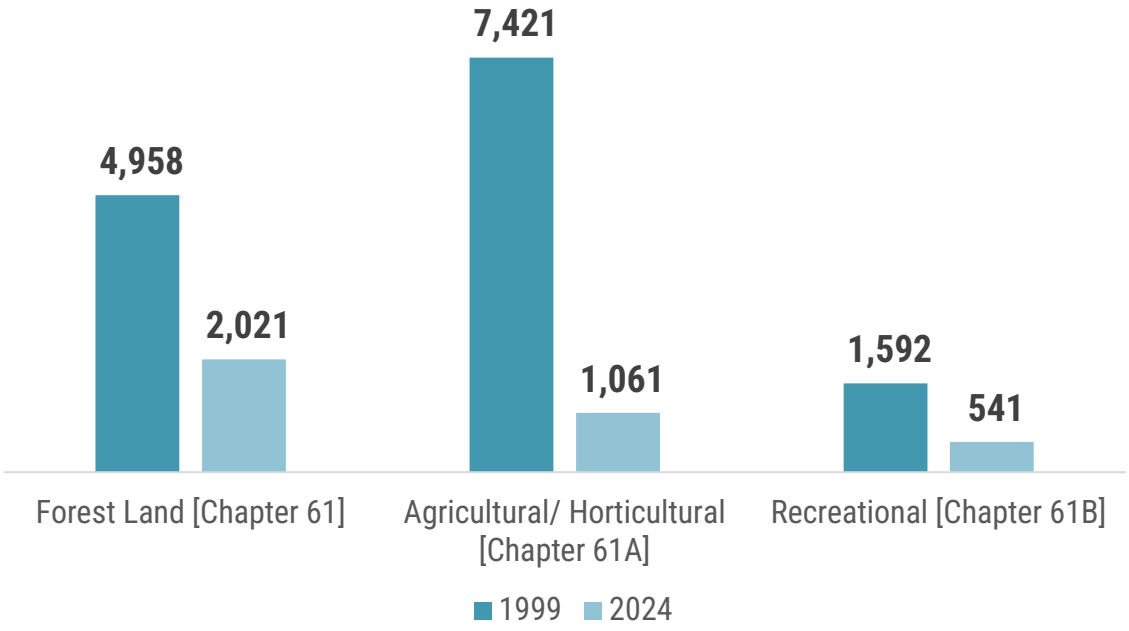
	Acreage [1999]	Acreage [2024]	% Change
Forest Land [Chapter 61]	4,958	2,021	-59%
Agricultural/ Horticultural [Chapter 61A]	7,421	1,061	-86%
Recreational [Chapter 61B]	1,592	541	-66%

Source: 2004 Plymouth Master Plan, GIS data set from Town

Development Over Time [1999 Vs 2024]

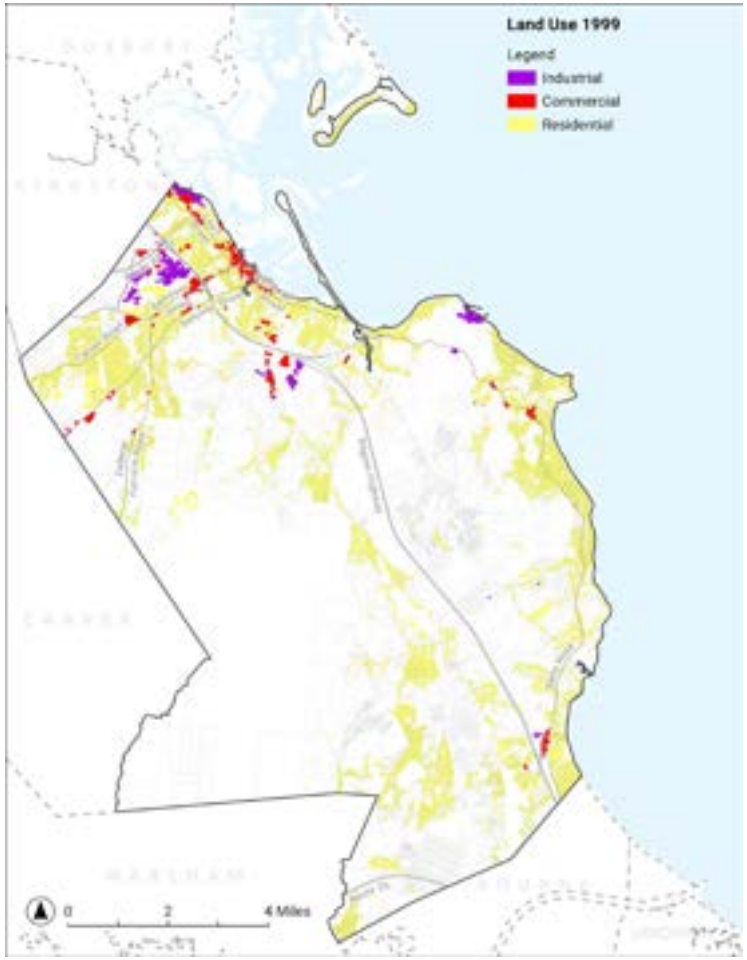


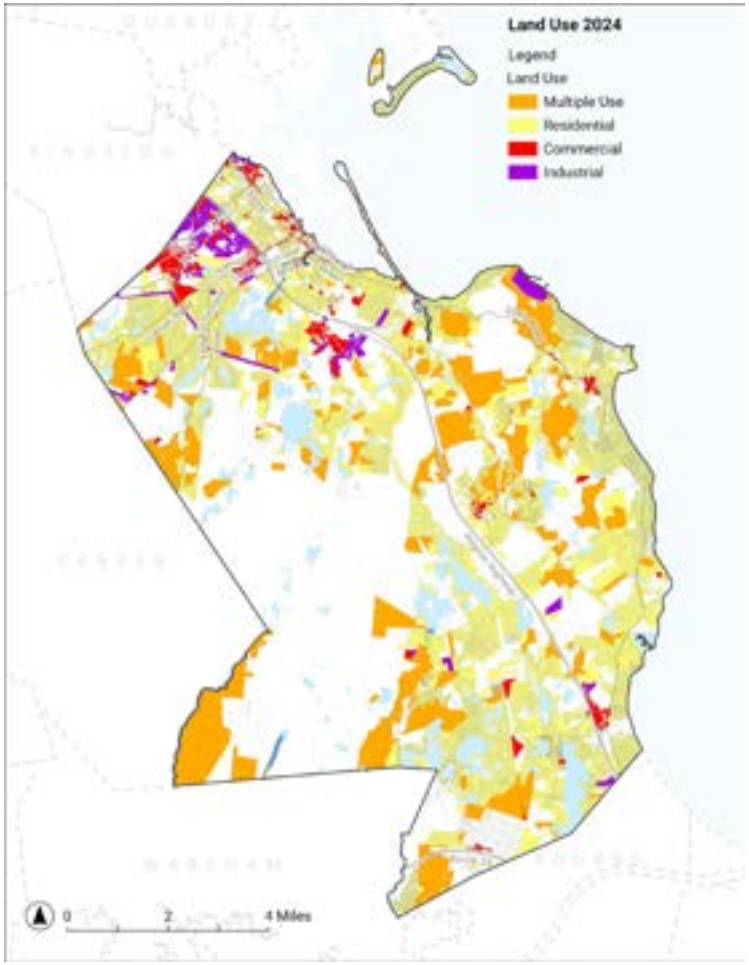
Change in Chapter 61, 61A and 61B [1999 Vs 2024]



DEVELOPMENT OVER TIME

Comparison of residential, commercial, and industrial land use between 1999 and 2024





	1999		2024		
	Area [Acres]	**%**	**Area [Acres]**	**%**	**Percentage Change**
Residential	10,381	15.8%	17,312	26.3%	67%
Commercial	582	0.9%	1,250	1.9%	1610%
Industrial	419	0.6%	1,029	1.6%	146%

* Note: The area percentage is calculated with reference to total area (65,775 acres) of Plymouth from MASSGIS dataset having a variance of 3%.

Source: MASSGIS data set, 2024 GIS data set from Town

POTENTIAL DEVELOPMENT CAPACITY

Vacant Land

Plymouth has approximately 2,100 acres of developable or potentially developable vacant land zoned for residential, commercial, and industrial uses.

About 2.4% (1,611 acres) of Plymouth's total land is developable or potentially developable and zoned residential. The majority falls within the rural residential zoning district.

An additional 256 acres (less than 0.5% of total land) is zoned for commercial use and developable or potentially developable. 234 acres zoned for industrial have development potential. This represents about 0.4% of Plymouth's total land area.

Another 3,623 acres represent Chapter 61, 61A, and 61B forest, agricultural, and recreational lands. These properties could present additional development opportunities should property owners decide to withdraw their land from Chapter 61 program.

Existing tax-exempt property includes 5,578 acres of vacant land. These properties are held by various government, educational, and institutional entities and represent a significant proportion of the undeveloped land in Plymouth.

Vacant Land by Zoning Type

	Residential			Commercial			Industrial		
	Parcel Count	Area [Acres]	%	Parcel Count	Area [Acres]	%	Parcel Count	Area [Acres]	%
Developable Land	677	1,326	2.0%	140	213	0.3%	44	167	0.3%
Potentially Developable Land	229	285	0.4%	23	43	0.1%	34	67	0.1%
Undevelopable Land	2,613	1,677	2.5%	38	43	0.1%	76	49	0.1%

* Note: The area percentage is calculated with reference to total area (65,775 acres) of Plymouth from MassGIS dataset having a variance of 3%.
Source: GIS data set from Town

Developable or potentially developable vacant land was identified by property type classification code as defined by the Massachusetts Department of Revenue using GIS parcel data from the Town of Plymouth. Classification codes for residential, commercial, and industrial developable or potentially developable land were included in the parcel analysis.

Source: 2024 GIS data set from Town

03 I HOUSING

PREVIOUS PLANS

2024 Housing Production Plan

Plymouth's current Housing Production Plan includes a comprehensive housing needs assessment and housing production goals and strategies aimed at meeting Plymouth's identified needs over the next five years. It replaces the 2019 Housing Production Plan. The following goals were identified:

- Meet, maintain, or exceed the 10 percent state standard for affordable housing so that Plymouth is no longer subject to Chapter 40B housing developments.
- Utilize established programs that support local housing initiatives.
- Create deed restricted affordable housing units through adaptive reuse of existing buildings and town owned properties.
- Promote a diversity of housing options in Plymouth to meet the needs of a changing and aging population and promote more socioeconomic diversity.
- Promote affordable housing for infill development on abandoned and vacant properties.

Source: GIS data set from Town of Plymouth

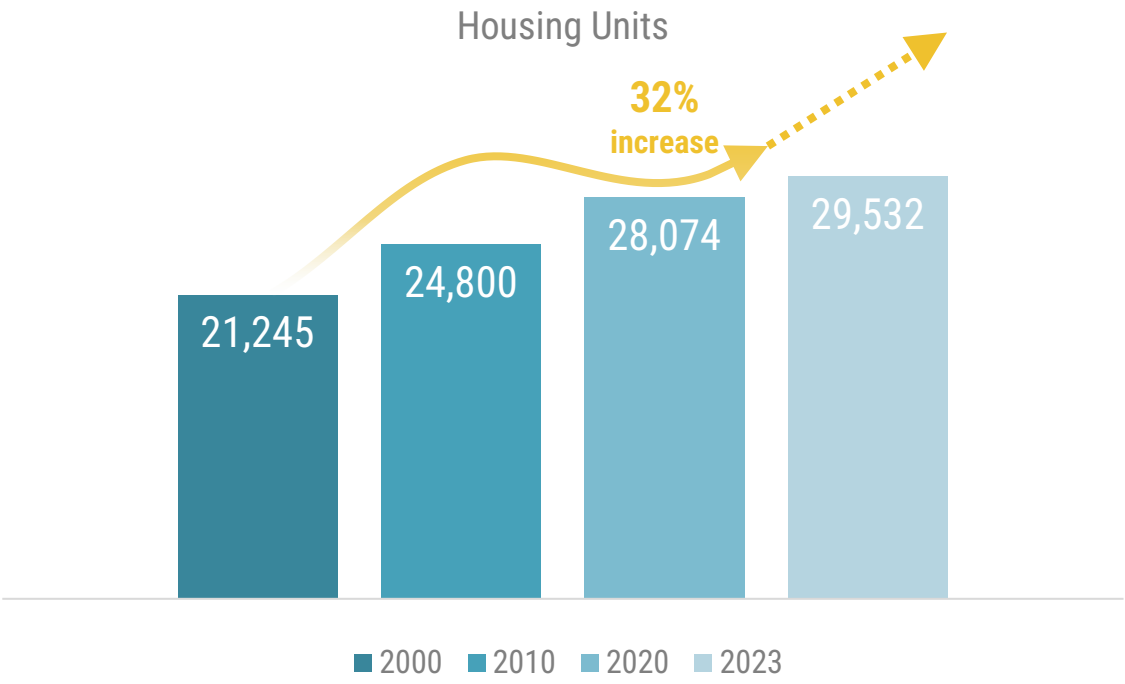
EXISTING HOUSING STOCK

Plymouth's housing stock has seen significant growth over the last 20 years. The appeal of its large tracts of land, proximity to Boston, rural character, and high-quality community services have catalyzed residential growth resulting in Plymouth and surrounding areas outpacing state averages for new development. Between 2000 and 2020, Plymouth's total number of housing units increased by 32% with an additional 5% increase over last three years (2020-2023).

Single-family, detached homes make up the majority (71.1%) of Plymouth's housing stock. Multifamily homes (2 or more units) make up 18.7%, and mobile homes and attached single-family homes account for the remaining 4.9% and 7.4%, respectively.

The bulk of Plymouth's housing development occurred after 1969 with 30.5% built after 1989. About 10% of Plymouth's existing housing stock was built in the last 20 years.

Homeownership is the predominant tenure type of occupied units, while renters make up 19.1%. The proportion of Plymouth's renter population is larger than neighboring municipalities such as Duxbury, Carver, and Bourne, but smaller than that of Plymouth County and Massachusetts.



Source: U.S. Census Bureau Decennial Census data, Esri Projection

EXISTING HOUSING STOCK

Findings from Plymouth's 2024 Housing Production Plan indicate that homeownership rates are highest among older residents, particularly the 65-75 age group, while renting is more common for younger age groups. Households with three or more members are more likely to own their own homes. Small households (2 people or less) have a greater proportion of renters, though homeownership is still the primary tenure.

A homeowner vacancy rate of 1.1% indicates a tightening market, which has implications for affordability. Low homeowner vacancy rates are consistent with Plymouth County and the state. Plymouth's rental vacancy rate of 6.8% is higher than county and state rates. Considering all vacant housing units in Plymouth, about 70% or 2.400 are considered seasonal/occasional use.

In 2023, the median value of an owner-occupied housing unit was $494,700. 88% of Plymouth's occupied units are valued at $300,000 or above. The median gross rent was $1,832, which is higher than in surrounding communities, excluding Duxbury, MA.

Image Source: Stacker.com

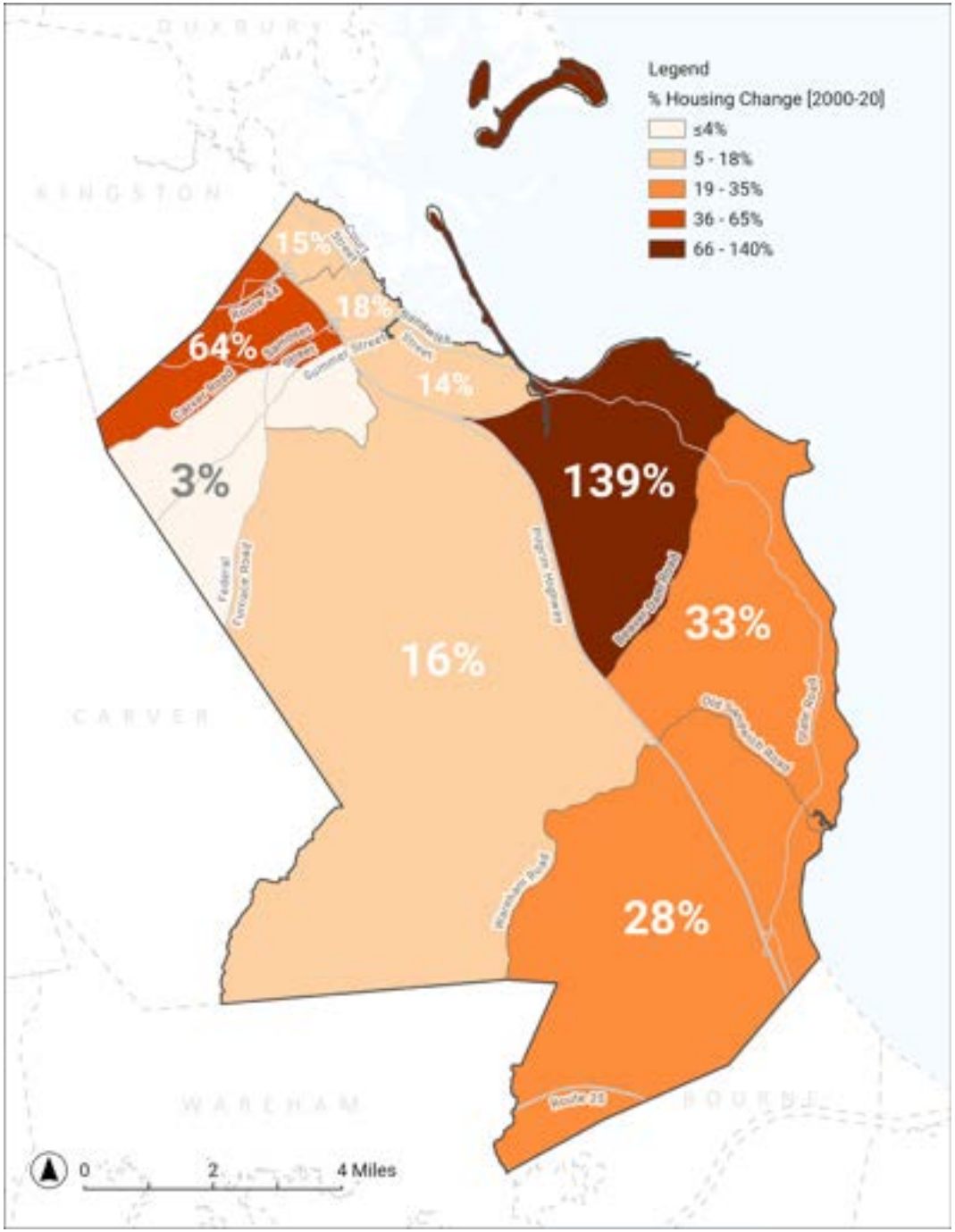
DEVELOPMENT TRENDS

Different parts of Plymouth have experienced varying rates of residential development over the last 20 years. The greatest percentage increase in housing units has occurred in the Census tracts containing The Pinehills and Redbrook (near Manomet and Cedarville respectively), and in West Plymouth. Other parts of town saw a lower rate of growth.

Much of this is driven by new single-family housing, especially in the The Pinehills and Redbrook. Multi-family housing, mostly in larger buildings, is a smaller share of the increase in housing units. Data spanning 2014-2023 indicate that almost three-quarters of building permit units were single-family. Multi-family units comprised about 28% of all building permit units, almost all of which were in buildings with 5 or more units. Building permit units in Plymouth accounted for just over half of all units in the OCPC region during this period. Plymouth had a higher share of single-family building permit units compared to the region. It also saw almost no units in buildings with 2-4 units compared to 12% in the region.

Continued changes in household size, types of households, and population growth rate will impact future housing needs. As residents age, some will prefer senior living communities or need assisted living options. Smaller households and families with fewer children may not prefer larger houses.

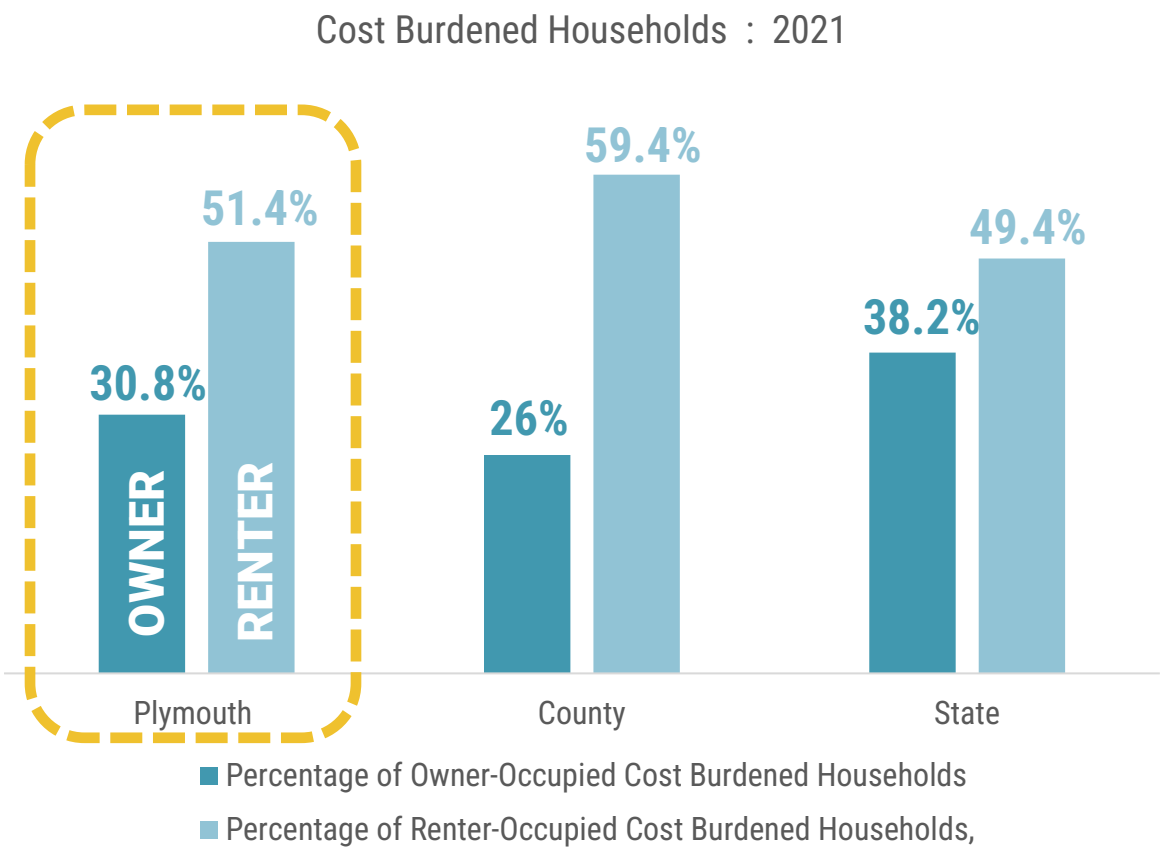
Source: U.S. Census Bureau's 2000 and 2020 Data [MassGIS], Census Building Permit Survey data (MAPC)



HOUSING COST BURDENS

Housing costs are rising in Plymouth, as in many places across the country. Half of renters (51.4%) and nearly one-third (30.8%) of homeowners in Plymouth are considered cost-burdened. A person or household is considered cost-burden if it spends more than 30% of household income on housing costs such as mortgage, rent, and utilities. Plymouth's cost-burdened homeowners make up a smaller share than the state's, but a larger share than the county's. Conversely, Plymouth's cost-burdened renters make up a greater share than the state's, but a smaller share than the county's.

About 29% of Plymouth's renters are considered severely cost-burdened, spending 50% or more of their household income on housing costs. Nationwide, real estate costs have outpaced income levels, resulting in a housing affordability gap. Median home sale prices have risen higher than what median households can afford. Plymouth's affordability gap in 2021 was $29,000. This represents the additional income a household would need to be able to afford a median priced home in Plymouth.



Cost-burdened households are those paying more than 30% of household income on housing costs.

Source: U.S. Census Bureau, 2017-2021 American Community Survey

AFFORDABLE HOUSING

Households at 80% of area median income (AMI) and below are considered low-income and are eligible for housing assistance based on the U.S. Department of Housing and Urban Development (HUD) defined income limits. In Plymouth, 10,275 households, or 44%, are considered low-income. Of these, 28% (2,900 households) are considered very low-income (30-50% AMI), and 32% (3,305 households) are extremely low-income (below 30% AMI).

Massachusetts General Law Chapter 40B requires communities to achieve a minimum of 10% of their total year-round housing units as low- or moderate-income housing eligible for listing on the State's Subsidized Housing Inventory (SHI). For units to be counted, they must be developed or operated by a public or private entity and reserved by deeded restrictions for income-eligible households at or below 80% of AMI. Most of the affordable units included in the SHI are rental units, but some are homeownership units.

As of 2025, 1,578 existing units and 277 additional units under administrative review qualify as affordable units at or below 80% AMI and eligible for listing on the SHI. Once completed, Plymouth's total affordable housing inventory is anticipated to be 1,855 or 7.22% of its existing housing stock.

Plymouth Affordable Housing Inventory / Subsidized Housing Inventory (SHI)

STATUS	TOTAL UNITS	SHI INVENTORY TOTAL	% OF HOUSING STOCK
Existing affordable housing units	1,855	1,855	7.22%
Existing affordable units on SHI	1,578		
*Pending affordable units on SHI**	277		
Affordable units under construction	165	2,020	7.86%**
Potential future affordable units (proposed)	358	2,378	9.26%**
Affordable units needed to meet 10% affordable threshold	191	2,569	10%

Source: Town of Plymouth Subsidized Housing Inventory (2025); MA Executive Office of Housing and Livable Communities CH40B Subsidized Housing Inventory (2025).
Note: Calculations are based on 25,689 total year-round housing units as recorded by 2020 Decennial Census data.

** Built units pending SHI administrative review as of January 15, 2025.*
*** Predicated on all units being constructed*

An additional 523 affordable units are in the process of being constructed and/or proposed for development. If all units are built and approved, Plymouth's total affordable units would increase to 2,378 or 9.26% of its year-round housing stock.

AFFORDABLE HOUSING

Plymouth continues to make good progress towards achieving the state's affordable housing threshold; to do so it will need an additional 191 affordable units to reach the 10% threshold. To keep pace with the requirement, the town will need to ensure new residential developments include affordable units that can be added to the SHI.

The Plymouth Housing Authority has a waitlist of 1,071 locally residing applicants for Section 8 Housing Vouchers (2023 data). Of these, the majority are single-family households, although the number of family households with children and of households with persons with disabilities seeking housing assistance has been increasing. These numbers and trends indicate an increasing need and limited supply of affordable housing for low-income households.

Deed-restricted affordable housing make up 7.22% of Plymouth's total year-round housing stock with the potential to increase to 9.26% as units in the development pipeline are realized.

Haborwalk Apartments in Cordage Park

Image Sources: Apartments.com.

The Oasis at Plymouth

04 | TRANSPORTATION

PREVIOUS PLANS

Old Colony Metropolitan Planning Organization (MPO) 2020 - 2040 Long Range Transportation Plan

The MPO plan focuses on improving transportation within the Region, prioritizing projects for state and federal funding across all travel modes including roadways, public transit, biking, and walking. Key priorities include expanding bicycle infrastructure, enhancing road designs for safety, and addressing congestion in areas like Plymouth. The plan also highlights the need for improvements around the MBTA Commuter Rail Station and other bicycle and pedestrian infrastructure. It also highlights the need for better east-west transit connections and the creation of an intermodal center downtown.

Priority Plymouth Climate Action & Adaptation Plan (CAAP), 2023

The plan proposes a series of strategies to target vehicle emission reduction and utilization of alternative travel modes. The plan outlines strategies to reduce emissions and encourage alternative travel modes, including public education on sustainable transportation, promoting electric vehicle rebates, collaborating with GATRA for zero-emission buses, improving first/last mile options, and enhancing street safety in high-traffic areas. It also recommends updating the Parking Management Plan to reduce parking minimums or implement parking maximums.

GATRA Comprehensive Regional Transit Plan Update 2021

The GATRA service update plan analyzes operations and identifies areas for improvement in service and connectivity. Notable achievements include the expansion of Go Microtransit to Plymouth in 2020-2021 and the TPP Transportation Pilot Program, which offers on-demand rides for seniors and people with disabilities. Capital priorities include building a new garage in Plymouth for COA vehicle maintenance and establishing an intermodal transportation center downtown to reduce congestion from on-street boardings. This could involve developing the Plymouth Rail station or converting downtown parking lots. Service expansions are suggested for South Plymouth, including a microtransit zone linking to the redesigned Link 2 and CCRTA, as well as service between Plymouth and Taunton, supported by a TNC taxi subsidy program.

Plymouth Complete Streets Policy, 2013

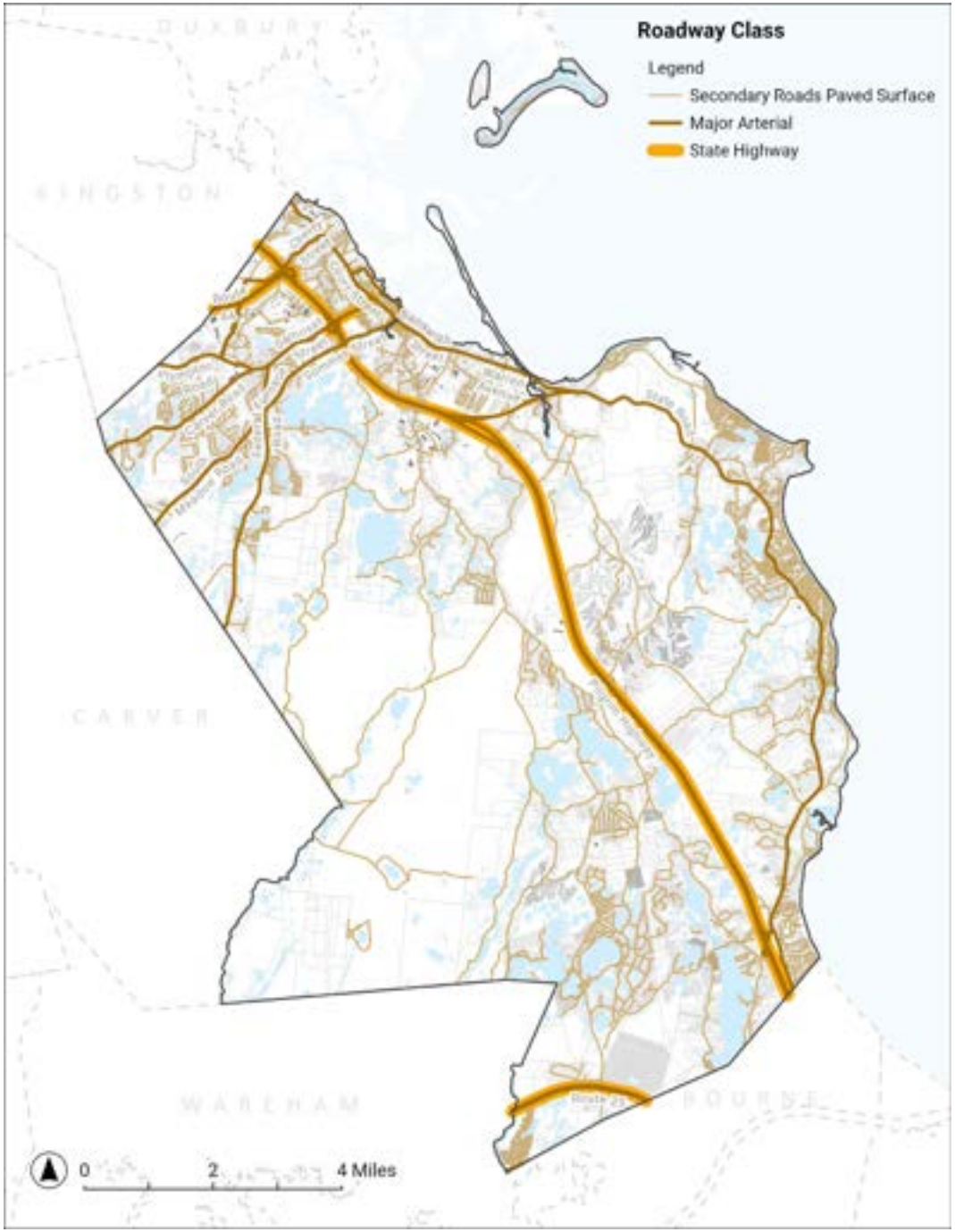
The Town's Complete Streets policy aims to ensure safe, accessible transportation for all users, regardless of ability or mode of travel. The policy emphasizes context-sensitive planning and prioritizes multimodal projects that enhance connections within the broader network. Key tasks for implementation include maintaining an inventory of pedestrian and bicycle infrastructure to identify gaps, revising Capital Improvement Project prioritization for Complete Streets compliance, incorporating Complete Streets principles into the Town’s master plan, training staff on best practices, coordinating inter-departmental efforts, and seeking funding and grants for policy implementation.

STREETS AND ROADS

Plymouth has over 300 miles of roadways including highways, local roads, and privately-owned roads, including some that are unpaved. Several local roads follow routes first traced by Indigenous people before European settlement began. The Town of Plymouth only controls local roads. Other roads are either under the jurisdiction of MassDOT (State roads) or controlled by private owners.

Route 3 connects for almost 18 miles through Plymouth between I-93 near Boston and Cape Cod. It has five local access exits at Samoset Street, South Street/Long Pond Road, Plimoth Patuxet Highway to Route 3A, Clark Road, and Herring Pond Road. Route 44 is the only other limited-access highway providing access to/from Plymouth via Route 3.

Plymouth's large geographic area and limited street network in most of town means travel times can be significant even within Plymouth. Route 3 creates a barrier between the eastern and western areas as only ten streets cross under or over it. Ponds, forests, and topographic features limit roadway connectivity in many parts of town.



ROADWAY SYSTEM

Key Roadways in Plymouth

ROADWAY	ADT	YEAR	LANES	OTHER DESIGNATION	FUNCTION / CONTEXT	ROADWAY CHARACTERISTICS
Pilgrim Highway N of Tremont Street	63,977	2023	4	US 3 / US 44	Primary access between Plymouth and Boston to the North, Cape Cod to the South	US State Highway, 4-lane divided roadway. No sidewalks or bike lanes.
Pilgrim Highway at Plymouth	56,715	2021	4	US 3 / US 44		US State Highway, 4-lane divided roadway. No sidewalks or bike lanes.
Pilgrim Highway N of Samoset	56,715	2021	6	US 3 / US 44		US State Highway, 6-lane divided roadway. No sidewalks or bike lanes.
Pilgrim Highway S of Samoset	61,167	2023	4	US 3 / US 44		US State Highway, 4-lane divided roadway. No sidewalks or bike lanes.
Court St	11,627	2023	2	Route 3A	Parallel alternative to Pilgrims Highway; Main arterial roadway through downtown Plymouth from North St to Boundary St, retail and commercial uses along the way	US State Highway, 2-lane divided roadway. Sidewalks on both sides of the street. No bike lane and narrow shoulder.
Samoset Street W of Pilgrim Highway	20,508	2023	5	-	Important East-West connection, with a direct connection to Pilgrim Highway from downtown Plymouth, important retail and commercial uses along the way	Sidewalk on one side of the street, no bike lanes. Narrow shoulder. Wider travel lanes.
Samoset Street E of Pilgrim Highway	14,810	2023	2	-		Major Arterial Roadway, 2-lane divided highway. Sidewalks on both sides of the street, no bike lanes. Dense commercial and residential
Summer Street	8,111	2023	2	-	Another vital East-West connection, from Main St Extension in downtown Plymouth to Carver Road; mostly used by residents as well as Eversource employee	Minor Arterial Roadway, 2-lane divided highway. Sidewalks on one side of the street. No bike lanes. Mainly residential corridor.
Cherry Street	5,576	2023	2	-	East-West local road with connection from Route 3A to Kingston Collection mall	Minor Arterial Roadway, 2-lane divided highway. Sidewalks on both sides of the street, no bike lanes.

ADT: Average daily traffic count

ROADWAY SYSTEM

Key Roadways in Plymouth

ROADWAY	ADT	YEAR	LANES	OTHER DESIGNATION	FUNCTION / CONTEXT	ROADWAY CHARACTERISTICS
Plympton Rd	7,880	2023	2	Route 80	Primary access between Plymouth and Boston to the North, Cape Cod to the South	No sidewalks, no parking, no bike lanes. Dense forest and few driveways. Narrow shoulder.
Commerce Way	16,000	2023	5		Has direct interchange access with Route 44, and runs North-South with many commercial malls adjacent to it.	Sidewalk on one side of the street with shoulders. No bike lanes. A commercial through street with a center-running raised median.
Federal Furnace Rd	6,540	2023	2		Major travel road between the Plymouth Municipal Airport and town Plymouth. Runs perpendicular to Pilgrim's Highway, operating as an inland-to-coast connection.	No sidewalks, no parking, no bike lanes. Narrow shoulder. Mainly residential corridor.
Carver Rd	9,180	2023	4		Important East-West connection from Carver into Plymouth and to the coast. Has interchange access to Pilgrim's Highway.	Sidewalk on one side of the street, no bike lanes. Narrow shoulder. Wider travel lanes.
Long Pond Rd	11,600	2023	2		Important North-South connection from Cedarville up to south street. Northern terminus provides access to major shopping center, as well as Pilgrim's Highway. Runs parallel to Pilgrim's Highway all the way to the town's southern border.	No sidewalks, no parking, no bike lanes. Dense forest with several driveways. Narrow shoulder.
Halfway Pond Rd	6,800	2023	2	-	Important East-West connection between Long Pond Rd and Wareham Road.	No sidewalks, no parking, no bike lanes. Dense forest and few driveways. Narrow shoulder.

ROADWAY SYSTEM

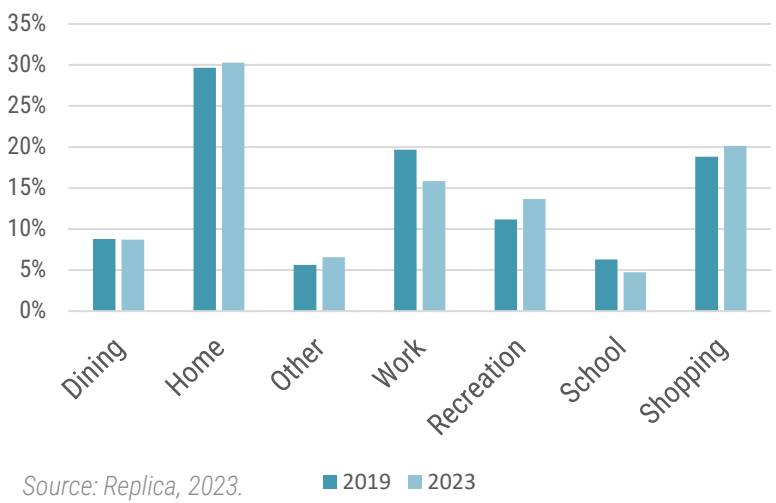
Key Roadways in Plymouth

ROADWAY	ADT	YEAR	LANES	OTHER DESIGNATION	FUNCTION / CONTEXT	ROADWAY CHARACTERISTICS
Bourne Rd	2,940	2023	2		Runs on the West side of Big Sandy Pond, south to Rt. 25 and Bourne and north to Halfway Pond Rd.	No sidewalks, no parking, no bike lanes. Forested and few driveways. Narrow shoulder. Mainly residential corridor.
Wareham Rd	1,660	2023	2		Runs north to Long Pond Rd and south to Plymouth Ave. Provides access to White Island Shores residential development.	No sidewalks, no parking, shared bike/pedestrian walkways. Forested and few driveways. Shoulder present. Mainly residential corridor.
Herring Pond Rd	780	2023	2		Runs on the East side of Herring Pond, south to Bournedale Rd and north to State Rd, travelling Under Pilgrim Highway.	No sidewalks, no parking, no bike lanes. Forested and few driveways. Narrow shoulder. Mainly residential corridor.

TRAVEL PATTERNS

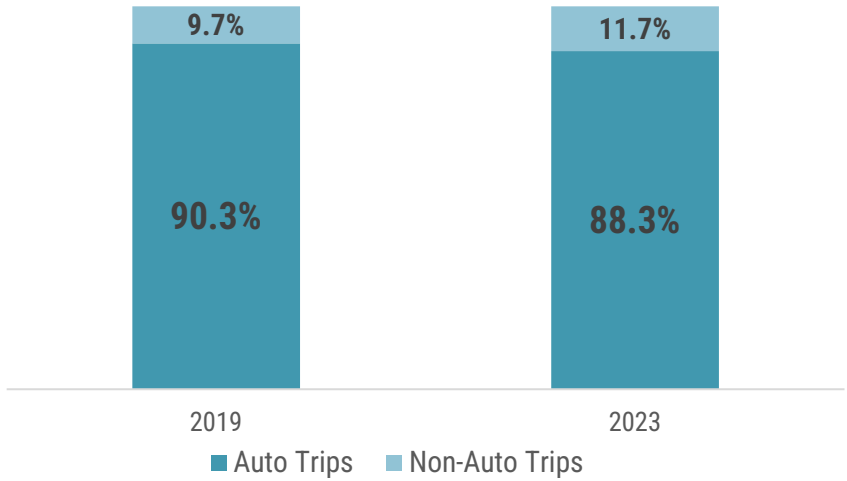
Most trips in Plymouth (including all trips beyond just those by residents) are by car, and the majority are between work and home. The number of trips in 2023 seems to have returned to 2019 levels, although looking at trips by time of day and purpose demonstrate that nationwide trends in working from home also apply in Plymouth. This means that there are slightly fewer people with trips to work overall. It also means that the number of trips in the morning has decreased slightly, while trips at the end of the day have increased overall and remain higher for longer into evening hours. This may mean that congested areas experience congestion for slightly longer in the afternoon. In addition, the percentage of trips by non-driving modes has increased slightly, reflecting a potential increased demand for walking, biking, and transit trips.

Trips Originating in Plymouth by Type

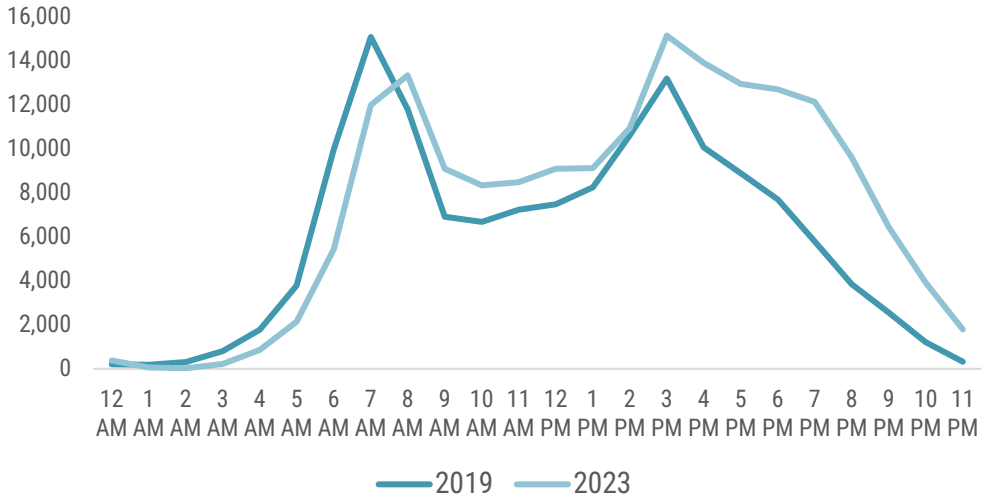


Source: Replica, 2023.

Trips Originating in Plymouth by Primary Mode



Trips Originating in Plymouth by Time of Day

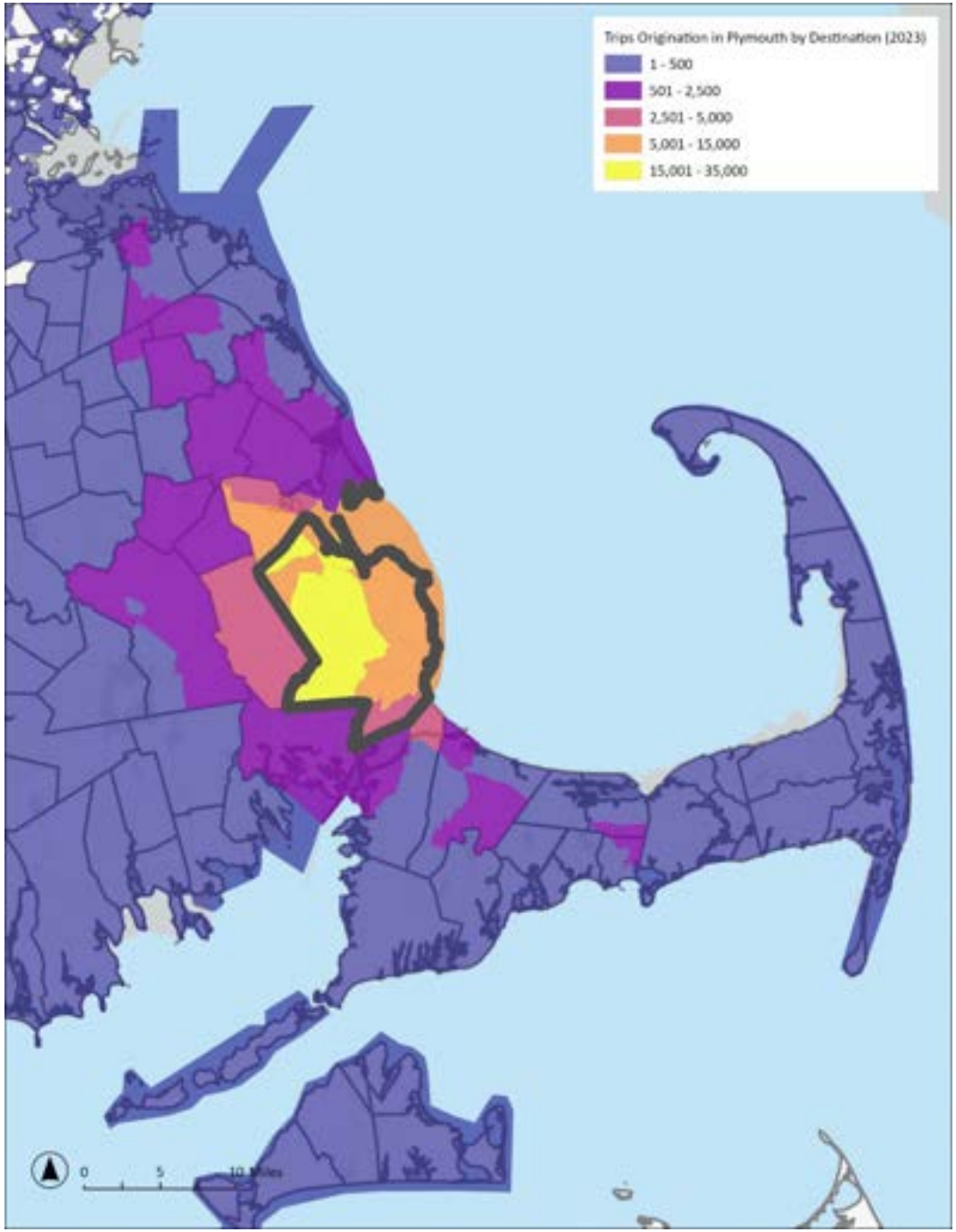


This data draws from Replica, which uses various data sources, such as anonymized location data from smartphones and census data and uses them to estimate trips in a given area.

TRAVEL PATTERNS

Nearly 65% of trips that originate in Plymouth also end in Plymouth, highlighting the local nature of most travel in Plymouth. The average trip length is 26.5 minutes, and the average trip distance is 10.7 miles*. Frequent destinations outside of Plymouth include Hyannis, Barnstable, Hingham, Kingston, and Carver, all areas that lack frequent transit options to and from Plymouth.

As non-residents hold the majority of jobs in town, connections to these neighboring communities are important for supporting the local economy and further underscore the need for a connected local transportation network.



*Note: This analysis represent trips taken during Fall 2023 (Sep 1-Nov 30). Summer data on trip patterns is currently not available.

Source: Replica, 2023.

PARKING

The Town manages public parking in downtown, the waterfront, and North Plymouth through the Plymouth Growth and Development Corporation (PGDC), a separate quasi-public organization outside of Town Hall. In response to increased demand, the parking system in these locations is paid for half the year, while the remainder of the year uses time limits to maintain availability. There is no active parking management in other village centers aside from regulations that prohibit parking.

Specifics of the paid parking system include:

- The "paid parking season" currently begins on April 1st and extends through November 30th every year.
- Hours of operation: 9:00am to 7:00pm, seven days a week and on holidays.
- Price is $2.00 per hour at most places except in a few parking decks where the rate is $1.00 per hour or max $5.00 per day.
- During the "free parking season," time-limit regulations still apply

Source: Park Plymouth.

- Various types of parking is available to users based on their needs:

✓ Unlimited Free On-Street Parking

✓ Time-limited Free On-Street Parking (15-mins, 30-mins, 2-hours)

✓ Time-limited Paid On-Street Parking (2-hours, 4-hours)

✓ Time-limited Paid Off-Street Parking (4-hours, 10-hours)

✓ Parking Permits for Plymouth residents and employees

- Outside of Plymouth's downtown area, along the waterfront, and in the North Plymouth village center, there is free public parking all year long.

Parking lot in downtown Plymouth

SAFETY

Plymouth recently initiated a study of safety on its streets and is using crash data to identify high crash intersections within the town. While that process is ongoing, the data provides insight into areas of concern.

MassDOT's Crash Portal was used to analyze crash data from 2018 to 2022. According to the Plymouth & N. Plymouth study completed recently, there were about 1,415 crashes in the Downtown region.

The top five high injury intersections have seen a combined total of 97 crashes over the five-year period.

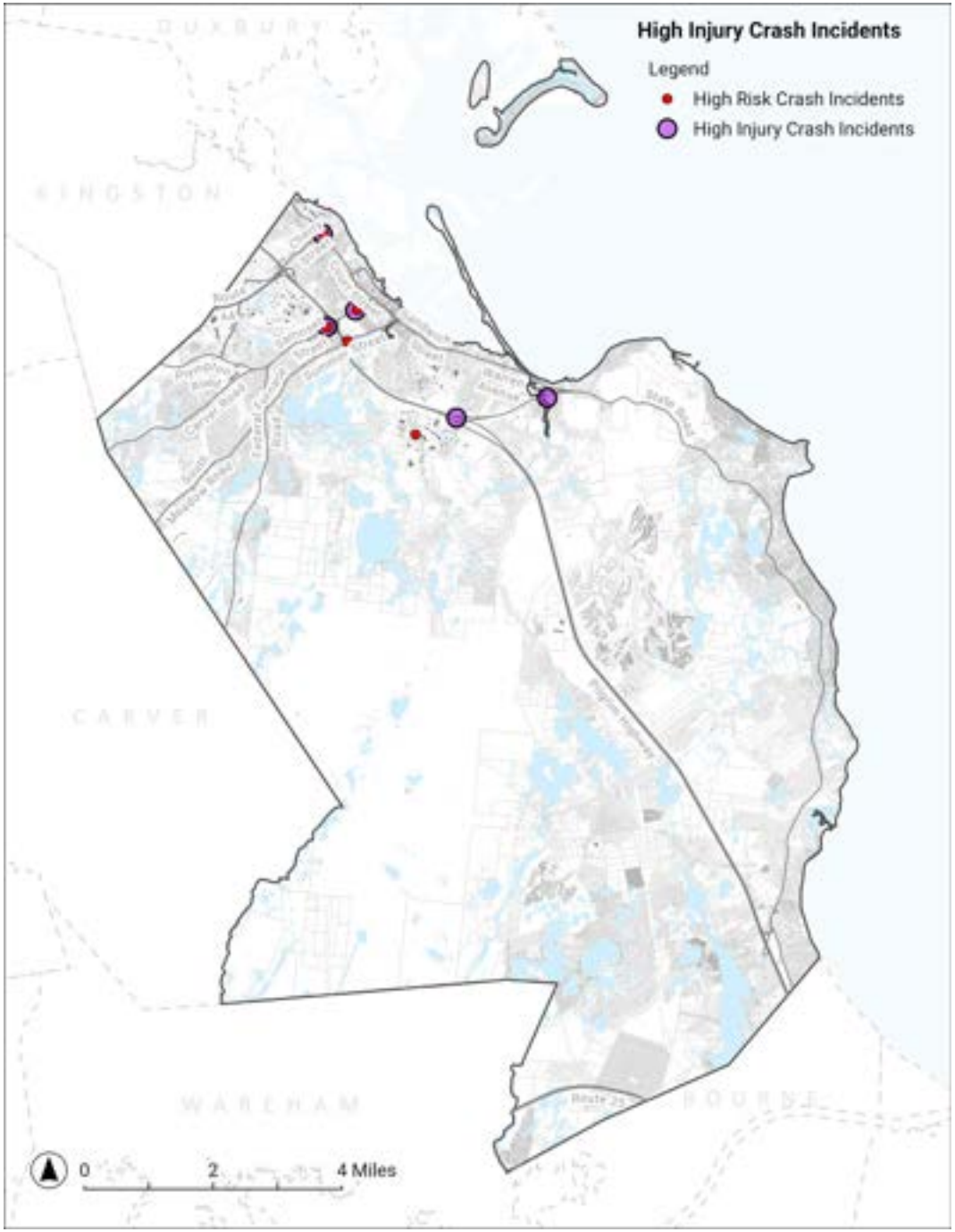
These statistics indicate that to create safe, comfortable streets for all users, there are priority areas for improvements in the future.

High Injury Intersections:

- State Road at Plymouth Plantation Highway
- Doten Road at State Road
- Cherry Street at Standish Avenue
- Chestnut Street at Standish Avenue
- Myles Standish Plaza at Samoset Street

In addition to the above, High-Risk Intersections were determined that have near misses and a higher chance of crashes occurring on Holman Road at Long Pond Road and Summer Street at Westerly Road.

Source: https://apps.impact.dot.state.ma.us/cdp/dashboard-view/26



SIDEWALKS & PEDESTRIAN INFRASTRUCTURE

Facilities for people walking and rolling are generally available at many key areas throughout Plymouth, including sidewalks, crosswalks, pedestrian signal heads (at signalized intersections), curb ramps, and detectable warning panels, with higher concentration of these features found in North Plymouth, the downtown area, and near the public beaches. Several areas downtown feature red brick paver sidewalks, contributing to the historic aesthetic of the town. In contrast, there are many residential streets that lack sidewalks and have limited designated crossing opportunities. Some of these streets may have traffic that moves slowly enough to allow people to feel safe walking despite the lack of designated infrastructure, while others may have cars traveling at faster speeds, limiting people's comfort to walk along them.

Most roads in Plymouth are two-lane and don't feature excessively long crossing distances. However, a general lack of high-visibility pedestrian warning signage can deter people from walking as they may not feel safe and/or experience significant delay in getting across busier streets. This is often due to large turning radii at corners or multiple lanes of traffic, including parking lanes, and represents a hierarchy at intersections that prioritizes vehicle movement.

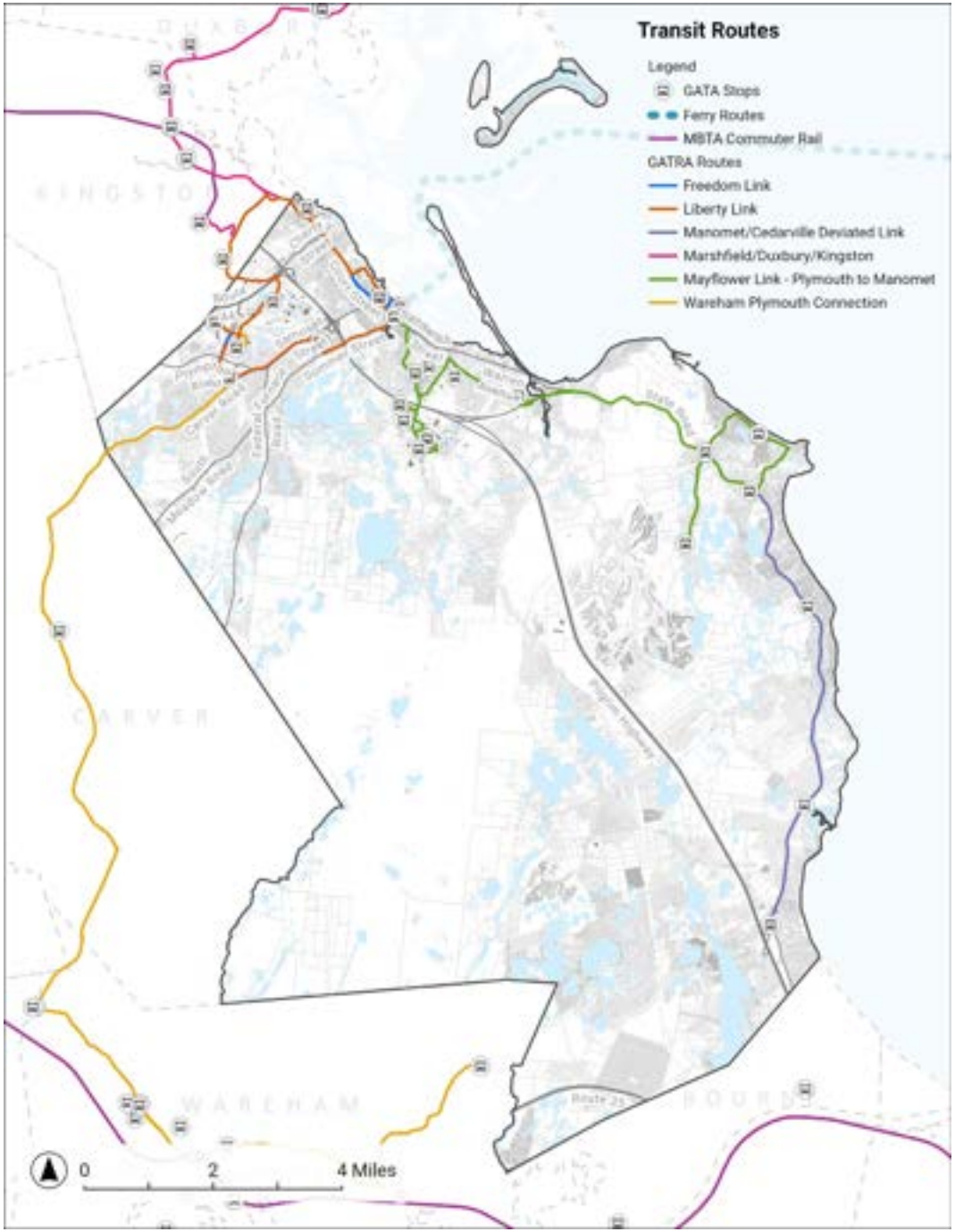
Where they exist, most crosswalks are "continental" style with thinner ladder bars (including near schools). The Federal Highway Administration recommends thick ladder bars as the safest option. Other crosswalks, such as along and near Water Street, are a mix of "standard" (two lines perpendicular to the road) and "solid" (background color is tinted or painted red). While the red crosswalks are intended to increase driver awareness of pedestrian activity, this mix of treatments can be challenging to maintain. Most crosswalks are in good or fair condition.

Painted crosswalks near Plymouth's waterfront

TRANSIT

The Greater Attleboro Taunton Regional Transit Authority (GATRA) runs daily bus routes to neighboring municipalities both on weekdays and weekends, with approximately 2,000 daily riders and service approximately every hour. Service is concentrated to the north and east, with little overlap between routes. While transit service is an asset to the Town, the existing frequency makes it inconvenient for many people to use. Although not located in Plymouth, the MBTA Kingston Commuter Rail Line terminates in Kingston, about a ten-minute drive north of downtown Plymouth. Prior to 2021, the Kingston Line provided service to Plymouth which has since been discontinued.

In addition to GATRA, the regional Plymouth & Brockton bus line runs hourly services between Hyannis in Cape Cod and Boston Logan Airport throughout the day, with a stop in Plymouth. PeterPan also runs bus services between towns on the Cape and Boston Logan airport, with the closest stop in Sagamore Beach, 20 minutes away from Plymouth downtown.



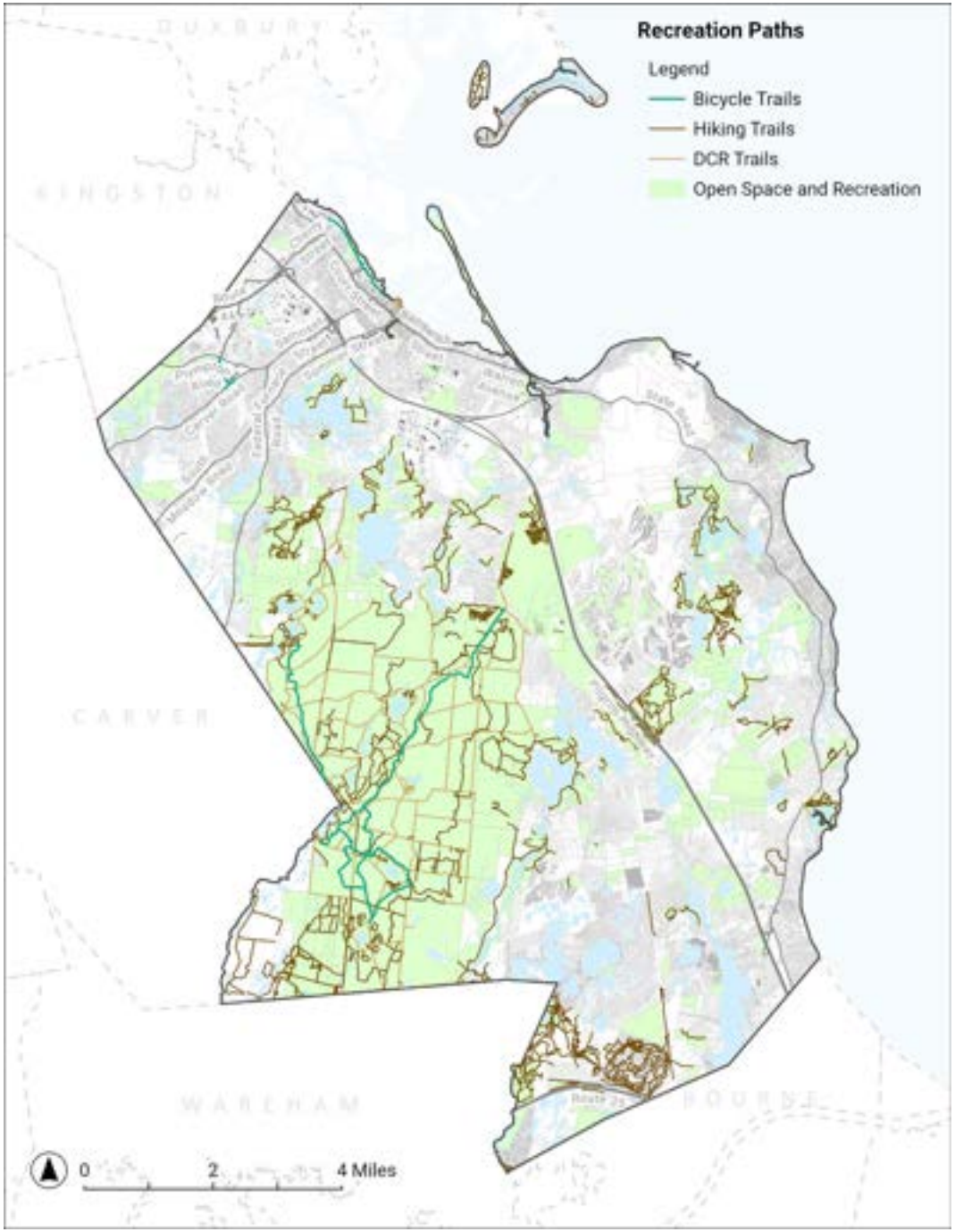
Source: https://www.transit.dot.gov/sites/fta.dot.gov/files/transit_agency_profile_doc/2022/10064.pdf

TRAILS & BIKE ROUTES

Plymouth's extensive trail system provides opportunities for walking, running, hiking, and biking throughout town. Most trails are located within existing open space and recreational areas and lack connections between different areas or community destinations. The town's largest trail segments include the Myles Standish State Forest Trail system, the Seaside Bike Trail, North Plymouth Rail Trail, and Pine Barrens Path.

Some sections of Plymouth's trail network are connected by limited on-street bike facilities in parts of North Plymouth, Plymouth Center, and West Plymouth, including along Commerce Way, Water Street, and Obery Street. Most trail segments are disconnected from each other and existing pedestrian and bicycle facilities.

The Claire Saltonstall Bikeway traverses Plymouth via Summer Street, South Street, Long Pond Road, and Hedges Pond Road, and Route 3A. Narrow road widths and limited sight lines along this route present several safety challenges between cars and cyclists.



Source: MASSGIS.

TRAILS & BIKE ROUTES

Seaside Trail Improvements and Extension (2022)

In 2022, the MassTrails Grant Program awarded Plymouth's Department of Marine & Environmental Affairs $100,000 to supplement capital costs relating to the approximately 0.3 mile extension of the paved, 1.0 mile Seaside Trail southward from Nelson Memorial Park to the public parking area on Lothrop Street. The highly-used trail runs along the former Old Colony Railroad line. A range of safety features and amenities were integrated to improve the safety and experience of those using the path to connect with the downtown/harbor district, including the addition of crosswalks, signage, plantings, chicanes, swales, and pedestrian-activated Rectangular Rapid Flashing Beacons (RRFBs). The existing crossing at Nelson Street was also proposed for realignment and safety upgrades as part of a sidewalk extension on its southern side.

Image Sources: Town of Plymouth

Seaside Trail improvements

05 | ECONOMIC DEVELOPMENT

PREVIOUS PLANS

2023 Convention Center Market Analysis and Feasibility Study

The study performs a market analysis and feasibility study for a new convention at eight different locations in Plymouth. It examines industry trends, market demand, and provides a cost-benefit analysis of the impacts of the potential project.

2021 Plymouth Entrepreneur Center Study

The study develops an entrepreneur framework for Plymouth to inform future economic development. The report studied several areas include:

- Plymouth area entrepreneurship ecosystem
- Entrepreneurship typologies
- Demographic and economic context
- Indicators of business and innovation
- Plymouth land use and potential entrepreneur center sites

2018 Plymouth County Economic Development Strategy

The report assesses current and potential market climate and economic conditions for the Town of Plymouth and surrounding region. It was commissioned to prepare for the economic and fiscal impacts from the decommissioning of the Pilgram Nuclear Power Station. The report's resulting implementation plan includes location-specific recommendations for the Town's commercial centers to enhance Plymouth's economic development potential. Recommendations focus on increasing business retention, expansion and recruitment while also preserving the community's quality of life.

2004 Strategic Action Plan

Plymouth's 2004 Strategic Action Plan highlights smart growth as an important strategy for fiscal stability and quality job creation. Its recommendations focus on creating economic opportunity centers to concentrating compact mixed-use growth as well as strengthening waterfront and tourism economies.

OVERVIEW

Plymouth's local economy was historically built on its coastal and agricultural heritage. Today, healthcare, social services, retail, and hospitality dominate as local industries. The blue economy is also emerging as an up-and-coming force in Plymouth's economic ecosystem.

The town has a resident labor pool of approximately 31,000, but there are more resident workers than jobs available locally. About 26,000 jobs exist in Plymouth, but many are held by non-residents commuting in from elsewhere. An additional 2,800 positions are held by residents who are self-employed.

Based on recent data, Plymouth's retail sector may have reached its peak, and the tourism sector currently lags the State and other nearby communities. There is significant growth occurring in other areas, but the different types of employment spaces required are currently limited or nonexistent within the Town.

The agriculture and fisheries sectors, integral to Plymouth's history, continue to contribute to its economic base and have specialized land use needs. Fisheries enterprises, for example, require access to coastal areas, docks, processing facilities, and cold storage, while agriculture operations require large amounts of land, reliable water resources, and storage facilities.

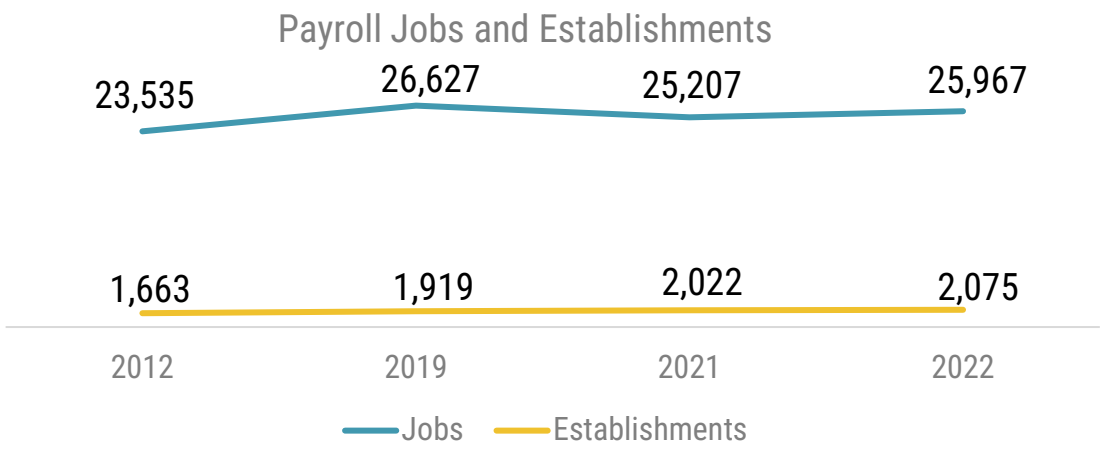
JOBS & ESTABLISHMENTS

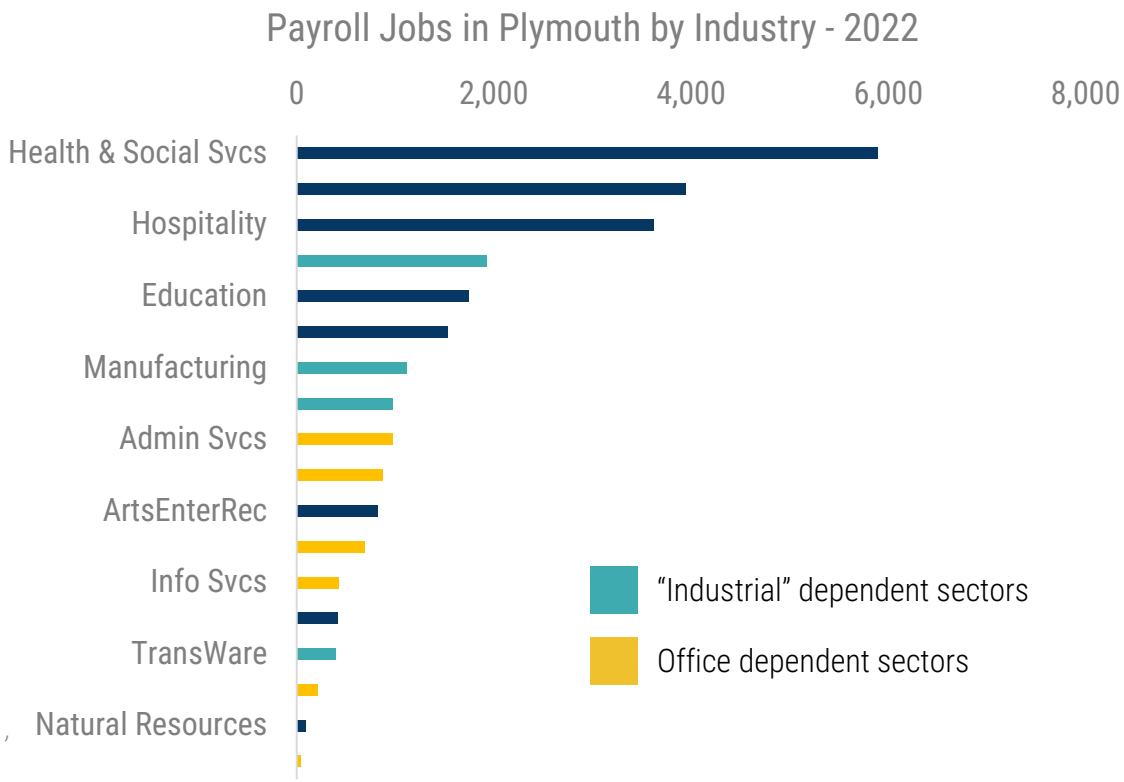
Plymouth continues to add businesses to its local economy, which has seen a 25% increase in business establishments since 2012.

Payroll jobs are currently at 97% of their pre-pandemic peak (26,627 in 2019), but are still 10% higher than a decade ago. An estimated 2,800 people are self-employed, surpassing the 2012 figure by more than a 1,000.

Plymouth's key job sectors include healthcare, retail, and hospitality. These sectors are heavily influenced by population growth and demographic shifts. An increase in industrial dependent sectors like construction and manufacturing indicate a growing need for industrial space to accommodate their needs. Excluding the healthcare and social services sectors, there is low internal demand for office-type spaces.

The closure of the Pilgrim Nuclear Power Plant in 2019 caused the loss of hundreds of high-paying, skilled jobs in the region. It also led to a substantial decrease in tax revenue for the Town, and a negative impact on many local businesses that relied in part on spending by the workforce. Over 30% of the plant's workforce lived in Plymouth, and many of these employees were forced to secure new work outside of the Town.





Source: NP analysis of MASS LMI QCEW data; self-employment based on ACS , COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CED) 2020-25

WORKFORCE & COMMUTING

Although there are more residents in the labor pool than there are jobs in Plymouth, most local jobs (69%) are held by non-residents. This is up from 2011 when 66% of jobs were held by non-residents. More than 50% of these workers commute more than 10 miles to Plymouth. Meanwhile, nearly 50% of Plymouth residents commute more than 25 miles to work, the majority traveling along the Route 3 corridor.

This outbound commuting is driven by a mismatch between the industry and job mix that residents work in compared to what exists in Plymouth today. Residents primarily work in the education, professional services, technology, finance, and insurance industries as well as in positions at corporate offices. The availability of these types of jobs in Plymouth is significantly lower than the number of residents who work in them. Residents, therefore, must look further afield for employment that matches their skillsets and desired compensation.

Following national trends, work from home has also been on the rise in Plymouth. About 14% of residents(4,500) work from home compared to only 4% (1,100 people) in 2012.

Source: NP analysis of MASS LMI QCEW data; self-employment based on ACS , COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CED) 2020-25

WORKFORCE & COMMUTING

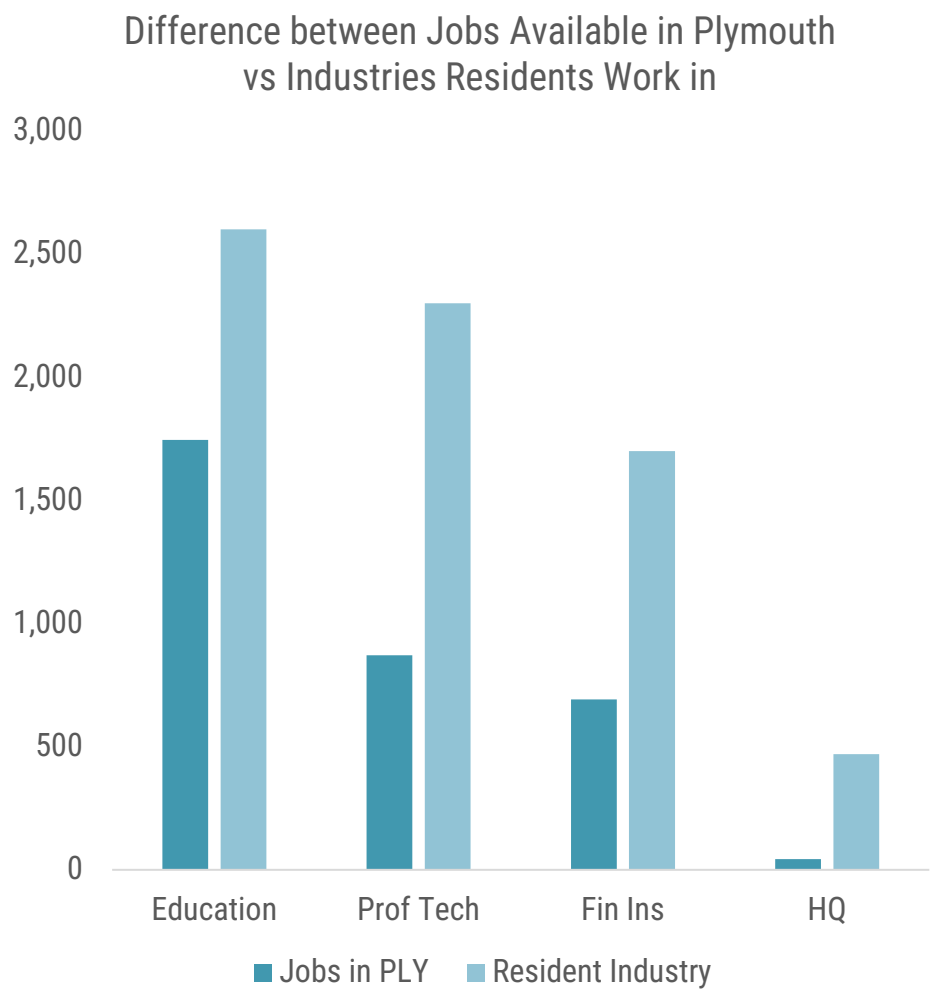
69% or ~16,000 Commute to Plymouth for Work

~7,400 Work and Live in Plymouth

~23,000 Plymouth residents work out of town

Almost 50% commute more than 25 miles

This **outbound commuting is driven by different industry mix and job availability** for residents versus what exists in Plymouth



14% of residents (~4,500) now work from home compared to only 1,100 (4%) in 2012

Source: Based on 2021 OntheMap data

EMPLOYMENT SPACE

Existing Space
Employment space consists primarily of office and industrial spaces used to house non-retail or hospitality jobs. Plymouth has approximately 1.4 million square feet of office and medical services space. The majority are under 3,000 square feet with the largest single space available being 11,500 square feet in size.

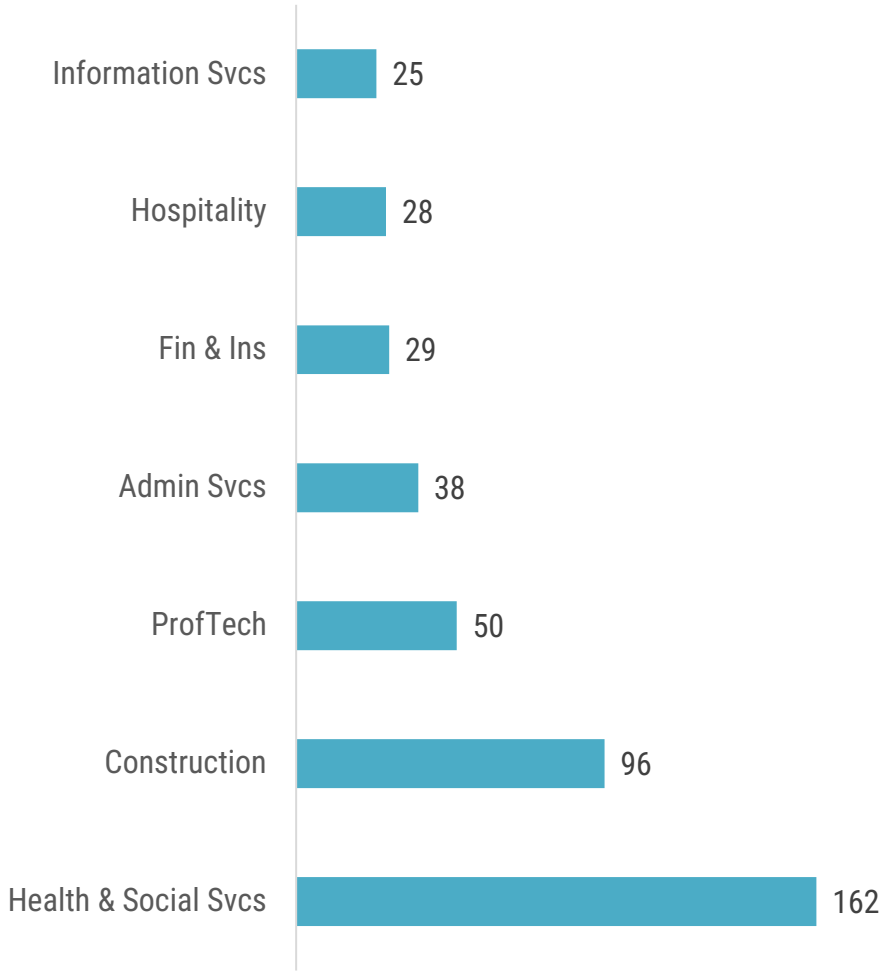
These spaces have helped to define Plymouth as a small office user market. The average size of existing professional or technical services firms is about 3 people. Most firms have between 3 to 10 employees.

Future Space Needs
The growth in Plymouth's business establishments over the last ten years has outpaced employment growth by more than 2.5 times, leading to an increased demand for space. If current trends persist, the industry mix suggests a need for "industrial yard" type spaces to support contractors, small office spaces for professional services, finance, and insurance businesses, spaces for medical offices, and additional restaurant spaces. Major industrial development is unlikely due to Plymouth's limited utility infrastructure and existing workforce limitations.

These projections do not account for emerging industries like "blue tech", which may require water access and fabrication spaces.

Source: Based on 2021 OntheMap data

Number of Establishments Added per Sector Plymouth 2012-2022
(over 25 establishments only)



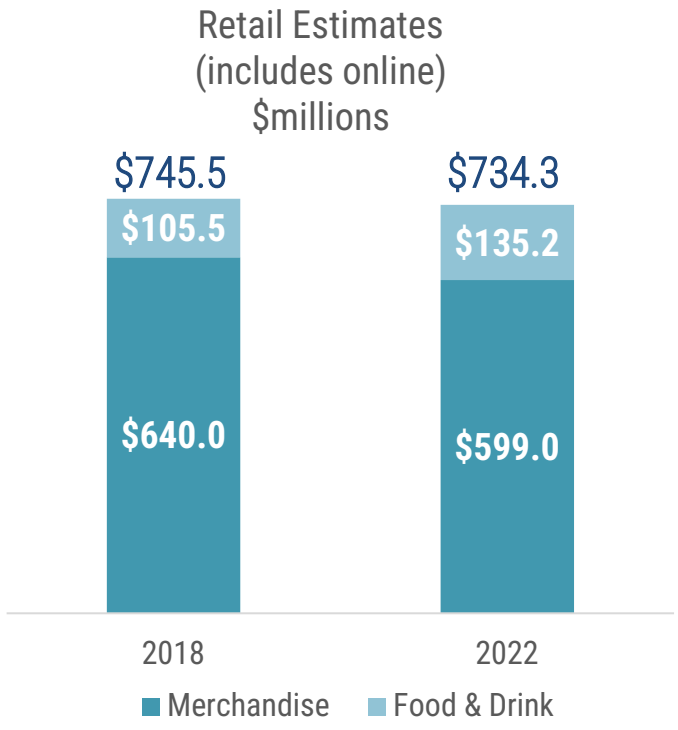
RETAIL & TOURISM

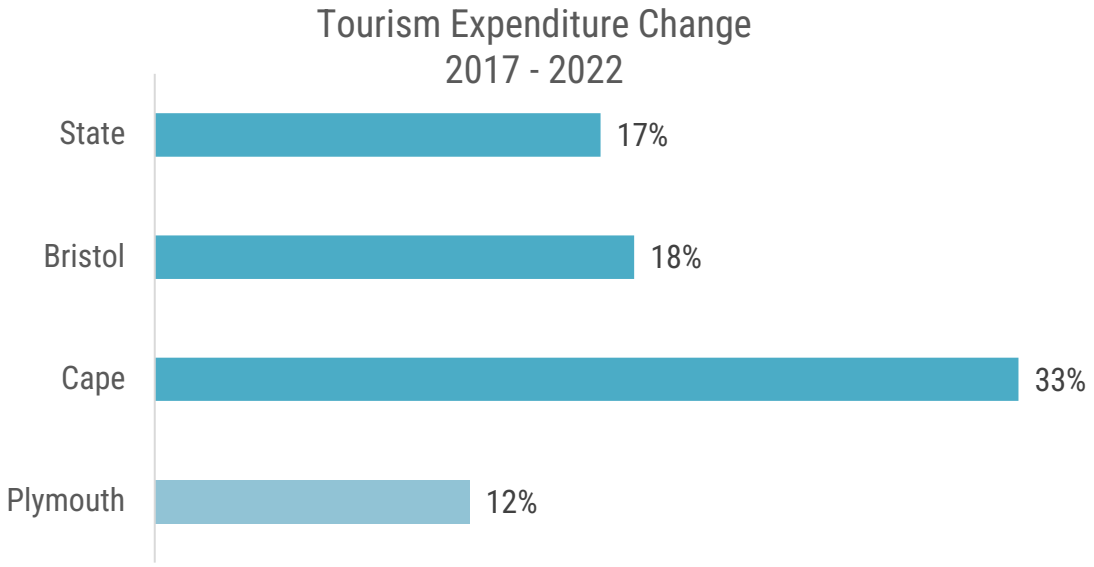
Plymouth has approximately 3.7 million square feet of retail and restaurant space. Most of this is concentrated in Plymouth Center, with additional retail clusters located across the other village centers.

Data suggests that Plymouth's local retail sector, including online sales, may have peaked. Total merchandise sales declined by 6.4% from 2018 to 2022. Conversely, food and drink retail sales have increased by 28%. This represents shifting consumer patterns towards experiences over material goods as well as changing dynamics in the retail industry overall.

Plymouth's many historic, cultural, and waterfront assets have supported its tourist economy. In recent years, however, Plymouth County has fallen behind the state average, Cape Cod, and neighboring towns like Bristol, in total tourism expenditures. Between 2017 and 2022 the county's tourism expenditures increased by 12%. When accounting for inflation, actual expenditures are down by $23 million.

Despite slower growth than other regions, Plymouth's tourism industry added the most jobs. These jobs tend to be lower wage, however.





Source: ESRI 2023 Retail Market Profile Data and 2018 Plymouth Economic Development Strategy Table 4-1, NP calcs - MOTT Annual Reports 2017, 2022. Domestic visitor impact

AGRICULTURE & FISHERIES

The agriculture and fishery industries are important parts of Plymouth's history and contribute to both its economy and character. They collectively contribute about $3.8 million in total wages per year to the local workforce. Around 160 residents primarily work in agriculture or fisheries, representing a slight increase from 2012 numbers. It is important to note that some of these workers are self-employed, while others may work as contract labor or in different communities.

Cranberry Industry

Plymouth County is renowned for its cranberry growers, boasting a history of cultivation spanning over 200 years. The Town of Plymouth's cranberry industry covers 769 acres, making it the fifth largest producer in Massachusetts. Plymouth's cranberry harvest represents 8% of the country's total and 7% of the state's, with an estimated crop value of $6.4 million.

About 250 acres of Plymouth's total land area is comprised of cranberry bogs. Beyond their economic and agricultural contributions, these bogs play an important role in recharging the aquifer, filtering groundwater, providing flood control and stormwater drainage, protecting open spaces, and preserving wildlife habitats.

Source: Source: Acreage based on Mass Cranberry Growers Association Estimates Crop value: (USDA May 2023 Cranberry Industry Release Data).

Cranberry Harvesting in West Plymouth

Image Source: cranberryinstitute.org , cranberries.org

Historic photo of cranberry processing

AGRICULTURE & FISHERIES

Commercial Fisheries

Plymouth is a key commercial fisheries port in Massachusetts. The sector has seen a 19% increase in the number of home-ported commercial vessels in recent years with 242 total documented vessels in 2023, up from 206 in 2018. In 2023, 181 harvesters landed a catch valued at $5 million, with lobster comprising 65% of the total catch value. This makes Plymouth the eighth largest lobster port in Massachusetts by weight. It is the fourth largest producer of oysters in the state.

Source: Port by Port: Profiles and Analysis of Massachusetts Commercial Fishery, 2021

Lobster boats in Plymouth Harbor

BLUE ECONOMY

Plymouth is quickly becoming a leader in the Commonwealth's blue economy. Its harbor, coastline, and direct access to the ocean provides a wealth of opportunities for not only fishing, coastal tourism, and recreation, but also emerging industries like robotics, aquaculture, and other marine-related technologies and trade. Blue economy industries offer high wage jobs that have the potential to diversify and elevate Plymouth's local jobs market.

As more companies and high-tech startups in blue economy sectors develop, there will be an increasing need for new types of employment spaces and access to the water to support research and industry.

The space typologies that support the blue economy include:

- Manufacturing and Assembly
- Office
- Flex Industrial

Blue economy refers to economic activities related to oceans, seas, and coasts. It includes sectors such as renewable energy, sustainable fishing, aquaculture, and marine biotechnology.

Traditional Blue Economy Sectors

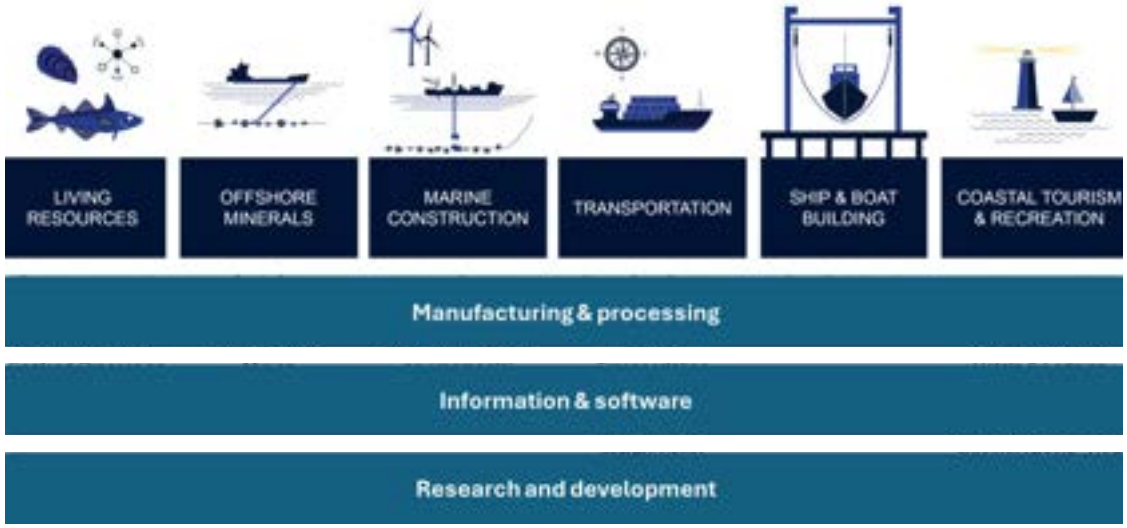


Image Source: Ninigret Partners, LLC

Image Source: Plymouth Independent

Greensea IQ's underwater robot at Cordage Park

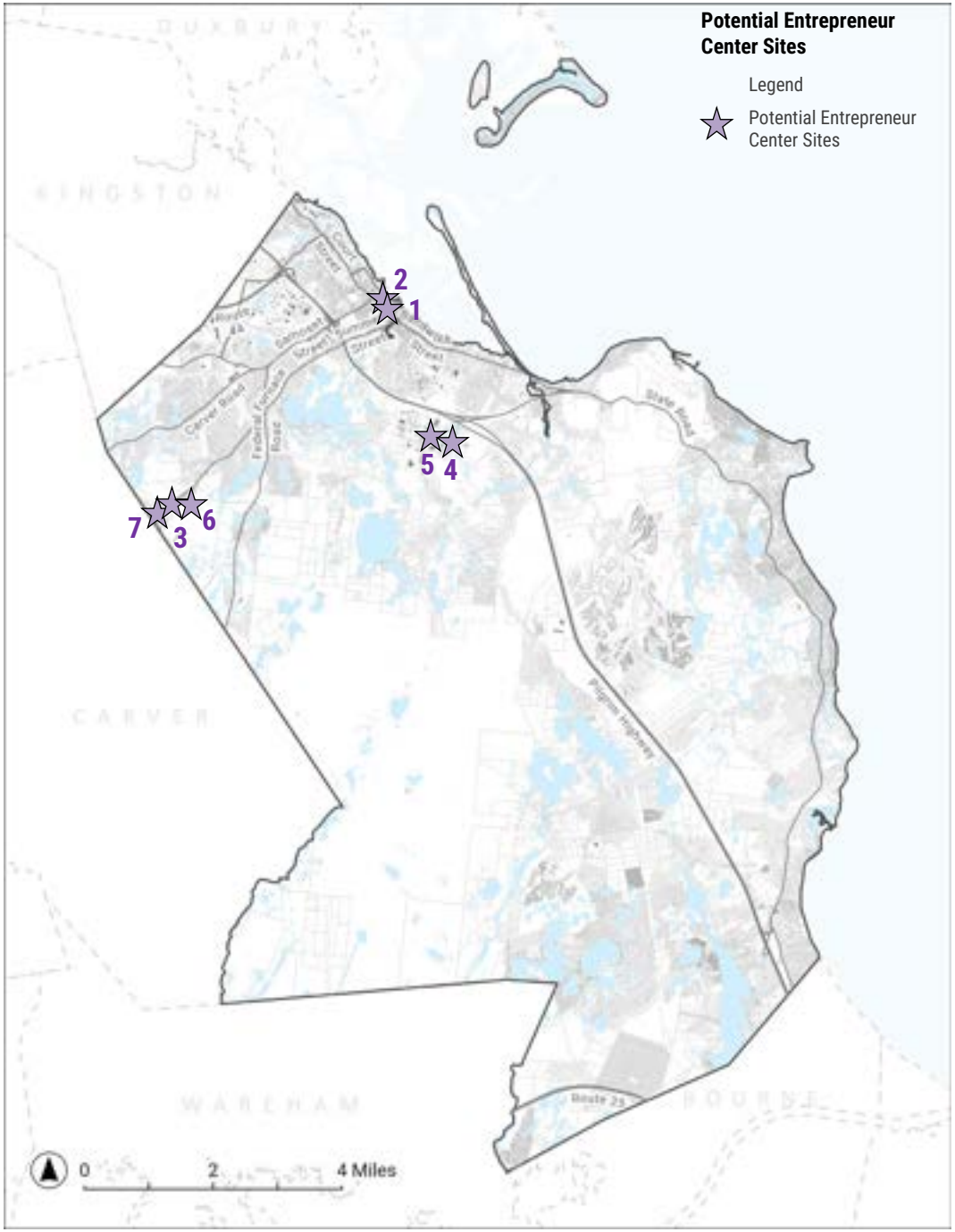
ENTREPRENEURSHIP

The 2021 Plymouth Entrepreneur Center Study highlights Plymouth's entrepreneurship ecosystem and its potential for growth. The area's foundational institutions, access to capital, existing key businesses and entrepreneurship centers, strong social and professional networks, and public awareness and support create a strong foundation for catalyzing innovation across the region.

Entrepreneur centers play an integral role in providing space and key resources that can support a robust entrepreneurial ecosystem. They can take the form of co-working spaces, makerspace, incubators, and super hubs.

The report identifies seven potential entrepreneur center sites in Plymouth at the following locations:

1. 26 Howland St.
2. 4 North St.
3. 226 South Meadow Rd.
4. 130 Camelot Dr. (Camelot Industrial Park)
5. 60 Long Pond Rd. (Shops at 5)
6. 246 South Meadow Rd. (Plymouth Municipal Airport)
7. 253 South Meadow Rd



Source: Plymouth Entrepreneur Center Study, September, 2021

RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT & LAND USE

Economic development often drives changes in land use, as growing industries and expanding populations require more space for commercial and industrial purposes as well as residential. Conversely, land use policies and the availability of land with suitable infrastructure can significantly impact economic development by influencing where businesses can locate, how efficiently resources are used, and the overall sustainability of growth.

Efficient land use can support economic growth by providing the necessary infrastructure and space for businesses to thrive. Economic progress can be hindered by poorly managed land use which can lead to urban sprawl, environmental degradation, and inefficient resource allocation.

Image Source: Ninigret Partners, LLC

06 | NATURAL RESOURCES

PREVIOUS PLANS

2024 Open Space and Recreation Plan (OSRP)

The draft plan is under review and pending State approval as of early 2025. The plan provides an update to the Town's 2017 OSRP. It will inform the planning, conservation, acquisition, development, and management of open space and recreational facilities.

Several needs have been identified through the report's analysis and extensive community engagement process, including:

- Preserving and creating more open space resources around village areas to maintain rural character and reduce sprawl
- The need to protect and conserve open space for recreation, drinking water/aquifer protection, historic preservation, habitat protection and agricultural preservation
- Balancing conservation and preservation of open and recreational space with economic development
- Connecting existing open spaces with trail ways and bike paths

The plan's goals and objectives will serve as a guideline for the Town in investing public funds through its Community Preservation Fund and five-year Capital Improvement Program as well as to support for grant opportunities.

Plymouth Open Space Trail Guide

The guide provides detailed descriptions of Plymouth's conserved open spaces and trails. Maps accompany the descriptions.

Plymouth-Carver Sole Source Aquifer Action Plan (PCAAP)

The plan aims to protect and manage the Plymouth-Carver Aquifer by offering strategies that involve residents, businesses, government officials, and agriculturalists. It emphasizes local action to protect and preserve the aquifer for future generations. Developed through broad public participation, the PCAAP outlines key strategies in four areas: policy, coordination and technology transfer, outreach to specific audiences, and securing grants and funding. Most critically, the plan identifies the immediate need for municipal collaboration to create consistent protective policies for the aquifer.

Source: GIS data set from Town of Plymouth

OVERVIEW

Plymouth's character is shaped in large part by its diversity of natural resources. It has 36 miles of coastline and more than 365 inland ponds. Plymouth's forested land includes one of the two largest remaining pine barrens in the world. These habitats are home to a significant concentration of rare, threatened, and endangered species. Less visible but of critical importance is the Plymouth-Carver Aquifer beneath the Town, the second largest sole-source aquifer in Massachusetts.

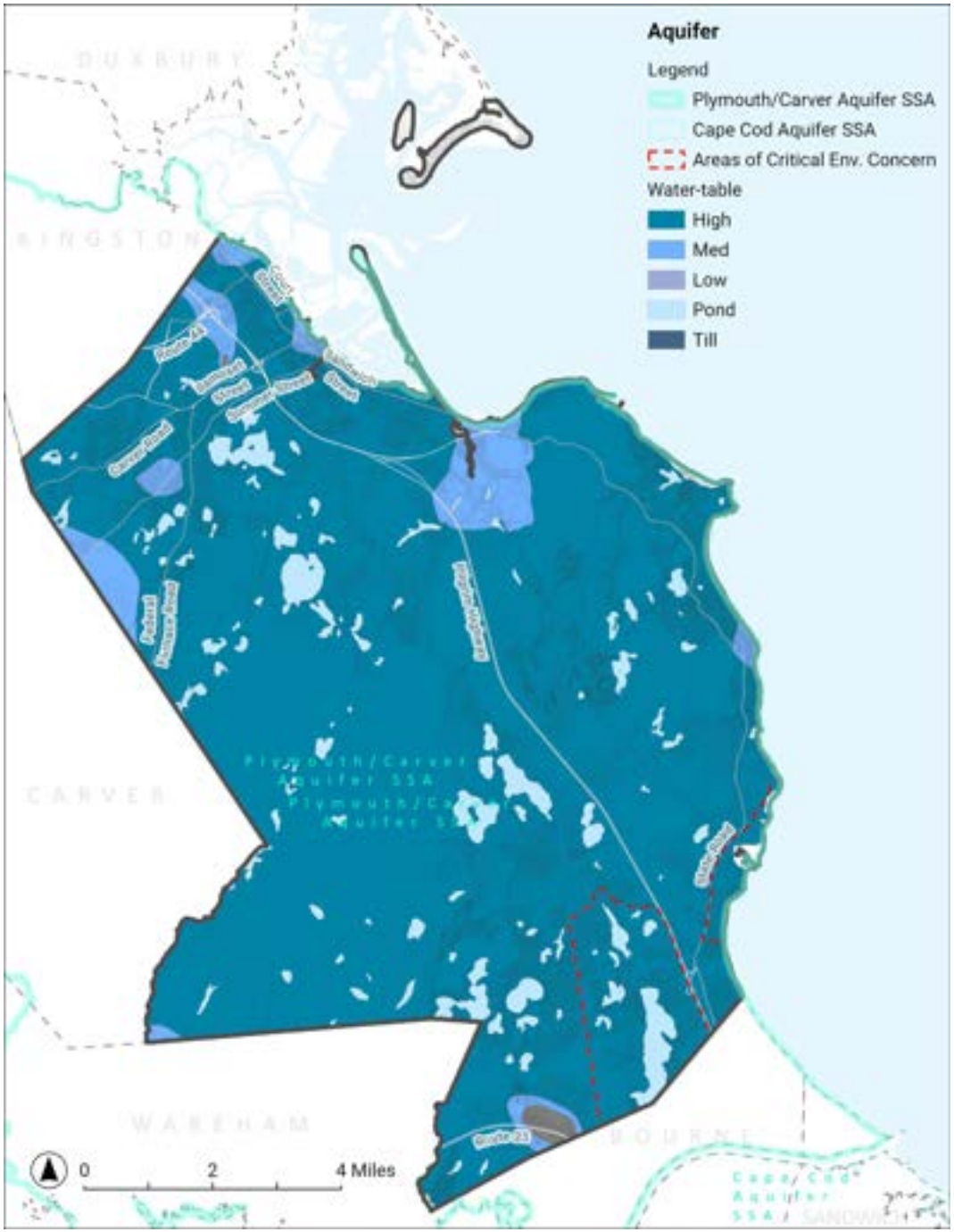
These distinguishing features and Plymouth's large geographic size lead to the perception of the Town as both a coastal community and a wooded inland community.

Walkway out to rock breaker along Plymouth waterfront

GROUNDWATER RESOURCES

The Plymouth-Carver Aquifer is a significant groundwater source in southeastern Massachusetts, primarily beneath Plymouth and Carver. Spanning about 199 square miles, it is the second largest aquifer in Massachusetts and serves as the sole source of drinking water for approximately 200,000 residents, including the towns of Bourne, Carver, Kingston, Plymouth, Plympton, Middleborough, and Wareham. The aquifer contains an estimated 500 billion gallons of potable water. A groundwater divide runs north to south along the western side of Route 3, directing water east to Plymouth Bay and southwest to Buzzards Bay and the Taunton River.

Recognizing the importance and sensitivity of the Plymouth-Carver Aquifer, the Massachusetts Legislature established the Plymouth-Carver Aquifer Advisory Committee (PCAAC). In 2007, the PCAAC developed the Plymouth-Carver Aquifer Action Plan, offering multi-pronged strategies for protecting the aquifer and increasing its ability to continue to provide water supply for the region. An accompanying regional open space plan provided recommendations for regional collaboration on open space protection, local by-laws, and water conservation. Threats to the aquifer include drought, saltwater intrusion, pollution, and increasing water demands.

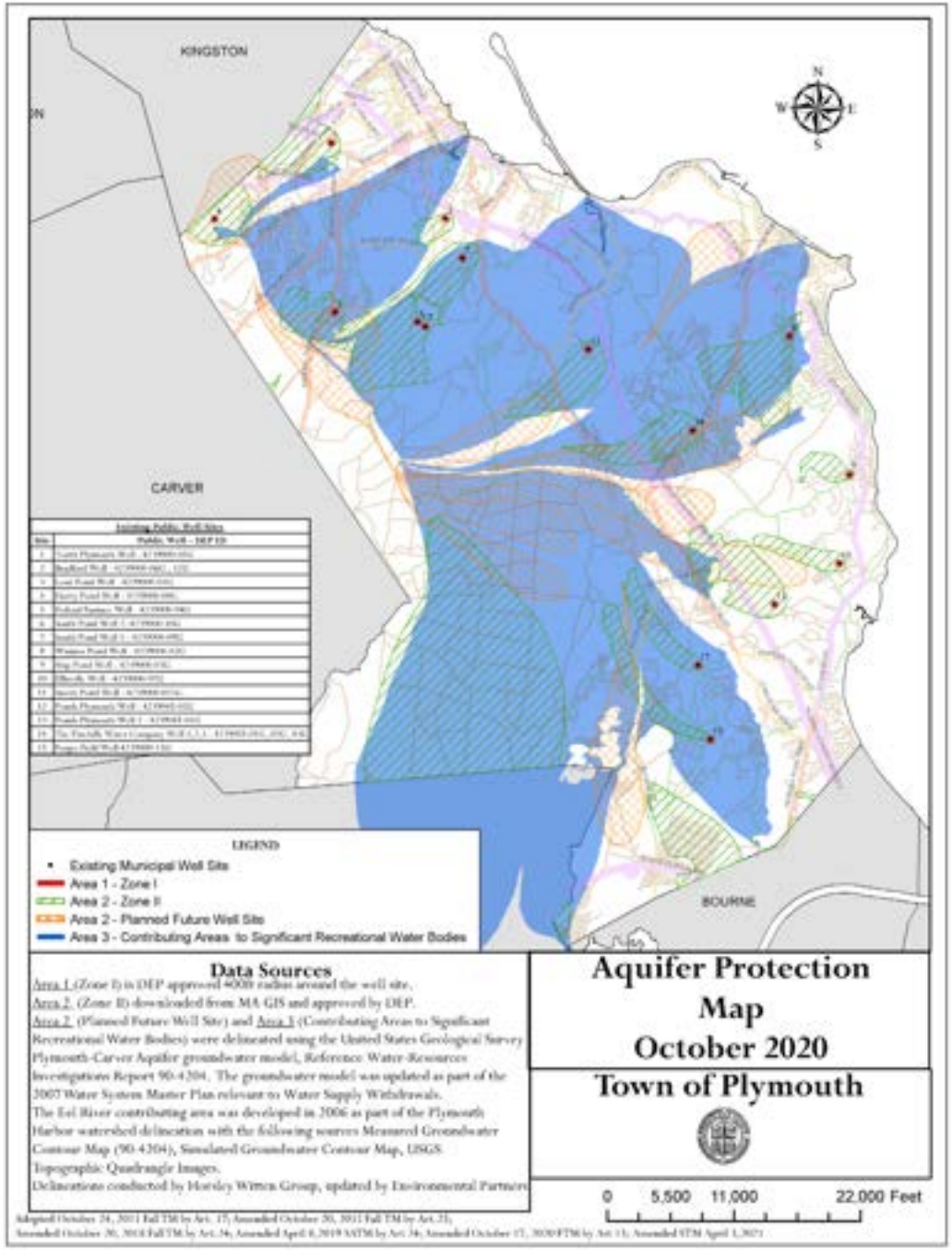


Source: MASSGIS data set

GROUNDWATER RESOURCES

Plymouth's freshwater rivers, streams, and ponds are fed by this groundwater aquifer making the surrounding groundwater contributing areas very important to its protection and recharge.

To support its protection and preservation, the Town of Plymouth created an Aquifer Protection Overlay District. It regulates development within the designated overlay area to maintain the quality of the Town's existing groundwater supply and surface water resources and to assure the continued availability of its potable and recreational water supply. Nearly 80% of Plymouth's total land area is located within its Aquifer Protection Overlay District.



Source: Town of Plymouth Aquifer Protection Zoning Map.

COASTAL WATER RESOURCES

Plymouth has about 36 miles of coastline, the majority of which is inaccessible to the public. The Town maintains two public beaches: Plymouth Long Beach and White Horse Beach. Plymouth Long Beach offers three miles of public beach access and is operated by the Department of Marine and Environmental Affairs.

As one of the largest ports in Massachusetts, Plymouth Harbor is a significant hub for commercial and recreational boating, and a major destination for tourists. Other important coastal resources include Plymouth Bay, Ellisville Harbor, and the Eel River Tidal Estuary.

These coastal resources are susceptible to flooding from high tides and storm surge during hurricanes and nor'easters. FEMA-designated Special Flood Hazard Areas (SFHAs) include Plymouth Harbor, Nelson Beach, Plymouth Long Beach, Saquish Beach, and White Horse Beach.

The town participates in FEMA's Community Rating System (CRS) for flood insurance discounts and maintains a Natural Hazard Mitigation Plan. Annual educational outreach is provided to residents in designated flood zones and relevant supporting agencies.

Plymouth waterfront

INLAND WATER RESOURCES

Watersheds and Rivers

Plymouth falls within the South Coastal and Buzzard's Bay Watersheds, each of which contains several smaller sub watersheds that support the town's extensive surface water resources. Two important sub watersheds include the Eel River and Plymouth Harbor watersheds which contain over 800 acres of open water and serve as an important habitat for fish and wildlife. The 3.9-mile Eel River outlets into Plymouth Harbor.

Beaver Dam Brook, Indian Brook, Town Brook, Herring River, Agawam River, Wankinco River, Red Brook, and the Crane Brook portion of the Weweantic River make up Plymouth's other stream and river resources. While they play a mediating role in managing Plymouth's water system, they are also prone to flooding during high intensity and extended rain events. Plymouth's inland floodplains are linked to these water resources. Red Brook in South Plymouth and Town Brook in Plymouth Center are particularly flood-prone and can expect an increase in the likelihood of inland flooding over time.

Source: MASSGIS data set

INLAND WATER RESOURCES

Ponds

Plymouth contains over 365 inland ponds including 32 globally rare coastal plain ponds. Among these, 64 ponds are over 10 acres in size totaling 3,272 acres of freshwater. The Massachusetts Department of Environmental Protection identifies 19 Great Ponds over 10 acres in size. Roughly two-thirds of these large ponds lack public access. Coastal plain ponds in Plymouth are of special conservation significance due to the abundance of fragile and threatened plant species on their shores.

The ponds in Plymouth are facing varying levels of water quality concerns due to private septic systems, runoff, and agriculture.

Town Brook near outlet into Plymouth Harbor

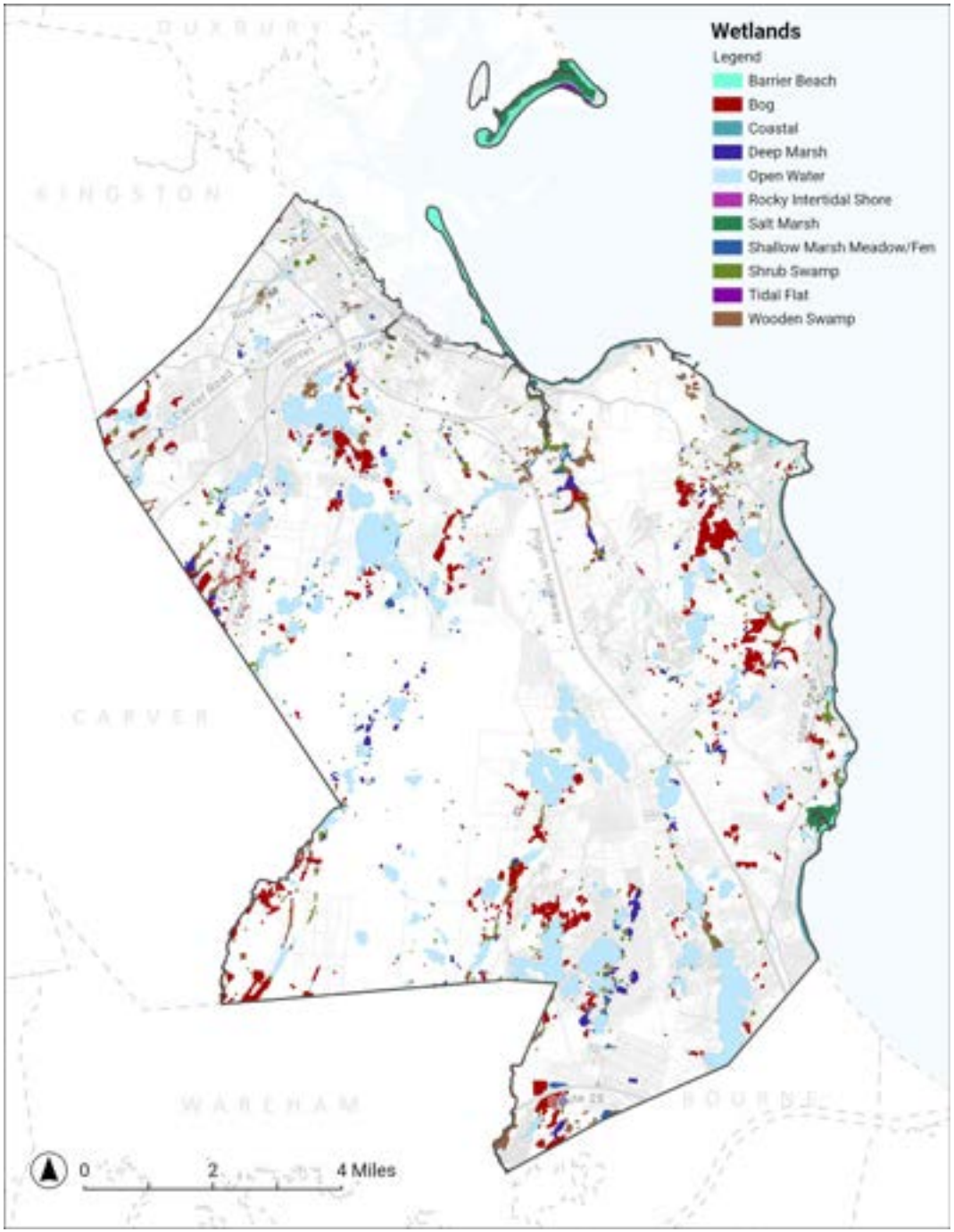
Pond at Plymouth Grist Mill

Source: MASSGIS data set

WETLANDS

Plymouth has about 8,000 acres of wetlands, 16% (1,308) of which are a part of cranberry bogs. The five largest wetland areas are located southwest of King's Pond, south of Billington Sea, in the Eel River and Beaver Dam Brook floodplains, north of Great Herring Pond, and in the Ellisville Harbor salt marshes. Other sizeable wetlands occur in the Indian Brook watershed and along Plymouth Harbor.

Plymouth's well-drained sandy soils have limited local wetland formation, enhancing the value of existing wetlands. Their unique habitat supports many rare plant and animal species as well as provides important ecosystem services like stormwater management, flood regulation, and coastline protection during periods of heavy rainfall and storm events.



Source: MASSGIS data set

FORESTS

Plymouth includes a variety of ecologically significant and uncommon natural communities, including oak woodlands and pine barrens. The Myles Standish State Forest and other protected forest lands contribute to the town's natural character.

A significant portion of Plymouth's forest land is comprised of pine barrens, a rare natural community characterized by sandy soils, fire-dependency, and specialized plant and animal species. Only found along the coast between New Jersey and Maine, Plymouth's pine barren ecosystem, located in the Myles Standish State Forest, is one of the largest remaining. With Massachusetts having already lost 60-70% of its original pine barrens, its preservation is critical and of great importance to the Plymouth community.

As the largest contiguous forest block in town, the Myles Standish State Forest covers about 12,500 acres, with over 10,000 acres in Plymouth. It offers opportunities for maintaining pine barrens and other fire-dependent species. Several private clubs and individual landowners also own large tracts of forest land. Additionally, the Wildlands Trust of Southeastern Massachusetts has conserved over 1,000 acres in Plymouth, and the Town owns nearly 3,000 acres of conservation land.

Chapter 61 Forest Land in Plymouth has decreased by 59% since 1999. Approximately 2,000 acres remain in the Chapter 61 program which gives preferential tax treatment to landowners who preserve their land.

Image Source: Pure Wander.

Pine Barrens in Myles Standish State Forest

AGRICULTURE LAND

Cranberry bogs comprise the majority of Plymouth's agricultural land use. Their cultivation has played an important role in preserving Plymouth's rural character and supporting local wildlife such as the spotted turtle. For every acre of bog, two to three acres of upland or surrounding land is retained to support the cranberry wetland system.

The profitability of cranberry cultivation has declined, however, leading some growers to sell off their land or transition to other uses. In some cases, this transition can negatively impact local habitats, wildlife, and groundwater resources. Massachusetts has lost about a quarter of its cranberry farms in the last decade. To mitigate environmental harms, the State's Department of Ecological Restoration (DER) Cranberry Bog Program works to transition retired cranberry farmlands to protected and restored open space. The USDA Wetlands Reserve Program also offers landowners, including cranberry growers, compensation and funding for wetland protection, restoration, and enhancement.

Chapter 61A Agricultural/Horticultural Land in Plymouth has decreased by 86% since 1999. Approximately 1,000 acres remain in the Chapter 61A program which gives preferential tax treatment to landowners who preserve their land.

Cranberry harvesting in West Plymouth

FISHERIES AND WILDLIFE

Plymouth's diverse habitats support both common and rare plant and animal species, with 49 rare and endangered species listed by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). Rare species habitats are concentrated in unfragmented pine barrens in the western, central, and southern parts of Plymouth, in wetland areas including salt marshes, around many inland ponds and streams, in and along Plymouth Harbor, and along coastal beaches.

Coastal areas provide habitat for terns, plovers, and shorebirds. Plymouth Harbor and its offshore saltwater resources support shellfish, fish, seaweed, and other marine species, making it a valuable resource for the local fishing industry.

The pine barrens host rare invertebrates and large populations of whippoorwill. Coastal plain ponds support several rare species, including the endangered northern red-bellied cooter. Vernal pools provide critical habitat for spotted salamanders, wood frogs, and spring peepers. The Massachusetts NHESP has identified 395 potential vernal pools in Plymouth, but only about 46 are certified.

The Myles Standish State Forest, town lands, and private preserves support the preservation and conservation of Plymouth's priority habitats and species.

Holmes Reservation

Image Sources: Living Observatory

Eel River Headwaters Restoration Project

[Pending image approval for use]

07 | OPEN SPACE AND RECREATION

PREVIOUS PLANS

2024 Open Space and Recreation Plan (OSRP)

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Plymouth Open Space Trail Guide

The guide provides detailed descriptions of Plymouth's conserved open spaces and trails. Maps accompany the descriptions.

2007 Plymouth Public Space Action Plan

The plan focuses on improving existing open spaces and their connections to one another in Plymouth's downtown and harbor area. Recommendations are focused on increasing the downtown's economic vitality and business environment, identifying capital improvements that can attract greater private investment, increase the attractiveness of existing open spaces, and broadening public awareness of Plymouth's history.

Source: GIS data set from Town of Plymouth

OVERVIEW

Plymouth has over 40 public use areas that provide a wide variety of recreational opportunities for residents of all ages and interests. It also has several commercial recreational facilities including golf courses, campgrounds, and water-related facilities. The parks, playgrounds, recreational facilities, and coastal beaches that make up this open space network contribute to Plymouth's character, its high quality of life, and its popularity as a recreation destination for visitors throughout the region.

Open space and recreational facilities located in North Plymouth, Plymouth Center, and Manomet tend to be smaller and located close to other uses, while the facilities in West Plymouth and the southern part of town are generally more dispersed and consist of larger acreage.

Recognizing the social, economic, and environmental importance of open space, the Town has put considerable effort into preserving its open space resources and expanding its recreational facilities. Today, these facilities provide the community a variety of opportunities to play, exercise, socialize, learn, and enjoy the town's unique natural environment.

Nelson Memorial Park

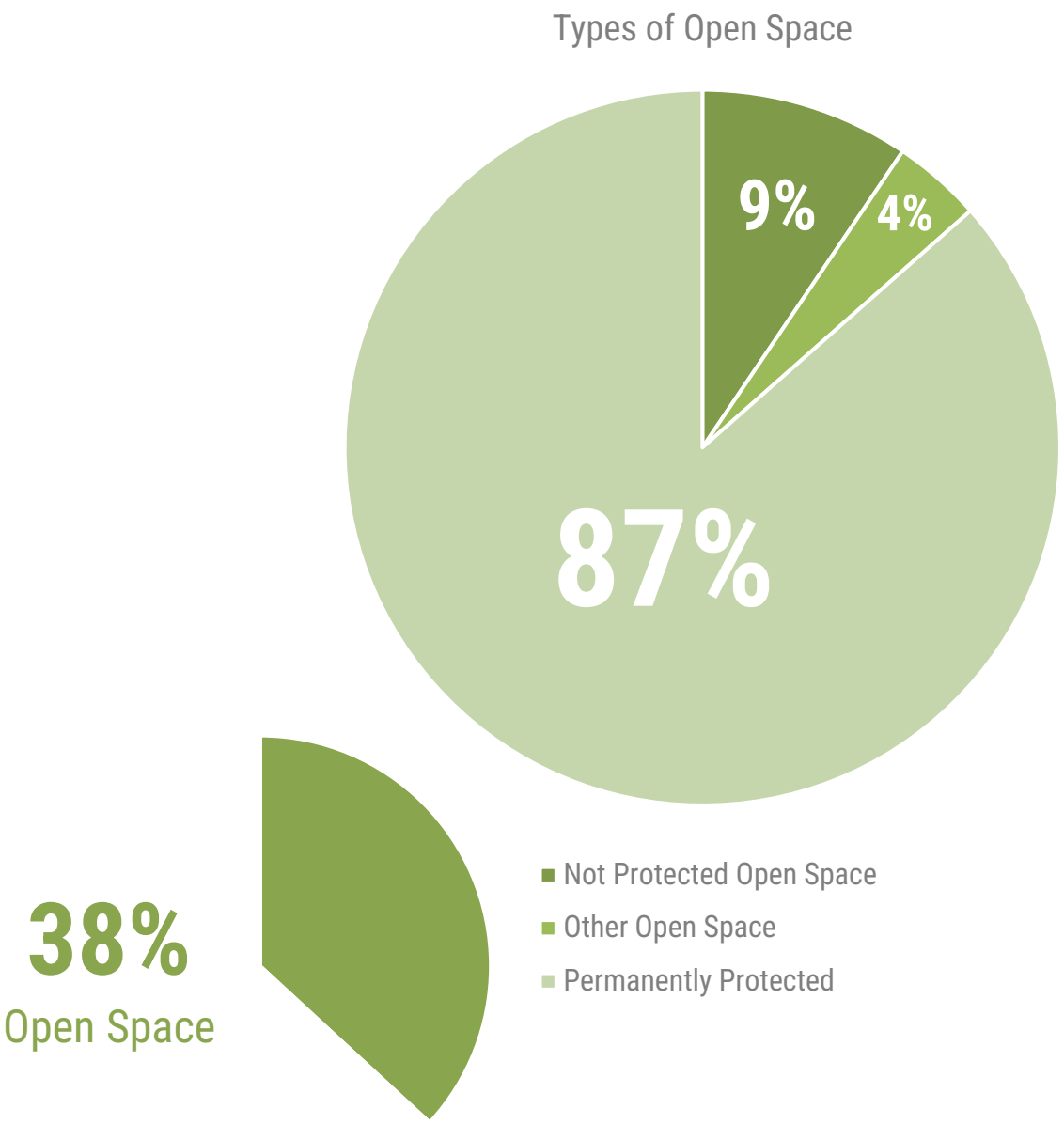
INVENTORY OF RESOURCES

Over one-third (25,217 acres) of Plymouth's total land area is designated as open space or for recreation. Nearly 87% (21,946 acres) of this is permanently protected, leaving almost one-tenth with no protection and one-twentieth with limited protection.

The Town of Plymouth manages or owns approximately 5,677 acres of open space and recreation land. These resources range from active facilities like playgrounds, multiuse fields, courts, and other play areas to more passive spaces with walking paths, community gardens, memorials, and non-programmed green space or conservation land. The State owns more than 50% of Plymouth's open space and recreation land, much of which is located in Myles Standish State Forest. The remaining open space and recreation land resources are owned by private for-profit entities, land trusts, and other entities.

Half of Plymouth's open space and recreation resources are for shared recreation and conservation use, while one-third are primarily for conservation purposes. About 14% are for active recreation. This includes outdoor facilities such as town or state-owned parks, recreation areas, commons, playing fields, school fields, golf courses, bike paths, scout camps, and fish and game clubs.

Chapter 61B Recreational Land in Plymouth has decreased by 66% since 1999. Approximately 540 acres remain in the Chapter 61B program which gives preferential tax treatment to landowners who preserve their land.



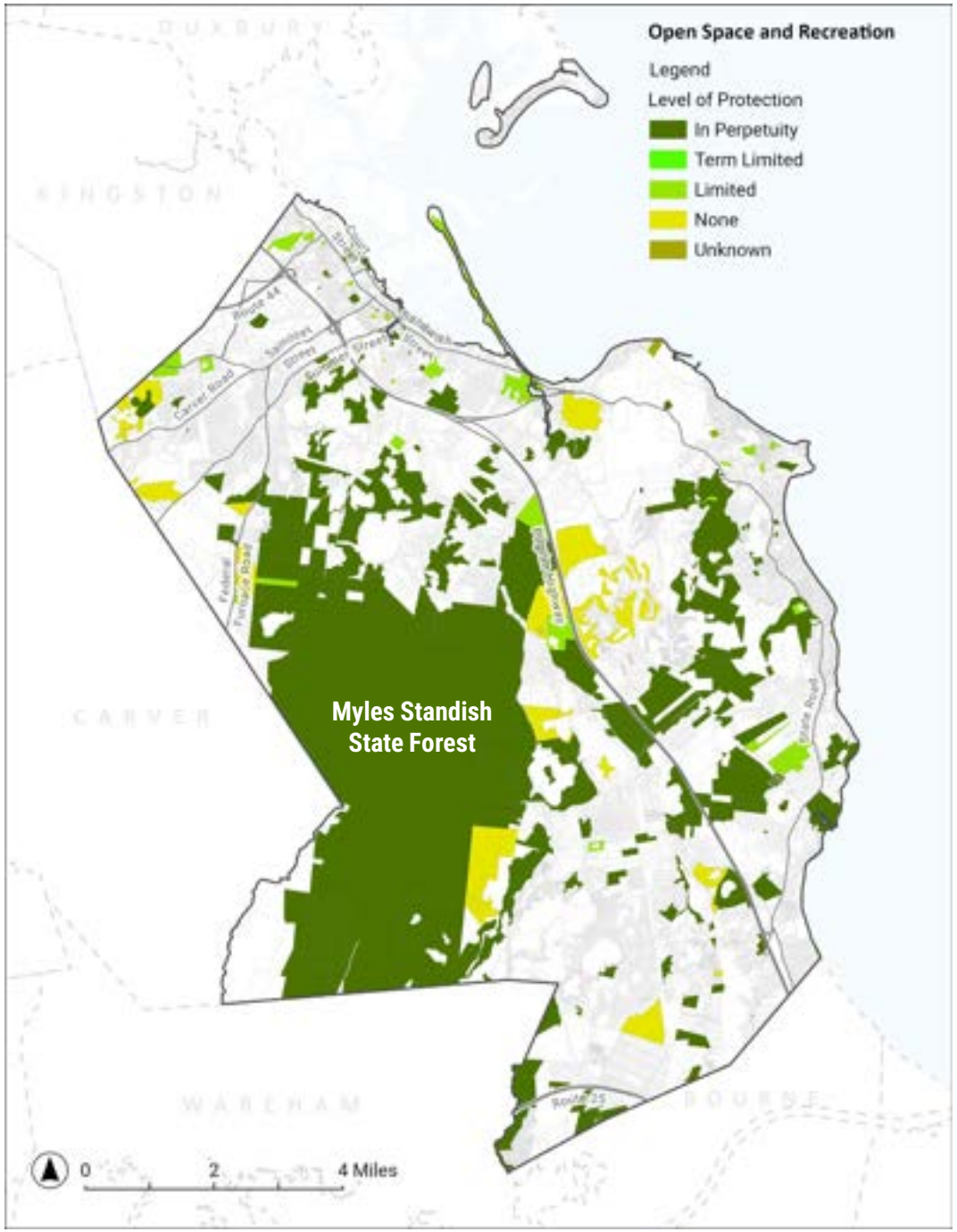
Source: MASSGIS data set

INVENTORY OF RESOURCES

Open Space and Recreational Facilities by

LEVEL OF PROTECTION

Level of Protection	Area [Acre]	Percentage Total
In perpetuity	21,946	87%
Limited	944	4%
Term limited	1	0.0%
None	2,294	9%
Unknown	32	0.1%
Total	**25,217**	



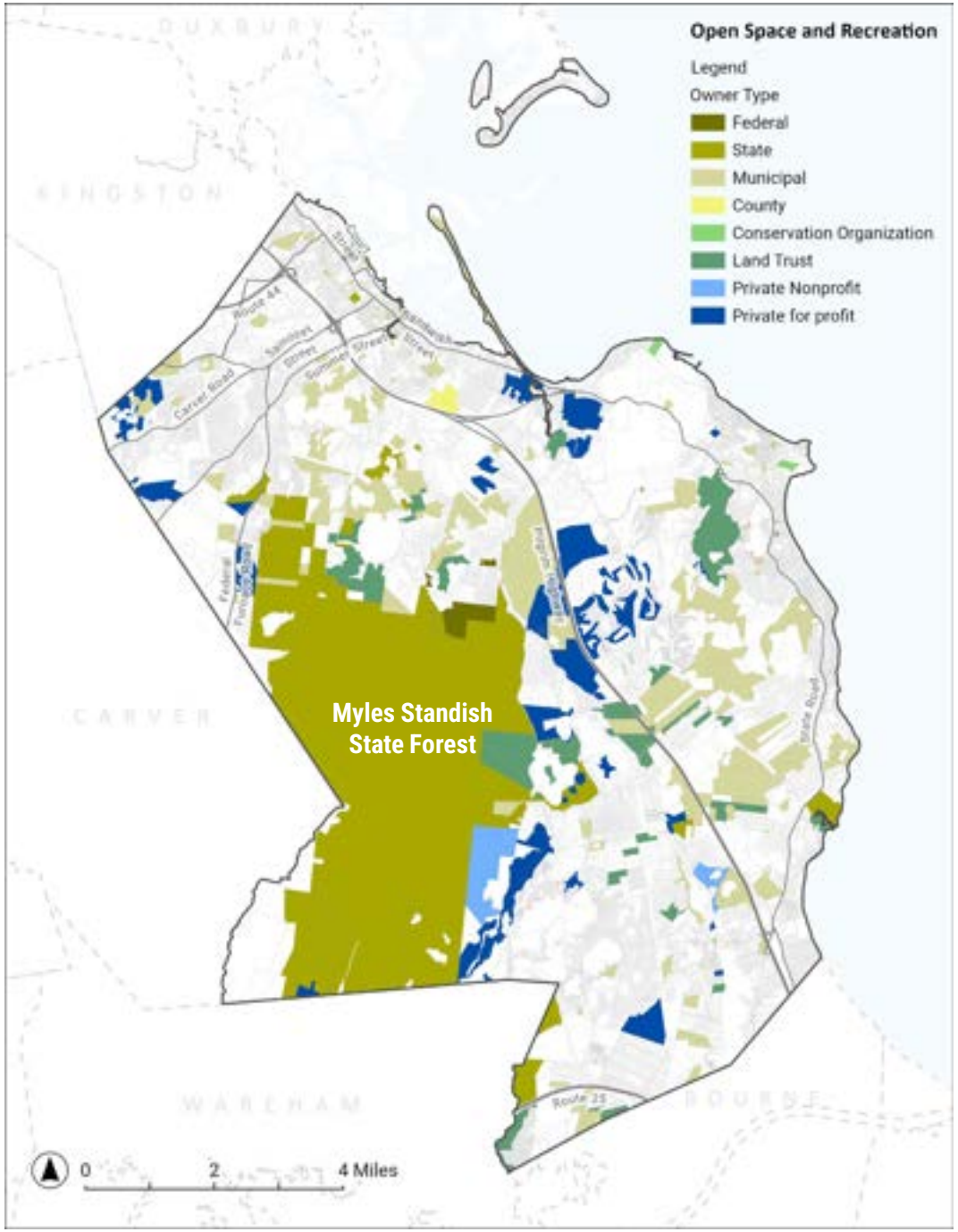
Source: MASSGIS data set

INVENTORY OF RESOURCES

Open Space and Recreational Facilities by

OWNERSHIP

Ownership	Area [Acre]	Percentage Total
Massachusetts	13,387	53%
Town of Plymouth	5,677	23%
Private for Profit	2,830	11%
Land Trust	2,135	8%
Private NonProfit	842	3%
Federal	209	0.8%
County	92	0.4%
Conservation Organization	44	0.2%
Total	**25,261**	



Source: MASSGIS data set

INVENTORY OF RESOURCES

Open Space and Recreational Facilities by

TYPE

Primary Purpose	Area [Acre]	Percentage Total
Recreation and Conservation	12,721	50%
Conservation*	8,479	34%
Recreation**	3,456	14%
Water Supply Protection	197	0.8%
Historical/Cultural	194	0.8%
Agriculture	147	0.6%
Other	23	0.1%
Total	**25,217**	

** Activities are non-facility based*
*** Activities are facility based*

Source: MASSGIS data set

ACCESS TO OPEN SPACE

The 2024 National Recreation and Park Association (NRPA) Annual Performance Review reports that park and recreation agencies serving communities of similar size (50,000-99,000 people) to Plymouth have a median of 10.2 acres of parkland per 1,000 residents. Due to Plymouth's large land area and high percentage of publicly-owned open space and recreational land, Plymouth has about 95 acres of Town-owned parkland per 1,000 residents and 323 acres of publicly-owned parkland (Municipal, County, State, Federal) per 1,000 residents. This places Plymouth far above similarly sized communities.

Despite the high ratio of parkland to residents, Plymouth's geographic size limits the accessibility of parkland to residents. According to the Trust for Public Land's ParkServe database, about 38% of Plymouth residents live within a 10-minute walk of a park which is lower than the national average of 54%. Plymouth's large physical area, dispersed development patterns, limited cross-town road connections, and minimal pedestrian infrastructure are contributing factors.

Myles Standish State Forest

Foothills Preserve in Manomet

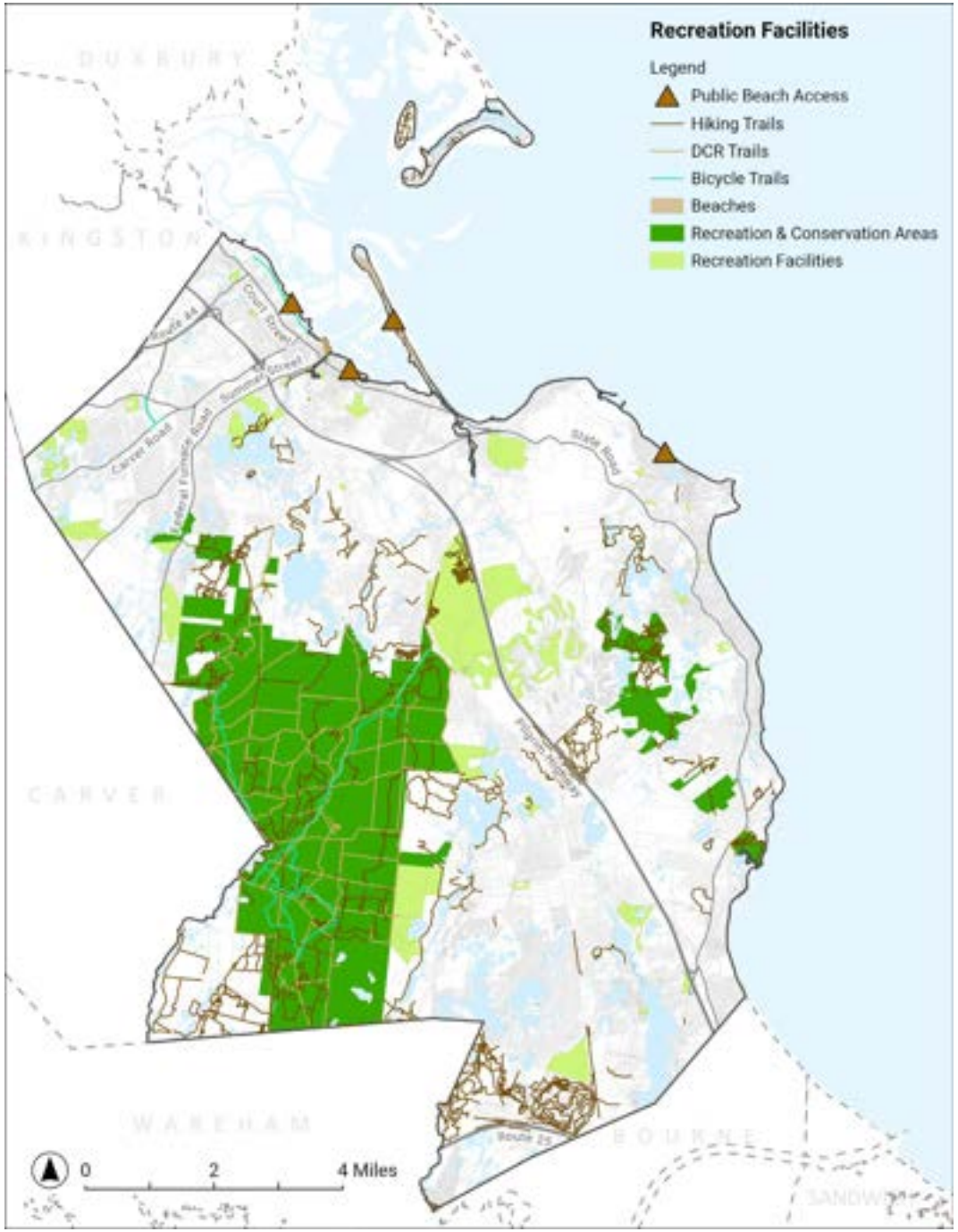
Image Sources: Travelinglifestyle, NSRWA.

Plymouth Long Beach

PARKS, PLAYGROUNDS, AND TRAILS

Plymouth's extensive inventory of active parkland includes large town parks, small village parks and playgrounds. It has 15 playgrounds, 9 of which have been renovated over the last 6 years for ADA accessibility, safety, and equipment upgrades. All schools also have adjacent recreational fields offering additional playing fields, courts, and playgrounds to the Plymouth community.

The Public Works Parks and Forestry Division and Health and Human Services Recreation Division collectively manage and maintain these public open spaces and recreational areas. Since the pandemic in 2020, Plymouth's parks and beaches have seen an increase in users which has required more routine maintenance.



Source: MASSGIS data set

PARKS, PLAYGROUNDS, AND TRAILS

Several parks and playgrounds are throughout Plymouth's five village areas. Brewster Gardens, Jenney Pond Park, Morton Park, and Billington Sea provide important park spaces in and near Plymouth's downtown.

Forges Field is the largest recreational park and offers playing fields, pickleball courts, and a large playground. Stephen's Field, Holmes Playground, Haskell Field, Raymond Playground, and Avery Playground also provide active recreational spaces equipped with playgrounds and playing fields and courts.

The Hedges Pond Recreational Area and Preserve serves as the primary recreational area in South Plymouth. Similarly, the West Plymouth Recreation Area has the only playing fields, picnic area, and playground in West Plymouth.

Upgrades and expansion to these recreational amenities is an ongoing process. In 2024 the Town completed the Stephen's Field renovation. A master planning process for Forges Field is expected to begin soon.

Public Park and Playground Facilities

Park Name
Allerton Street Playground
Hall - Manomet
Bates Park
Beaver Dam Conservation
Billington Street Park
Brewster Gardens
Town Forest
Briggs Playground
Brook Rd Playground
Burton Park
Cleft Rock
Depot Park
Elmer Raymond Park*
Forges Field*
Fresh Pond Park
Haskell Field*
Hauthaway Property Russell
Holmes Playground
Huntley Playground
Jackson Park
Jenney Pond Park
Manomet Recreation Facility*
Manomet Youth Center
Morton Park
Nelson Street Playground
Plymouth Long Beach
Russell-Sawmill Conservation
Siever Field
Sirrico Playground
Stephens Field*
Training Green
Veteran's Field Playground*
West Plymouth Recreation Field*
White Horse Beach
Emerson Playground

** Site includes playground equipment*

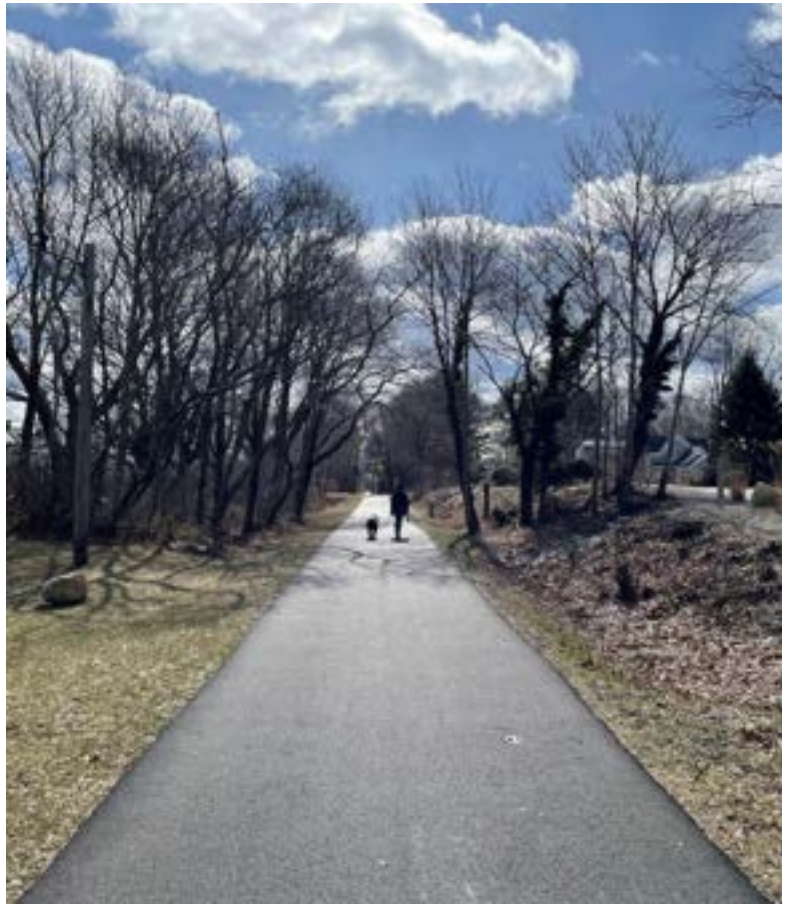
Playground at Nelson Memorial Park

PARKS, PLAYGROUNDS, AND TRAILS

Plymouth's extensive trail system spans across 40 different conservation lands and preserves. The 1.2 mile North Plymouth Rail Trail connects Nelson Memorial Park to Cordage Park. Open to walking, running, and biking, the trail offers excellent views of the salt marsh, Goose Point Channel, Plymouth Long Beach, and Kingston Bay. A segment of the Claire Saltonstall Memorial Bikeway also traverses Plymouth via Long Pond Road, supporting connections between Boston and Cape Cod. Other trails for biking and hiking trails are located in the Myles Standish State Forest, Morton Park and Billington Sea, Beaver Dam Conservation Area, Russel Mill Pond Conservation Area, and several other recreation and conservation areas.

Existing Recreation Trails

Trail Type	Mileage
Department of Conservation and Recreation Roads and Trails	150
Bicycle Trails	17
Hiking Trails	224
Total	391



BEACHES

Plymouth's surface water resources offer many opportunities for swimming and other beach-oriented activities. There are four public coastal beaches totaling 25.5 acres and one four-acre public beach area at Clear Pond. An additional 93 acres make up 4 publicly accessible private beaches along Plymouth's coastline. Ellisville Harbor State Park, Myles Standish State Forest, and several landings and ponds also offer public access to swimming and beach areas. There are also several private beaches that do not allow for public access.

Public and Private Beach Areas

Beach Name	Type	Acreage
Public		
Plymouth Long Beach	Coastal	3
Manomet Bluffs	Coastal	5
White Horse Beach	Coastal	15
Saquish Beach	Coastal	2.5
Clear Pond Beach Area	Inland pond	4
Total		29.5
Private		
Clarks Island	Coastal	17
Gurnet Beach	Coastal	31
Saquish Beach	Coastal	37
Saquish	Coastal	8
Total		93

Source: Plymouth Open Space & Recreation Plan (2017).

White Horse Beach

Plymouth Long Beach

Image Sources: Joe's Retirement Blog, NSRWA

RECREATION FOR SENIORS

Plymouth's Center for Active Living (CAL), a division of the Town's Health and Human Services, provides services and programming for Plymouth residents aged 60 years and older. It plays an integral role in Plymouth's designation as an Age–and Dementia Friendly Community.

As an active community hub, the center helps seniors stay engaged and maintain healthy lifestyles throughout the aging process. It organizes approximately 250 events annually. The CAL has seen a significant increase in use over the past decade, coinciding with the increasing share of the population age 65 years and older.

Center for Active Living

RECREATION FOR YOUTH

The town's Recreation Division oversees recreational programming and activities for community members of all ages with additional programming for children in the summer months. The Manomet Youth Center serves as an important center for youth recreation activities throughout the year.

The Recreation Division sees the greatest demand for year-round programming from preschool age children and active older adults. Limited multi-generational indoor spaces to host programing poses operational challenges to the Division in being able to provide programming throughout the year.

The large number of public outdoor recreation facilities make accommodating outdoor recreational programming easier; however, the Town's heavily used grass fields are expensive to maintain, which adds additional burden to the department.

Bartlett Hall, Manomet Youth Center

COMMUNITY PRESERVATION ACT (CPA)

The Community Preservation Act (MGL 44B) allows Massachusetts cities and towns to establish a restricted fund to support open space protection, historic preservation, and the provision of affordable housing. It also permits towns to use CPA funding for the renewal of already existing town-oriented parks and open spaces.

The Town of Plymouth was one of the first communities to vote in the CPA, which was adopted in 2002 with a 1.5% surcharge on property taxes. The Town has benefited greatly from its adoption. Since 2002, CPA funds have generated more than $21 million, along with State matching funds of over $10 million, that has supported the Town in acquiring significant open and recreational space. To date, over 1,600 acres have been preserved.

The Stephen's Field renovation, the addition of pickle ball courts to Forges Field, ADA compliance for several playgrounds, and the North Plymouth rail trail extension are recent recreation projects funded through the CPA. The Town has also used its CPA funding to acquire and preserve significant open space including recent projects at Jenney Pond, acquiring land off Roxy Cahoon Road (53.5 acres), Carver Road (99.5 acres), Rock Hill Road (23.6 acres), and upcoming work at Jenney/Town Brook. The full list of CPA funded projects is available on the Town website here.

North Plymouth Rail Trail

Pickleball Courts at Forges Field

Image sources: See Plymouth, Town of Plymouth,

Town Brook

08 | HISTORIC AND CULTURAL RESOURCES

PREVIOUS PLANS

2004 Master Plan: Growing Smarter in Plymouth's Fifth Century

The 2004 Plymouth Master Plan provided a broad policy framework to guide land use, development, and conservation decisions with a focus on balancing preservation and growth. Preserving Plymouth's historic heritage and promoting Plymouth as a destination for heritage tourism were two core recommendations falling under the historic and cultural resources section of the plan. It also outlined the following goals:

- Recognize, preserve, and enhance the historic and cultural heritage of Plymouth and the surrounding region
- Support use and enjoyment of the town's historic and cultural resources by residents and visitors.
- Expand efforts to develop and market Plymouth as a heritage tourism destination for natural and international travelers.
- Maintain, manage, and expand resources to maximize the fiscal and economic benefit of these resources for the town.

Source: GIS data set from Town of Plymouth

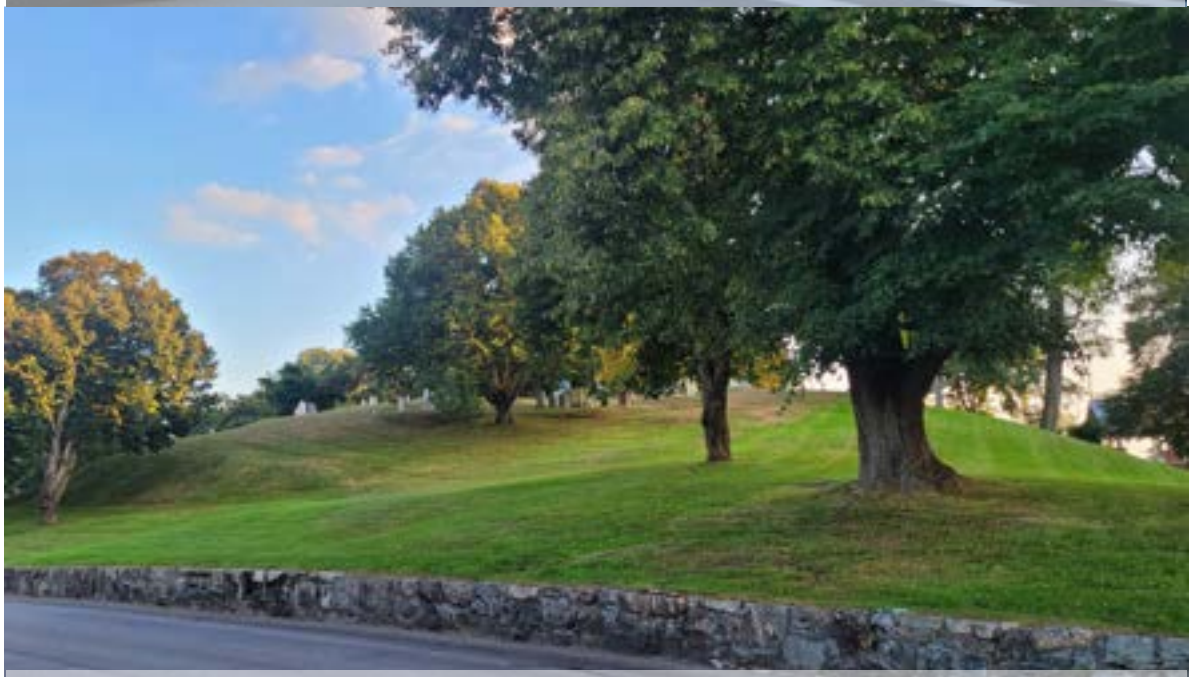
OVERVIEW

Plymouth's indigenous and early colonial history contribute to the town's identity and its destination as a historical and cultural tourism destination. Both visitors and residents alike value the town's plethora of historic assets and its active arts and culture community.

Plymouth's original inhabitants set the foundation of the town's physical form. Many of today's major roadways and connections to other communities (Route 3A, Summer Street, Old Sandwich Road, and Long Pond Road) were first established by Plymouth's first inhabitants, the Wampanoag people, who built an extensive trail network. Additionally, many of Plymouth's village centers are sited in similar locations as the Wampanoag's settlements. Later, the Pilgrims who settled by Town Brook laid out the first streets in what is now Plymouth's downtown.

Plymouth celebrates its history and heritage through the preservation of its remaining structures and artifacts as well as through the experiences its community creates to engage others in learning about Plymouth's past, present, and future.

Plymouth historic Post Office Building



Old Burial Ground

BRIEF HISTORY

The following is adapted from *Growing Smarter in Plymouth's Fifth Century*, the 2004 master plan.

Early History

The land known as Plymouth today was inhabited by the Wampanoag Native People long before European settlement began. The Wampanoag, whose name means "People of the First Light", lived in villages that stretched from what is now Weymouth to the modern-day Bristol and Warren, Rhode Island area. A network of trails connected these villages, several of which are now important roads in Plymouth, including Route 3A, Summer Street, and Long Pond Road. A major settlement called Comassukaumet was located adjacent to Great Herring Pond in Cedarville. Smaller settlements were located at Town Brook, Billington Sea, Eel River, Watson's Hill, Great South Pond, Long Pond, Halfway Pond, Little Herring Pond, Beaver Dam Brook, Fresh Pond, and Hobshole Brook.

The Pilgrims arrived in Plymouth in 1620. They built the first street, Leyden Street, just north of Town Brook which provided fresh water for the settlement. North Street, Middle Street, Carver Street, Court Street, and Market Street were other early streets along which most surviving Mayflower passengers settled. The roughly half of Mayflower passengers who died during the first winter were buried at Cole's Hill.

Plymouth's early economy was oriented to the sea and relied heavily on shipbuilding, fishing, and trade. As the colonies grew, Plymouth developed into a major port, and maritime activities were predominant throughout the eighteenth century.

In the nineteenth century, the importance of maritime trade declined, and Plymouth's economy became more industrial. the successful growth of the iron industry contributed to a period of prosperity which lasted until the Great Depression. Textile manufacturing was another important Plymouth industry in the nineteenth century.

The 1960s brought several major changes. Route 3, a limited access highway, was completed in 1963 and reduced the travel time to and from employment centers. The Pilgrim Nuclear Power Station was brought online in the 1960s, and both North Triangle and Camelot Industrial Parks were established. The construction of these projects brought employment and additional tax revenues to the Town. Throughout the 1970s and 1980s the Town experienced an accelerated growth rate. Most of the development in the 1970s occurred in the West Plymouth area, whereas from the 1980s onward much of the development has occurred in South Plymouth.

BRIEF HISTORY

Village Center History

Plymouth Center is the historic downtown area. Town Square, at the head of Leyden Street, was the original civic and commercial center for Plymouth. None of the homes which originally stood on Plymouth's first six streets remains. The oldest remaining house identified in Plymouth is the Richard Sparrow House (ca. 1649) at 42 Summer Street. The first mill for grinding corn, Jenney's Grist Mill, was built adjacent to Town Brook in 1632. The first iron forge was built along Town Brook in 1790.

English colonists were granted lands in *Manomet* in 1638 and in Cedarville in 1654. Each of these areas was still occupied by the Wampanoag people when the English began staking their claims. Colonization of these outlying lands was limited until the 1675-76 King Philip's War. While both Wampanoag and English settlers continued to coexist peacefully in Cedarville throughout the 18th century, the Native People presence in other parts of Plymouth was greatly reduced after the war.

For most of its history, Manomet has been relatively isolated from the rest of Plymouth due to the physical barrier created by the Pine Hills. Farmers began building houses in Manomet south of the Pine Hills in the seventeenth century and by 1739, the area had enough families to support its own church. Development in the area accelerated rapidly at the turn of the twentieth century when transportation routes were extended through the Pine Hills. The new roads and electric rail helped transform Manomet into a summer resort community.

Cedarville is notable for its remote location and the relatively peaceful coexistence between Native People and European populations. Before the arrival of the Colonists, Cedarville was populated by Wampanoag living along Great Herring Pond. When Europeans arrived in Cedarville, they intermarried with Native People. Some freed African slaves also moved to the area and were able to live harmoniously and intermarry. There are five historic cemeteries in Cedarville, four of which are Wampanoag cemeteries. Cedarville's cranberry bogs have been commercially harvested for over 110 years.

West Plymouth was originally settled by four African American slaves granted freedom after fighting in the Revolutionary War. The four men were given 94 acres of land along the Kingston/Plymouth border and became the first free settlement of African Americans in the United States. The land is now called the Parting Ways Archaeological District and includes burial sites, building foundations, and household artifacts. Carver Road (Route 44) and Federal Furnace Road were two of the earliest roads in West Plymouth. Cranberries were cultivated at a farm along Federal Furnace Road.

North Plymouth was not significantly developed until the Plymouth Cordage Company was founded in 1824 by a Mayflower descendant. The Plymouth Cordage Company became one of Plymouth's dominant business and employed 3,000 workers at its peak. From 1824-1920, the company built 351 units of housing in 125 buildings, with the aim of creating a planned community. The Plymouth Cordage Company ceased operations in 1971.

BRIEF HISTORY

Other historic areas

Training Green

Plymouth's founding families allocated land south of Town Brook to their descendants in the late 17th century. Four of the oldest houses in Plymouth are located in the Training Green area, which was later converted into an ornamental park showcasing eighteenth- and nineteenth-century residential architecture, including Carpenter Gothic homes.

Wellingsley (or Hobshole)

Many of Plymouth's first families moved to Wellingsley and remained in the area for generations. The area was primarily residential until industries developed along Hobshole Brook with the advent of rail lines and electric streetcars.

Ellisville

Ellisville is named for William Ellis, the first known European settler who established a farm here around 1709. For the next 200 years, farming, cranberry cultivation, and timber harvesting were the primary industries. Ellisville remained an isolated agricultural community until the late twentieth century, when Ellisville and the larger South Plymouth area began to experience intense development pressure.

Chiltonville

This area was a fishing and farming community for most of its history. European families began settling in Chiltonville in the early 1600s. In the early 19th century, the luxurious Forges estate was built which has since been torn down. Some of its land has been preserved as open space.

South Pond/Six Ponds Area

The first house built in this area in the late 18th century (the Richmond-Burgess-Daley House) was associated with farming and cranberry cultivation. The area remained sparsely settled until the 19th century, with small clusters of houses, a school, and a church. Land was sold for summer cottages, but many were destroyed in a 1900 fire. Le Baron Barker established the Barker Estate, the largest independent cranberry farm in the country, while Howland Davis established the Davis Estate.

Warren Avenue/Manter's Point

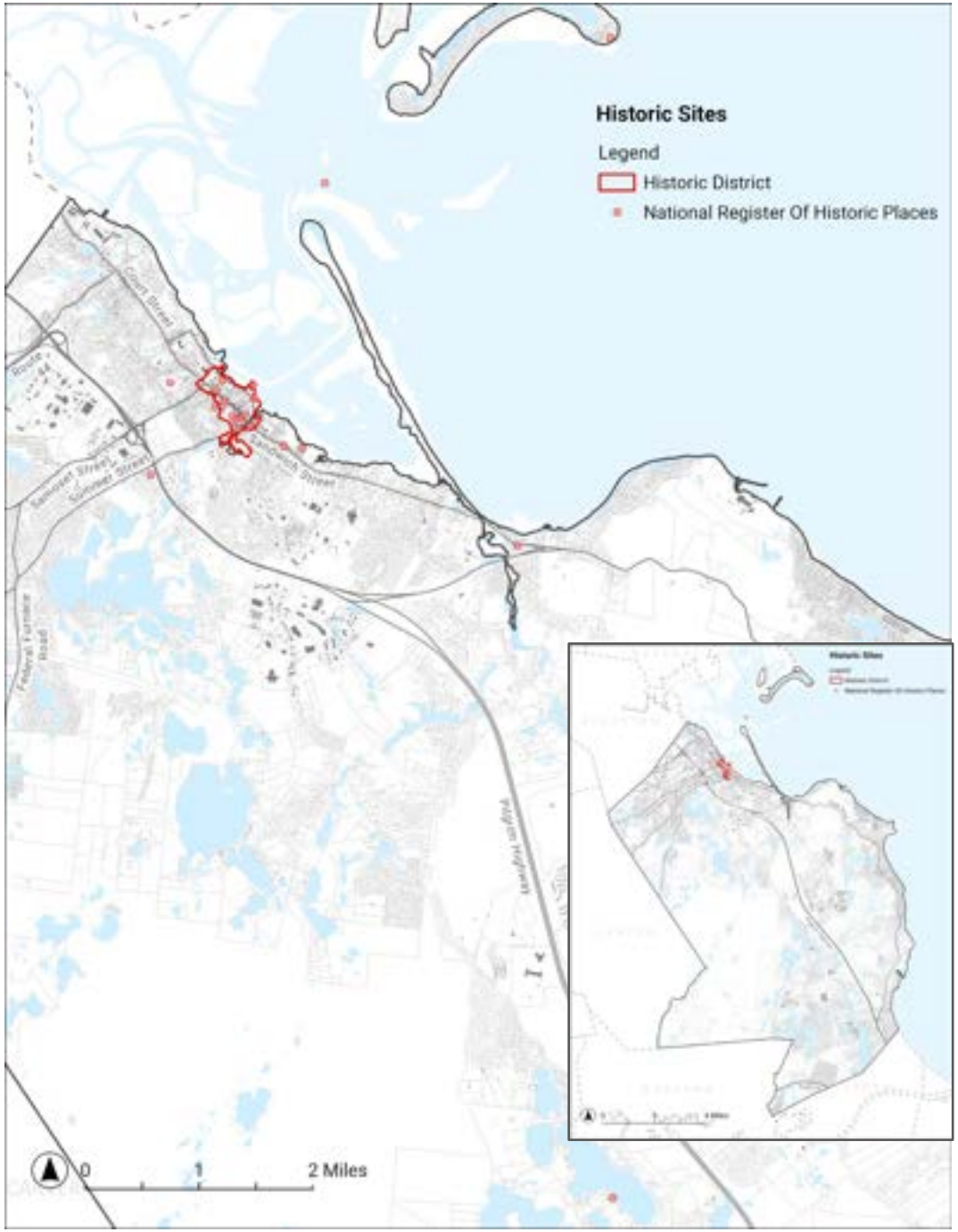
Fishermen and shipbuilders moved to the coastal area near the Eel River at Plymouth Beach, with David Manter being a pioneer in the late 18th century. This area later became a popular vacation spot by the late 19th century.

HISTORIC PRESERVATION

Much of Plymouth's downtown and harbor areas falls within Plymouth's Historic District. Divided between the Plymouth Village Historic District and the Bradford-Union Street Historic District, it includes 286 properties and contains architectural examples spanning three centuries. The Plymouth Historic District Commission oversees the district, preserving and protecting its historic character and the exterior integrity of its structures. It also enforces the town's demolition delay ordinance which applies to buildings 75 years and older.

Plymouth has twenty-four sites listed on the National Register of Historic Places, most of which are located in and around Plymouth's downtown and Historic District. Eight of these sites are also designated by the Massachusetts Register of Historic Places. Noteworthy designated places include the Mayflower II, Plymouth Rock, Old Burial Ground, Old County Courthouse, and the First Plymouth Parish Church, among others.

Plymouth's Community Preservation Act (CPA) supports much of the town's historic preservation projects and activities. Since its inception, about $21 million has supported a variety of historic preservation projects, including the restoration of the Russell House, Linden Library, 1820 Court House, Simes House, Spire Center, and Pilgrim Hall.



Source: National Register of Historic Places [NRHP] list updated on 2024-07-10 , National Park Service Opendata

National Register of Historic Places

List of National Register of Historic Places [NRHP]

Name	Location	Category	Listed: Local	Listed: State	Listed: Nation	Listed Date
Bartlett-Russell-Hedge House	32 Court St.	Building	✓			4/30/1976
Bethel African Methodist Episcopal Church and Parsonage	6 Sever St.	Building	✓			3/19/2007
Bradford-Union Street Historic District	Bradford, Union, Emerald, Water Cure, and Freedom Sts.	District	✓			11/10/1983
Clifford-Warren House	E of Plymouth at 3 Clifford Rd.	Building	✓			4/8/1980
Cole's Hill	Carver St.	Site			✓	10/15/1966
Duxbury Pier Light	Mouth of Duxbury Bay at Plymouth Bay, 5.1 mi. NNE. of Plymouth Rock	Structure			✓	6/4/2014
First Parish Church of Plymouth	19 Town Sq.	Building	✓			12/2/2014
Harlow Old Fort House	119 Sandwich St.	Building	✓			12/27/1974
Harlow, Sgt. William, Family Homestead	8 Winter St.	Building	✓			4/15/1982
Hillside	230 Summer St.	Building		✓		9/18/1975
Howland, Jabez, House	33 Sandwich St.	Building		✓		10/9/1974
Mayflower II (square-rigged sailing ship)	State Pier, Pilgrim Memorial State Park, 79 Water St.	Structure		✓		10/22/2020
National Monument to the Forefathers	Allerton St.	Object	✓			8/30/1974
Old Burial Hill	Church, School & S. Russell Sts.	District	✓	✓	✓	8/7/2013
Old County Courthouse	Leyden and Market Sts.	Building	✓			2/23/1972
Parting Ways Archeological District	Address Restricted	District			✓	3/19/1979
Pilgrim Hall	75 Court St.	Building			✓	4/11/1972
Pinewoods Camp	80 Cornish Field Rd.	District	✓	✓		12/16/2009
Plymouth Antiquarian House	126 Water St.	Building		✓		12/27/1974
Plymouth Post Office Building	5 Main St.	Building	✓			10/23/1986
Plymouth Rock	Water St.	Object			✓	7/1/1970
Plymouth Village Historic District	Roughly bounded by Water, Main and Brewster Sts.	District			✓	6/2/1982
Sparrow, Richard, House	42 Summer St.	Building		✓		10/9/1974
Town Brook Historic and Archeological District	Address Restricted	District	✓	✓		10/12/1995

Sites designated by the Massachusetts Register of Historic Places

Source: National Register of Historic Places [NRHP] list updated on 2024-07-10 [https://www.nps.gov/subjects/nationalregister/database-research.htm]

ARTS & CULTURE

Plymouth's downtown and waterfront area supports a vibrant arts and cultural atmosphere. Its mix of artistic, musical, commercial, historic, and recreational opportunities define the Plymouth Bay Cultural District. Several arts and music venues are located in the district, including Memorial Hall, the Spire Center for Performing Arts, Plymouth Philharmonic, and the Plymouth Center for the Arts. In addition to events, these organizations also run programming for all ages and provide gallery and exhibition spaces for visiting and local community artists.

The district also hosts festivals throughout the year such as the Plymouth Waterfront Festival in August and the Fall Festival in September. Furthermore, a variety of art galleries, small shops and restaurants feature local artists and makers's goods.

The Plimoth Patuxet Museums also serve as an important historic and cultural destination for residents and visitors. In addition to exhibiting collections on local history and culture, they host a variety of events and programming throughout the year.

Source: Plymouth Bay Cultural District website

Plymouth Waterfront Festival

Image Source: Plymouth Center for Arts.

Exhibition at the Plymouth Center for Arts

09 | PUBLIC FACILITIES AND SERVICES

PREVIOUS PLANS

2023 Town Annual Report
The report provides a summary of the town's activities, accomplishments, and financial status across all departments, boards, and committees for the 2023 fiscal year. It also includes a review of the town's budget, expenditures, and revenue for the year.

2023 Plymouth Police Operations and Data Analysis Report
The report analyzes all aspects of Police Department's operations and includes a special focus on identifying appropriate staffing, the effectiveness of the organizational structure, and efficiency and effectiveness of division/unit processes. The following highlights some of the core needs identified:

- Additional space at police headquarter facility will be needed in the future
- The need to take advantage of technological advancements across mobile platforms to increase efficiencies
- Opportunities to civilianize several positions and reposition sworn personnel elsewhere

2023 Plymouth Fire Department and EMS Analysis
The report analyzes all aspects of the town's Fire Department and private emergency management services (EMS) provider to identify service demands and challenges. It also includes an All-Hazards Risk Assessment of the community. The report outlines several recommendations for continuing to provide quality fire, EMS, and rescue services and to meet other demands generated by the community. including hazardous materials, density challenges, transportation emergencies to include vehicle traffic, wildland fires, and other non-emergency responses typical of coastal suburban fire departments.

2022 Year 4 Annual Report: MS4 General Permit
The report includes a comprehensive overview of a municipality's stormwater management activities over the past year. A supplemental nitrogen and phosphorous identification report identified Billington Sea, Russel Pond, and Savery Pond as top locations impacted by nutrient pollution from stormwater runoff.

2019 Water Supply Master Plan
The plan provides an overview of Plymouth's water system, an evaluation of current and future water demand, and an assessment of existing infrastructure capacity to meet future demand.

2004 Master Plan: Growing Smarter in Plymouth's Fifth Century
The 2004 Plymouth Master Plan provided a broad policy framework to guide land use, development, and conservation decisions with a focus on balancing preservation and growth. It also outlined the following goals under the public facilities and services section of the plan:

- Plan for capital investments and preventive maintenance in an orderly manner to optimize provision of facilities and services while maintaining an even level of expenditure from year to year.
- Provide and maintain public facilities, services, and amenities with an emphasis on efficiency and on securing new, nontraditional sources of funding to offset costs
- Encourage the continued growth of Plymouth as a regional governmental and service center

Source: GIS data set from Town of Plymouth

OVERVIEW

The Town of Plymouth provides a variety of services for residents, businesses, and municipal government operations. The core Town departments and their related services are outlined below.

Airport

Finance

- Assessors' Office
- Procurement
- Treasurer / Collector

Fire

- Emergency Management
- Fire Prevention/Code Enforcement

Health and Human Services

- Animal Control
- Center for Active Living
- Public Library
- Public Health
- Recreation
- Veteran Services

Human Resources

Information Technology

Inspectional Services

- Permits & Inspections

Energy and Environment

- Sustainability & Resilience
- Natural Resources

Planning & Development

- Community Development
- Conservation Commission
- Historic District Commission
- Zoning Board of Appeals

Police

- Harbormaster

Public Works

- Cemetery & Crematory
- Engineering
- Facilities Maintenance
- Fleet Maintenance
- Highway
- Parks & Forestry
- Sewer
- Solid Waste & Recycling
- Water

Public Schools

Town Clerk

Town Manager

Source: Town of Plymouth

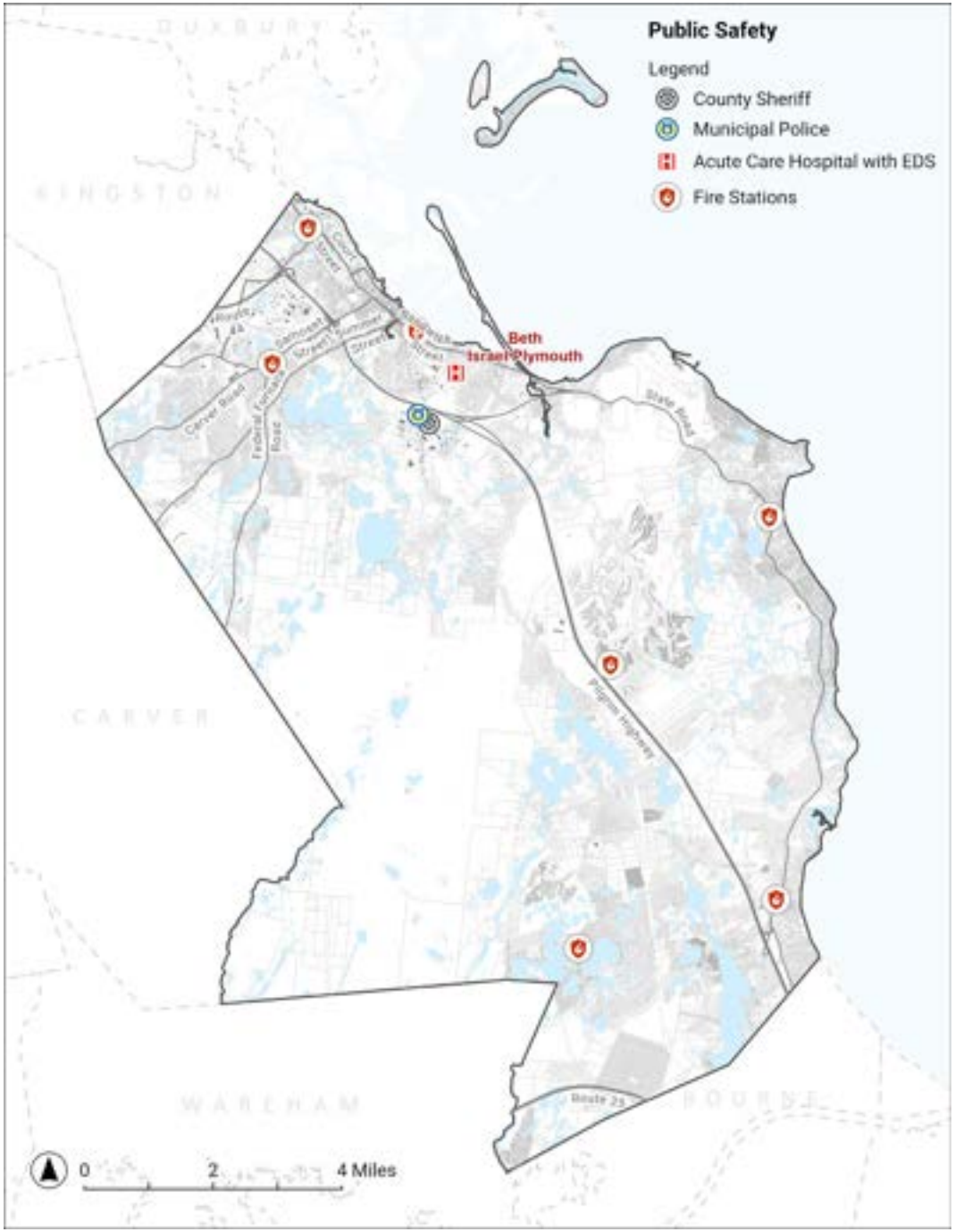
PUBLIC SAFETY

Police

The Plymouth Police Department is headquartered in a dedicated facility on Long Pond Road. It is located near the Plymouth County Sheriff's Department and the Plymouth County Correctional Facility.

The 2023 Police Operations and Data Analysis Report suggests that although the 30-year-old facility is functional, it will likely need additional space in the near future as the Town's population continues growing. The department recently disbanded its communications unit and is now contracting with the Plymouth County Sheriff's Office for police and fire dispatching.

Increasing strains on police staff resources, largely driven by the town's population growth, will require the department to recruit more officers and hire more civilian staff.



Source: MASSGIS data set, 2023 Annual Town Report, 2023 Police Operations And Data Analysis Report

PUBLIC SAFETY

Fire and Emergency Medical Care

Plymouth's Fire Department has seven fire stations staffed by 139 uniformed members, seven civilian employees, and one additional civilian employee in the Emergency Management Division.

In 2024 the Department's Fire Prevention/Code Enforcement Division conducted 3,329 inspections and issued 4,025. The Department also recorded a total of 202 fires resulting in $2.8 million in losses with an estimated assessed value of $37 million (per assessor data) in total property value town-wide. Overall, there has been a 44% increase in the Department's total emergency responses since 2014.

Plymouth's latest Capital Improvement Plan (CIP) includes plans to replace Stations 1 and 4 over the next eight years. With increasing growth, especially in residential areas, the town's fire and emergency services resources will experience an increase in demand. To address this, the department will need to increase staffing and resources based on the demand at its various stations and consider adding an eighth fire station.

The town's contract ambulance service, Brewster Ambulance Service, works alongside the Fire Department and is based out of five of the seven fire stations. In 2023, the service responded to 14,134 medical emergencies and 9,573 patients transported to medical facilities for further treatment.

Source: MASSGIS data set, 2023 Annual Town Report, 2023 Fire Department and EMS Analysis Report, 2024 Fire Department data

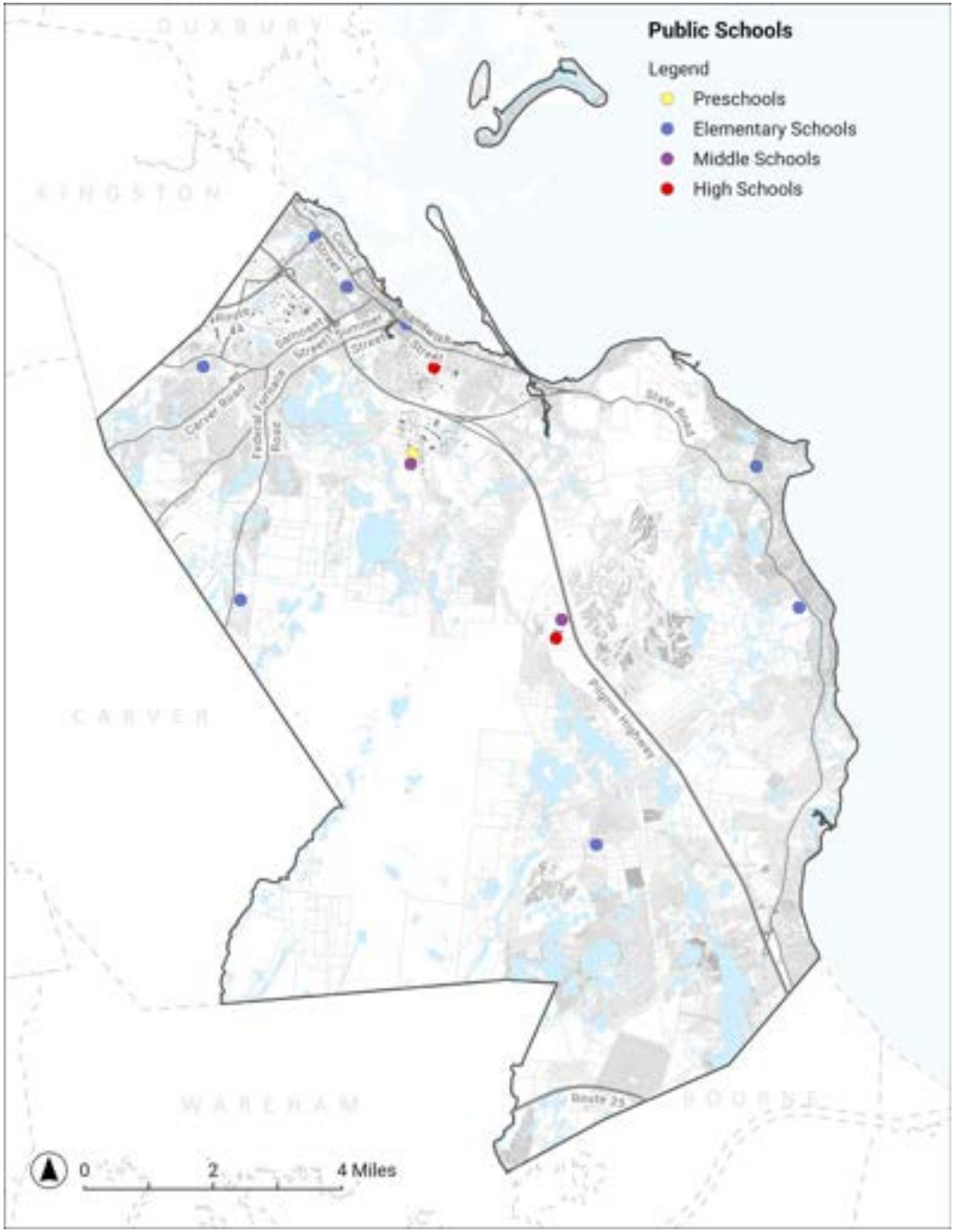
List of Police, Fire and Emergency Medical Care [EMC] Incidents in 2023

Police Incidents	
Calls for service	40,729
NIBRS offenses	4,018
Felonies	969
Arrests	659
Traffic Citations	4,152
Traffic Citations Offenses	4,684
Fire Incidents	
Fires	205
Overpressure Rupture, Explosion, Overheat	17
Alarm Activations	1,389
Assist the Public	1,139
Rescues / Motor Vehicle Accidents	580
Hazardous Conditions	333
Investigations	683
Medical Emergencies	7,996
Severe Weather & Natural Disaster	16
Special Incident Type	13
Total Fire Incidents	*12,371*
Emergency Medical Care Incidents	
Advanced Life Support	7,812
Basic Life Support	6,322
Total Emergency Medical Care Incidents	*14,134*

PUBLIC SCHOOLS

Plymouth's Public School District serves students from pre-kindergarten through 12th grade across eight elementary schools, two middle schools, two high schools, and one early childhood center. In addition, Plymouth Harbor Academy provides alternative education options for students. With 12 schools, it is one of the largest districts in Massachusetts. The majority (98%) of all K-12 students in Plymouth are educated in the public school system, which is higher than the state average of 87%. The School District is in the process of updating its three-year strategic plan for the 2025-2028 period.

The school district's administration reports an overall decline in enrollment over the past decade. This is likely attributed to Plymouth's overall declining child population. Despite this, some schools are at capacity, especially in the southern part of Plymouth near the Pinehills and Redbrook master planned communities. Also notable is that four of Plymouth's schools are classified as Title 1 schools, meaning that 35% or more of the student body is economically disadvantaged.



Source: School and District Report Cards - Massachusetts Department of Elementary and Secondary Education, 2023 Annual Town Report

PUBLIC SCHOOLS

Student enrollment has remained fairly steady between 2021 and 2023, averaging approximately 7,133 students. In 2023:

- About 45% of students were classified as high needs
- One-third of students were low income
- Almost 5% were English-language learners, up from 2.8% in 2021
- About 22% of students have some kind of disability
- About 9% of students identify as Hispanic or Latino, up from 6.6% in 2021

The percentage of all students who graduated from high school within four or five years increased from 2020 to 2022 and was about six percentage points higher than the Massachusetts average. About 90% of high-needs, low-income students, and students with disabilities graduated. English-language learners, however, graduated at a much lower rate, about 62% in four years.

Plymouth's college matriculation rate is lower than the Massachusetts average, about 35% compared to 43% in 2022.

List of Public Schools in Plymouth

	Preschools
1	Plymouth Early Childhood Center
	Elementary Schools
1	Cold Spring Elementary School
2	Federal Furnace School
3	Hedge Elementary School
4	Indian Brook Elementary School
5	Manomet Elementary School
6	Nathaniel Morton Elementary School
7	South Elementary School
8	West Elementary School
	Middle Schools
1	Plymouth Community Intermediate School
2	Plymouth South Middle
	High Schools
1	Plymouth North High School
2	Plymouth South High School

Source: School and District Report Cards - Massachusetts Department of Elementary and Secondary Education, 2023 Annual Town Report

PUBLIC SCHOOLS

Plymouth has made significant investments in several of its school facilities. Both high schools are state-of-the-art facilities and Manomet Elementary School was recently recognized by the U.S. Department of Education as a National Blue Ribbon School.

While both high schools and one middle school are relatively new, the remaining schools were built in the mid-1970s or earlier and need varying degrees of repairs and modernization. The town is committed to submitting a statement of interest to the Massachusetts Schools Building Authority (MSBA), demonstrating its dedication to securing funding for a new elementary school. The district plans to consolidate Hedge and Cold Spring Elementary Schools onto one cohesive campus. Another ongoing challenge for the district is the cost and logistics of providing bus transportation to students given Plymouth's size and limited road network.

Image Source: Plymouth Public Schools

Morton Elementary School

Image Source: Plymouth Public Schools

Plymouth High School

TOWN FACILITIES

There are 32 municipally-owned and maintained properties in Plymouth, including Town Hall, the Plymouth Public Library, Memorial Hall, police and fire stations, and others. The age and condition of these municipal facilities range from 100-year-old properties like Memorial Hall to newer facilities built in the last 10 years, such as the new town hall.

Plymouth Public Library

Sources: 2023 Annual Town Report; 2019 Facility Condition Assessment

Image Source: Seeplymouth.com

Plymouth Memorial Building

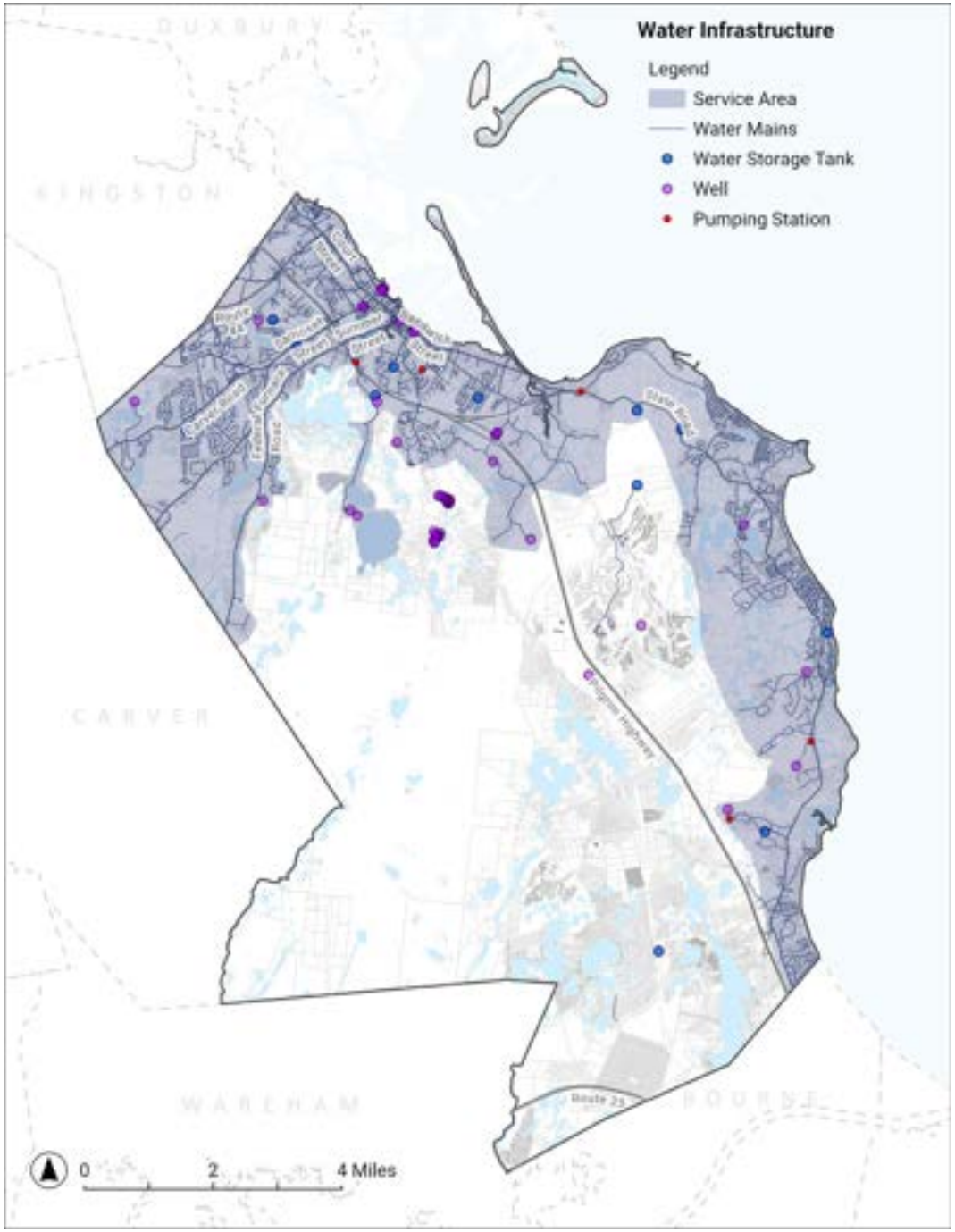
[Pending image approval for use]

INFRASTRUCTURE

Water

Plymouth's water system includes 13 water wells, 8 pumping stations, 245 miles of water main, and 12 water storage tanks providing about 14,900 service connections. This potable water infrastructure supports 44,170 residents, about 63% of the town's population. The average daily consumption is approximately 3.9 million gallons of water per day.

Plymouth's water supply is sourced from the Plymouth-Carver Aquifer which provides drinking water to Plymouth and several other communities. There are 13 wells at 11 locations in town, including at Great South Pond, Lout Pond, Wannos Pond, Ship Pond, Ellisville, Savery Pond, North Plymouth, Darby Pond, and Forges Field. The aquifer's recharge area is designated as a Zone II Wellhead Protection Areas under the Federal Safe Drinking Water Act.



Source: 2023 Annual Town Report, 2019 Water Supply Master Plan

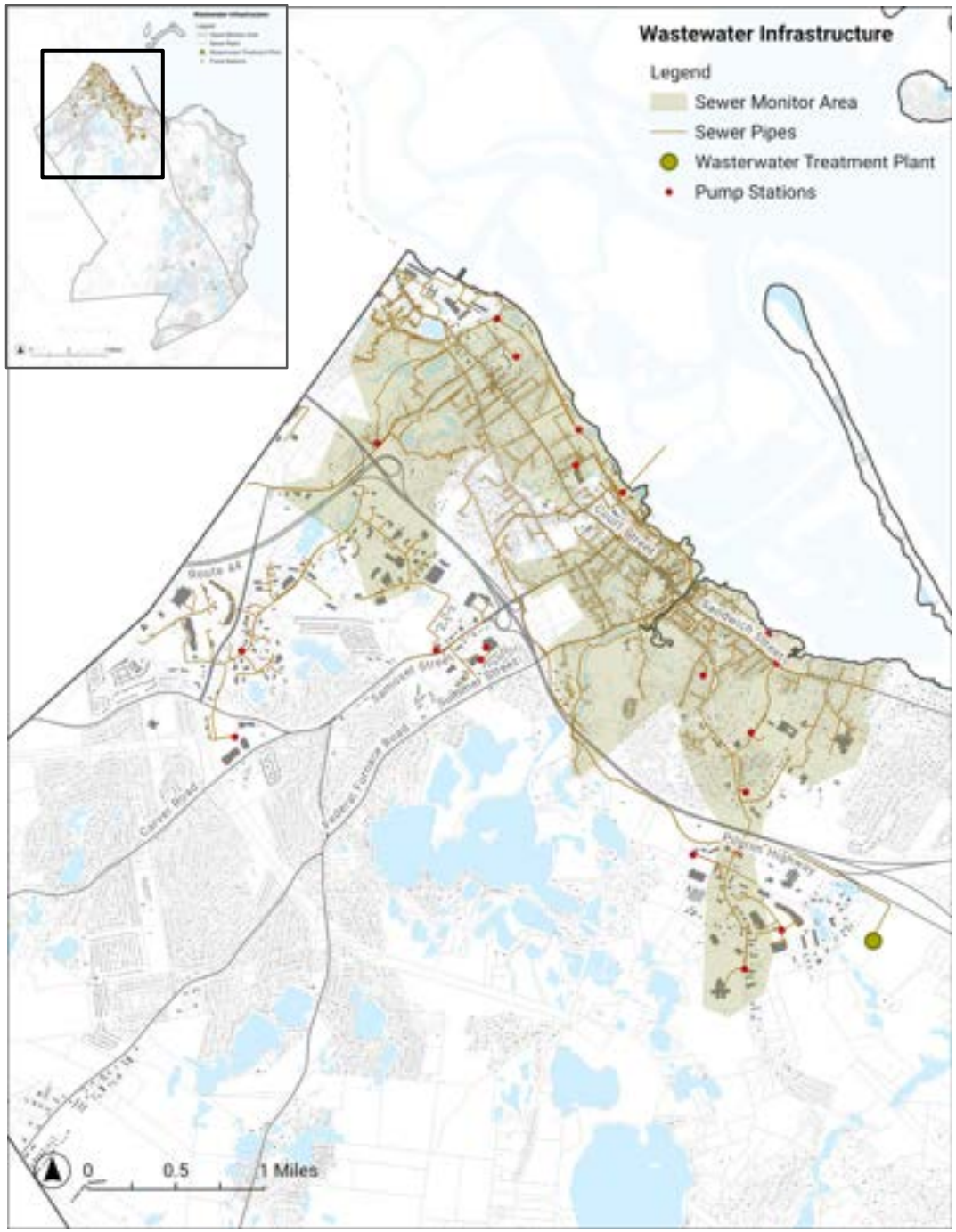
INFRASTRUCTURE

Wastewater

Plymouth's wastewater collection and treatment facilities include 1 wastewater treatment plant (WWTP), 21 pump stations, and 82 miles of sewer main that collectively treat 1.5 million gallons of sewage per day and serve 14,000 residential customers. The system has existing capacities considered adequate for moderate growth in the northern part of town.

The wastewater system operates on a split permit allowing up to 2.5 million gallons per day (MGD) discharge. The first 1.75 MGD are discharged to the harbor. If needed, up to 0.75 MGD can be discharged to treatment beds at the WWTP.

Most of Plymouth's geographic area is not served by public sewer and are on septic systems. Several small-scale sewage treatment plants, known as "package plants" and "small community systems," operate in Plymouth. These plants help prevent water pollution by achieving cleaner discharge levels than individual "Title V" septic systems, which do not remove nitrogen and phosphorus—the primary pollutants degrading water quality. The town restricts the use of on-site septic systems and certain commercial operations in critical wellhead protection areas.



Source: 2023 Annual Town Report

INFRASTRUCTURE

Solid Waste Management

The town of Plymouth operates a Pay As You Throw (PAYT) program to reduce landfill waste and encourage recycling. Under this program, residents buy special trash bags for disposal. Residents also have the option to bring their waste to the Manomet Transfer Station for disposal and recycling. The Manomet Station is maintained and operated by the Solid Waste Division. Additionally, the Division oversees the monitoring and permit compliance of the town's three capped landfills and the issuance of transfer station and recycling passes.

Plymouth offers curbside recycling collection for a fee provided by private waste haulers licensed by the Public Health Department. The town also hosts two annual collection events for hazardous waste, coordinated with the South Shore Recycling Cooperative.

According to the 2023 Annual Town Report, Plymouth issued 3,125 annual transfer station permits and received 3,125 tons of trash and 1,147 tons of recyclables, including mixed paper, cardboard, plastics, glass, and scrap metal.

Source: 2023 Annual Town Report

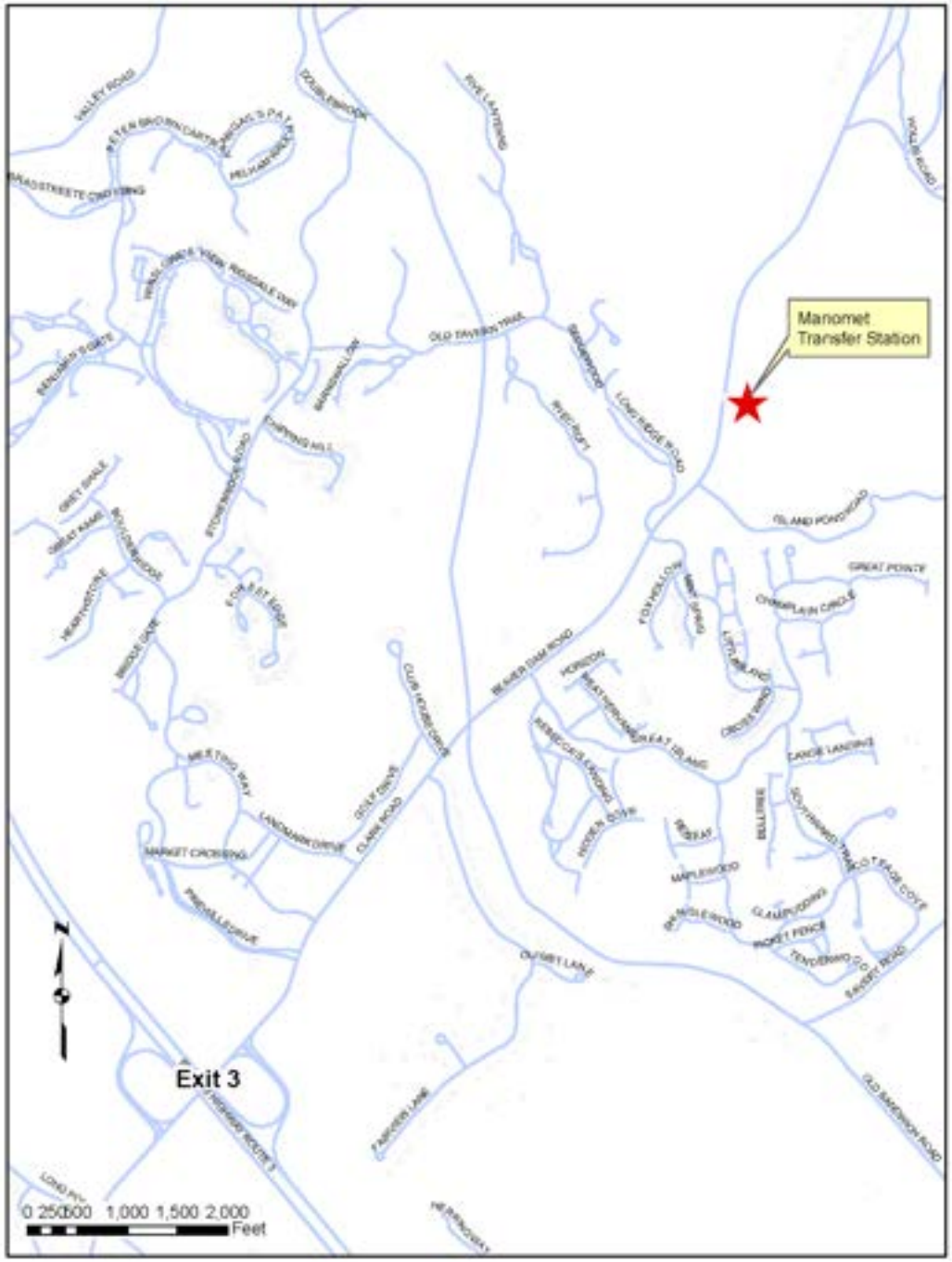


Image Source: Town of Plymouth

Map to Manomet Transfer Station

10 | CLIMATE RESILIENCE & SUSTAINABILITY

PREVIOUS PLANS

2024 Priority Plymouth: Climate Adaptation Action Plan (CAAP)

The plan focuses on actions to reduce greenhouse gas emissions and adapt to impacts of climate change. The accompanying green-house-gas inventory analysis identified the buildings and transportation sectors were identified as the largest sources of emissions in Plymouth. The plan's action plan covers goals, strategies, and actions for buildings, energy, and infrastructure, natural systems, healthy, safety, and preparedness, transportation, and waste.

2020 Climate-Ready Healthy Plymouth: Municipal Vulnerability Preparedness Report

The report analyzes past and projected climate change hazards alongside Plymouth's Social Determinants of Health to evaluate potential impacts on the town's infrastructure, environmental, and community assets and opportunities. It identifies sea level rise and precipitation as the most pressing climate risks impacting Plymouth and outlines top vulnerabilities, including:

- The loss of open space and natural resources
- Several critical facilities exposed to sea level rise and flooding
- 669 homes vulnerable to inland and coastal flooding
- Coastal areas that have already experienced severe erosion and other areas undergoing significant coastal changes

The plan also identifies natural areas throughout Plymouth with valuable climate resiliency benefits and includes several priority actions and strategies for building greater community resilience across Plymouth.

REGIONAL CLIMATE TRENDS

How climate change may impact a specific community is best understood through the study of global and regional trends based on historic climate data and climate model projections.

Throughout the northeastern United States, changing climate conditions are shifting temperatures and precipitation patterns which is resulting in more intensive storms, heatwaves, extended droughts, and coastal and inland flooding. At the same time, sea levels are also rising and projected to more significantly impact coastal communities over the next several decades and beyond.

Climate data for a given area is dependent on the location and frequency of collection and is therefore often extrapolated to the greater region. Boston has the closest sea level monitoring station to Plymouth and is therefore used for measuring many of the trends summarized in this section. The section also includes results modeled using the Massachusetts Coast Flood Risk Model (MC-FRM). The MC-FRM is a probabilistic model that considers a variety of factors such as sea level rise projections, historical and projected future hurricanes and nor'easters, elevation data, and land cover data to provide an accurate projection of potential flood impacts along the Massachusetts coastline.

Source: Climate-Ready Healthy Plymouth, Priority Plymouth

CLIMATE TRENDS IN PLYMOUTH

Plymouth is already experiencing impacts from climate change in the form of localized flooding, more intense storms, prolonged droughts, intense heat waves, and coastal changes driven by sea level rise and changes in tide patterns and intensities of storm surge.

Regional trends reported in Plymouth's CAAP document a 70% increase in total precipitation during intense precipitation events, increasing extreme heat days, 22 weeks in drought reported in 2022, and rising sea levels in Boston Harbor across the last century.

ResilientMass Climate Change Projections through 2070 indicate Plymouth will experience a decrease in days below freezing, an increase in days with temperatures over 90 degrees, and increasing levels of total annual precipitation and high intensity rainfall events.

Project Climate Trends in Plymouth

	2030	2050	2070
Days <32F	**-28** (-14 to -35) 106	**-40** (-28 to -51) 106	**-51** (-40 to -64) 106
Days >90F	**+4** (1 to 6) 1	**+9** (4 to 16) 1	**+16** (9 to 33) 1
Total Annual Precipitation	**+5.9%** (-5.9 to 18.3) 42.8	**+7.7%** (-5.5 to 21.1) 42.8	**+9.5%** (-5.6 to 24.8) 42.8
99th %-ile rainfall	**+6.2%** (2.7 to 8.2) 1.1	**+9.5%** (6.2 to 12.5) 1.1	**+12.5%** (9.5 to 17) 1.1

Image Source: NBC News

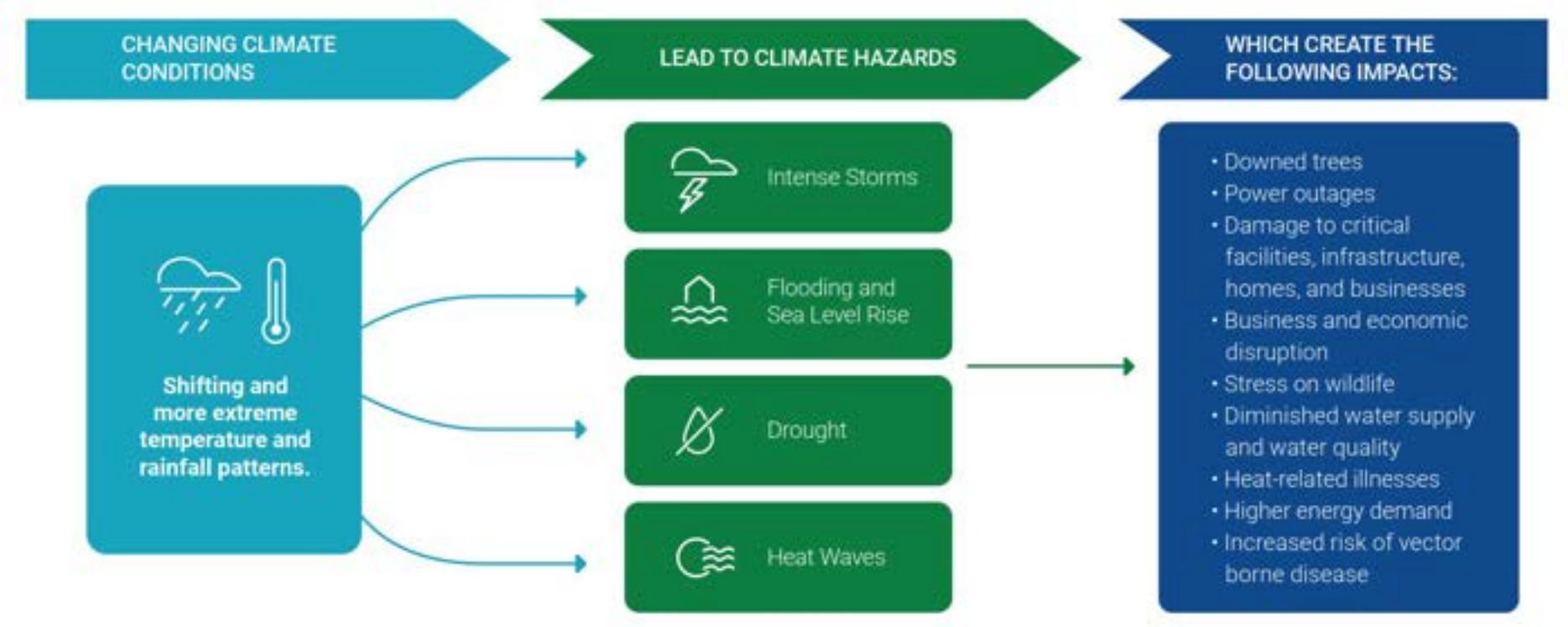
Coastal flooding at Bert's Landing in January 2014

Source: Priority Plymouth, ResilientMass Climate Change Projections Dashboard

CLIMATE IMPACTS IN PLYMOUTH

Looking ahead, Plymouth can expect the following trends for climate related impacts:

- **Milder winters** with less frequent freezing
- **Hotter summers** with more frequent extreme heat
- On average **more precipitation**, but increasingly characterized by prolonged dry periods and more concentrated bursts of extreme precipitation
- **Accelerating sea level rise** causing more frequent and more widespread high-tide flooding (nuisance or sunny day flooding) , resulting in potential loss of access and shifts in coastal wetlands
- **More frequent and more intense coastal storms** compounded by rising seas, resulting in increased frequency and severity of damage from coastal flooding and erosion



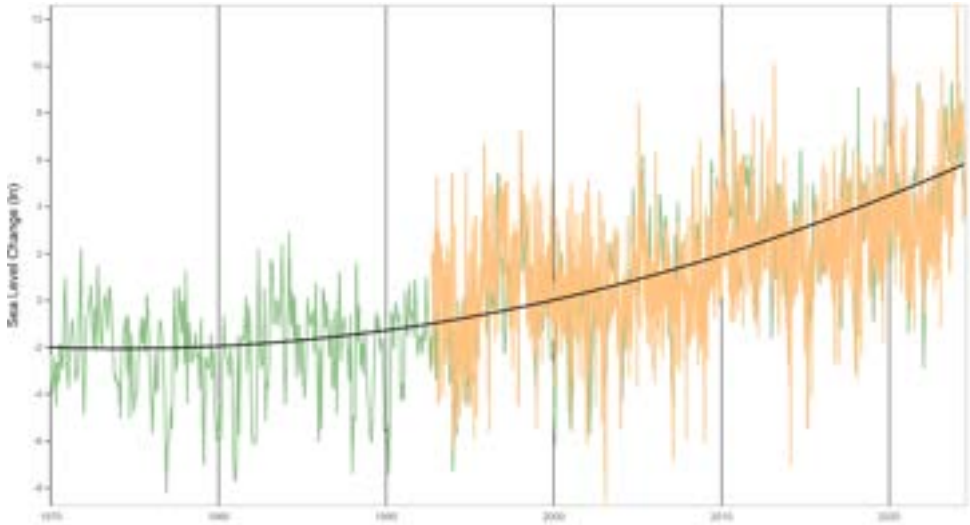
Source: Priority Plymouth, Woods Hole Group

SEA LEVEL RISE

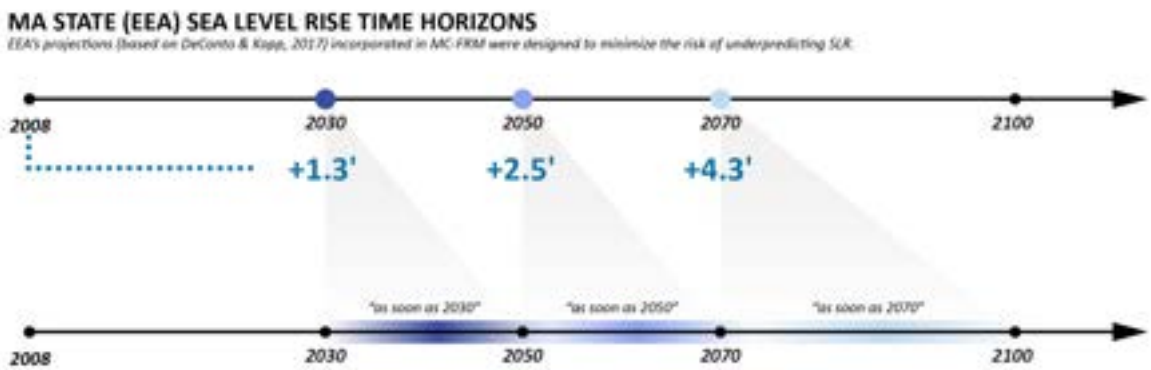
In Boston, sea level rose approximately 12 inches over 100 years and about 8 inches in just the last 50 years, indicating an increasing rate. At the same time there has been an increase in record extreme water levels in the Boston region.

In Plymouth, sea levels are projected to rise at an increasingly faster rate throughout this century. According to State Sea Level Rise Time Horizons, Plymouth could experience a 1.3-foot increase in sea levels by 2030, a 2.5-foot increase by 2050, and a 4.3-foot increase by 2070.

Sea level change recorded at Boston monitoring station
Over last 50 years



Sea level rise projections for Plymouth over next 50 years



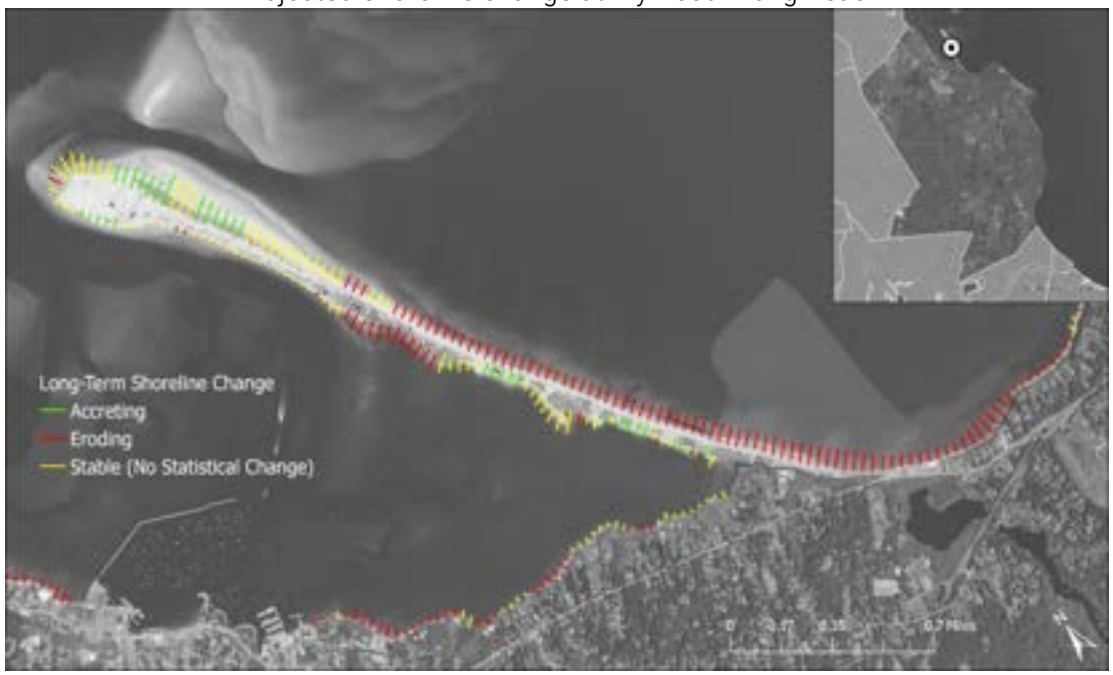
Source: Woods Hole Group, NOAA Tides and Currents, National Sea Level Explorer

SHORELINE CHANGE

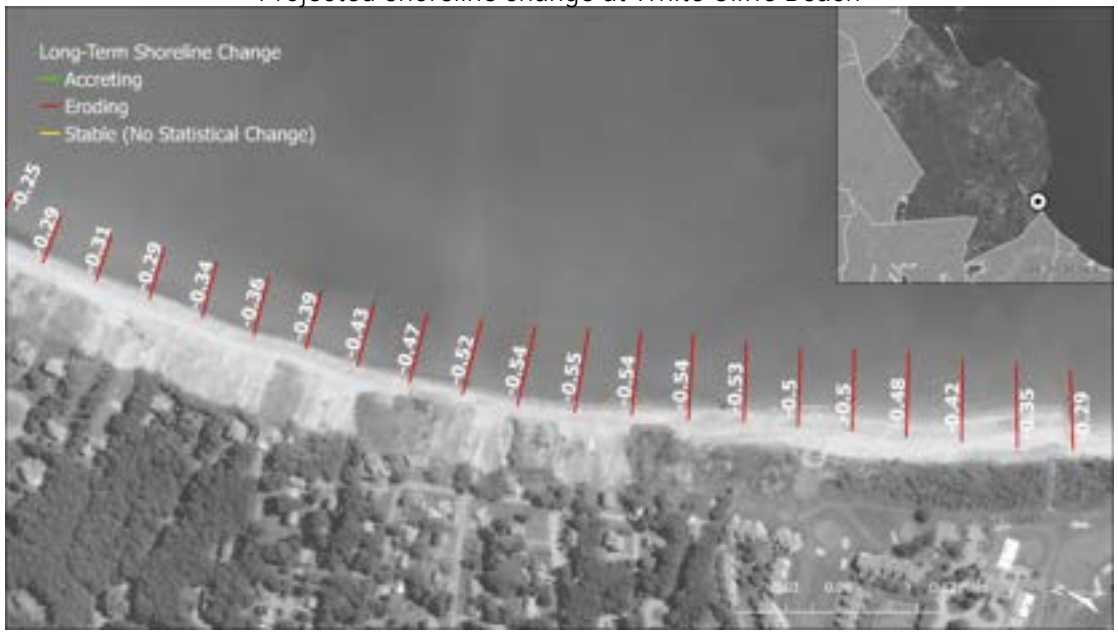
Plymouth's shoreline is also projected to change over time as sea level rise, shifting storm events, tides, and coastal flooding erode and build up different parts of the cost. Accretion is the gradual accumulation of soil or sediment that expands a land parcel. Erosion, conversely, is the wearing away or removal of sediment or soil from a shoreline. Together these processes transform shorelines over time.

Mass CZM Shoreline Change Project projections suggest Plymouth Long Beach will experience both erosion and accretion along both sides of shoreline. White Cliffs beach is also projected to experience erosion between a quarter- and half-foot or more linear feet per year on average in some places,

Projected shoreline change at Plymouth Long Beach



Projected shoreline change at White Cliffs Beach

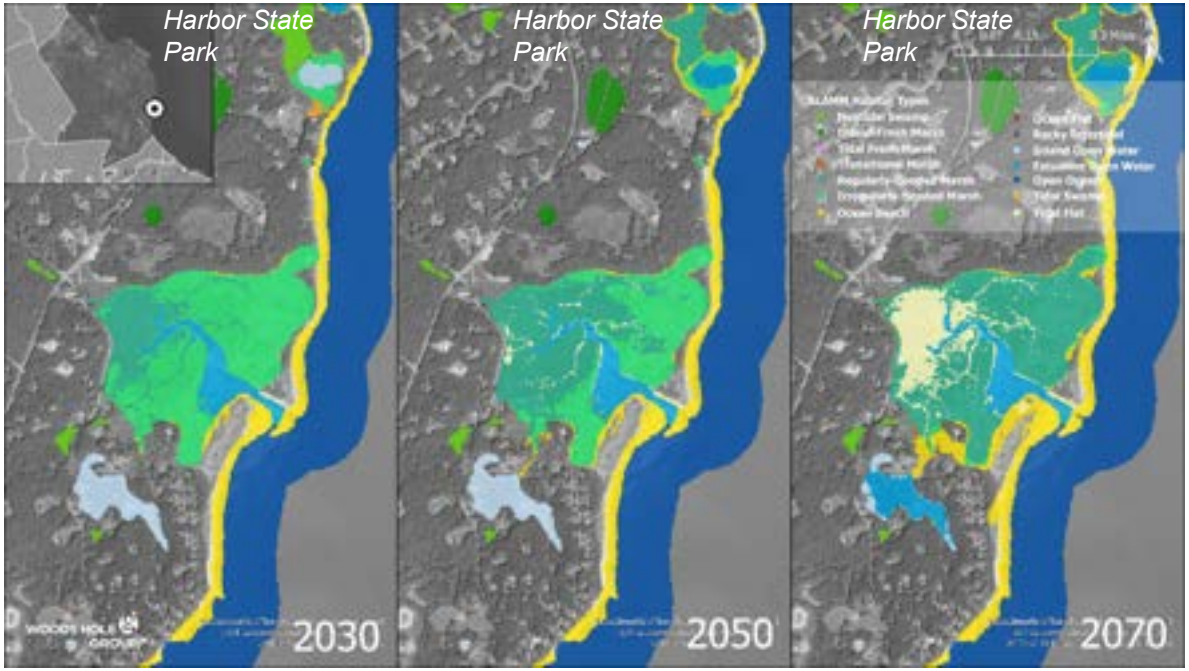


Source: Woods Hole Group, MC-FRM

HABITAT CHANGE

Plymouth's coastal habitats are likely to change, particularly for wetland and estuary ecosystems. Marshlands may see more regular flooding and an expansion of tidal flats as illustrated in projected changes at Ellisville Harbor State Park.

Projected coastal habitat change at Ellisville State Park



- Nontidal swamp
- Inland fresh marsh
- Tidal fresh marsh
- Transitional marsh
- Regularly-flooded marsh
- Irregularly-flooded marsh
- Ocean beach
- Ocean flat
- Rocky intertidal
- Inland open water
- Estuarine open water
- Open Ocean
- Tidal swamp
- Tidal flat

Source: Woods Hole Group, MC-FRM

FLOODING

As a coastal community, Plymouth experiences and will continue to experience both coastal flooding and inland flooding. Coastal flooding is caused by storm surges whereas inland flooding is a result of high levels of precipitation or intensive storm events. Plymouth's low-lying areas and areas in floodplains or flood hazard zones of existing water bodies are vulnerable as are locations of highly impervious surfaces like parking lots which experience significant stormwater.

Plymouth's CAAP reports that about 26% of the town's land area floods during a 100-year rainfall event with 9% of buildings vulnerable to such exposure. As Plymouth experiences an increasing frequency and intensity of large precipitation events, flooding of this nature is likely to occur more often. As sea level continues to rise, coastal flooding is also more likely to occur and impact a greater extent of coastal areas.

Hazards
- Sea Level Rise 2050 (NOAA)
- A: 1% Annual Chance of Flooding
- *Hot Spots

Other Features
- All Open Space
- Plymouth Dams
- Pilgrim Station
- Plymouth County Correctional
- Plymouth Affordable Housing

Schools (PK - High School)
- School
- Prisons
- Fire Stations

Police Stations
- Police Stations
- Hospitals

Long Term Care Residences
- Long Term Care
- Commuter Rail Stations

Source: Woods Hole Group, MC-FRM

Town of Plymouth Critical Facilities and Climate Change Hazards of Sea Level Rise, 1% Annual Chance Flood and Urban Heat Islands

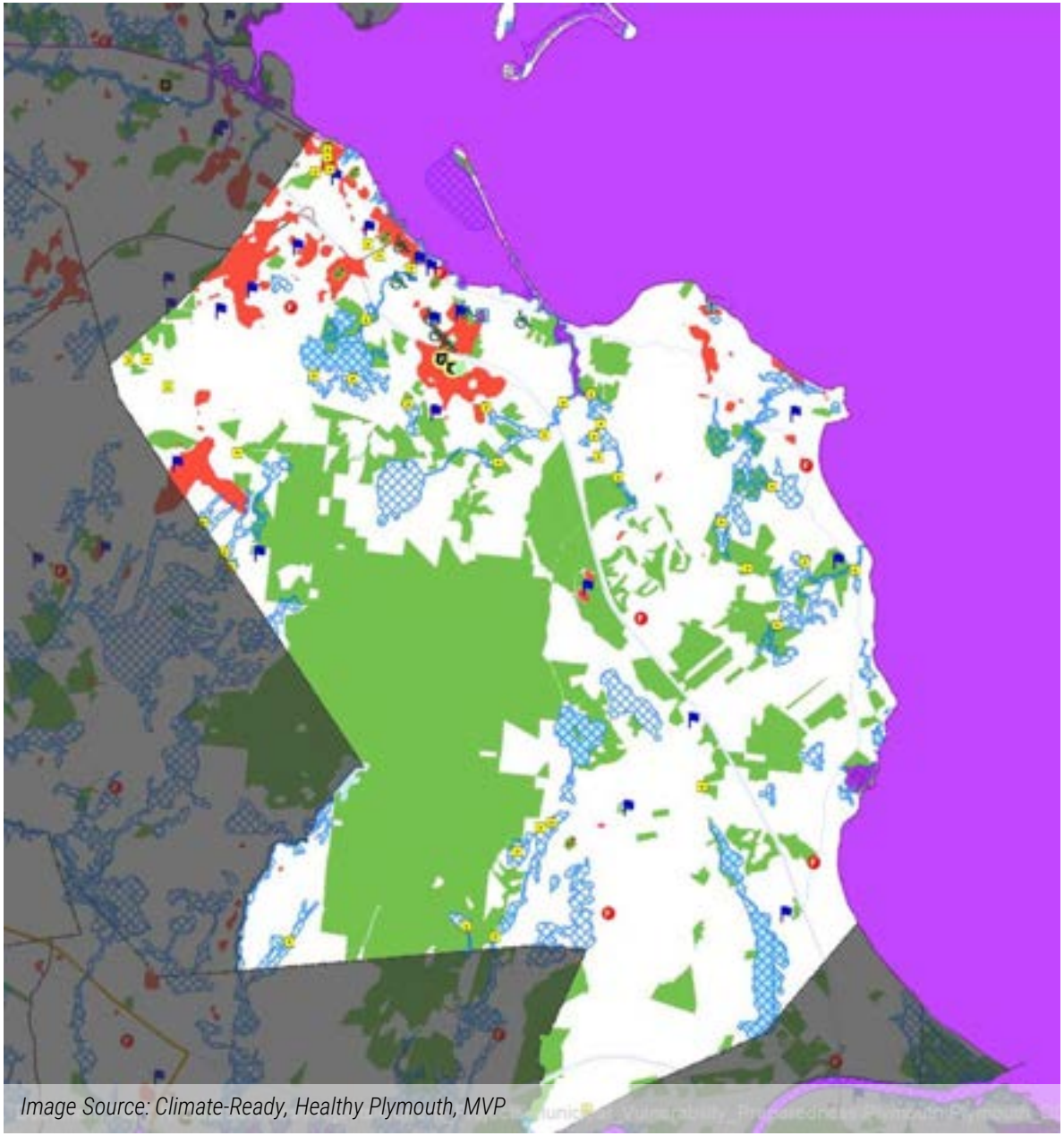


Image Source: Climate-Ready, Healthy Plymouth, MVP

FLOODING

The following locations are expected to experience greater coastal flooding throughout the century based on MC-FRM projections.

Downtown
Flood-prone areas of the Downtown Plymouth include around the pond on Schooner Way, Nelson Beach, around Plymouth Jetty, and around the mouth of Town Brook. The likelihood of flooding in these areas increases as mean sea level is expected to increase across 2030, 2050, and 2070 planning horizons

Long Beach and Eel River
Flood-prone areas near Long Beach and Eel River include much of Ryder Way as early as 2030 and the flood plain around Eel Brook as soon as 2050.
The likelihood of flooding increases between the 2030 to 2070 planning horizons.

Manomet
The shoreline along Manomet is high enough that even by 2070, only minimal coastal impacts are expected. The area around Barlett Pond, however, is vulnerable to flooding and is expected to become more impacted over time.

FLOODING

Ship's Pond, Surfside Beach, Ellisville
Ellisville is particularly vulnerable in the areas surrounding Center Hill Pond, Black Pond, and Ellisville Harbor State Park. At Center Hill and Black pond, the likelihood of flooding increases over time, but the area impacted by flooding does not significantly change. At Ellisville Harbor State Park, the likelihood of flooding in surrounding areas both increases over time and expands along Ellisville Road and Lookout Point Road to the southern portion of the State Park.

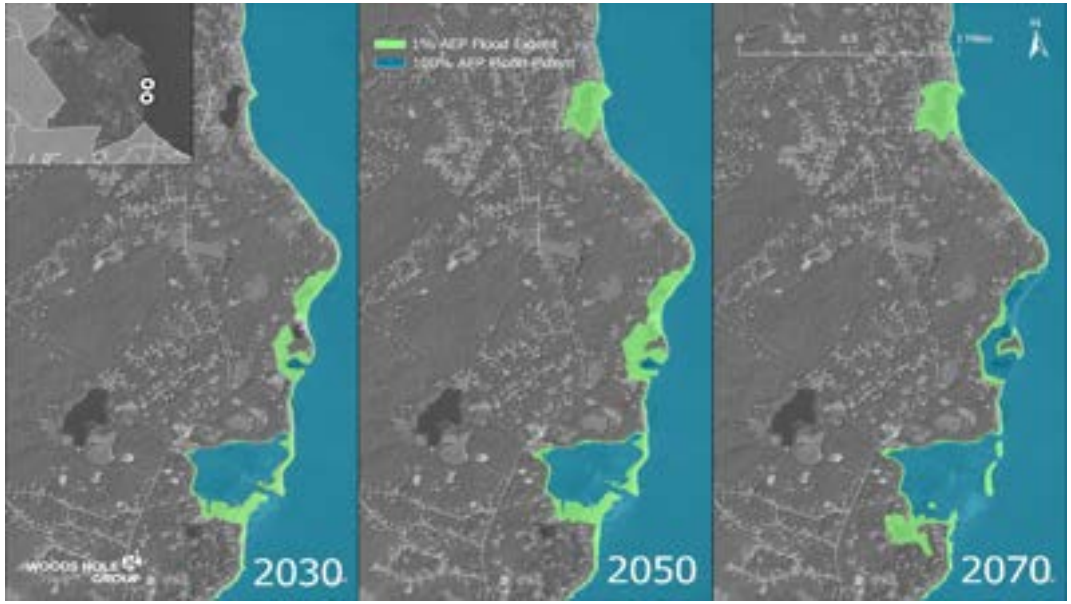
Red Brook Road
The area surrounding Red Brook, which leads into Buttermilk Bay, includes portions of a Plymouth residential neighborhood and a bridge on Red Brook Road. The likelihood of flooding and the area likely of being impacted increases over time.

More information on coastal flood projections is available in this report's Data Appendix.

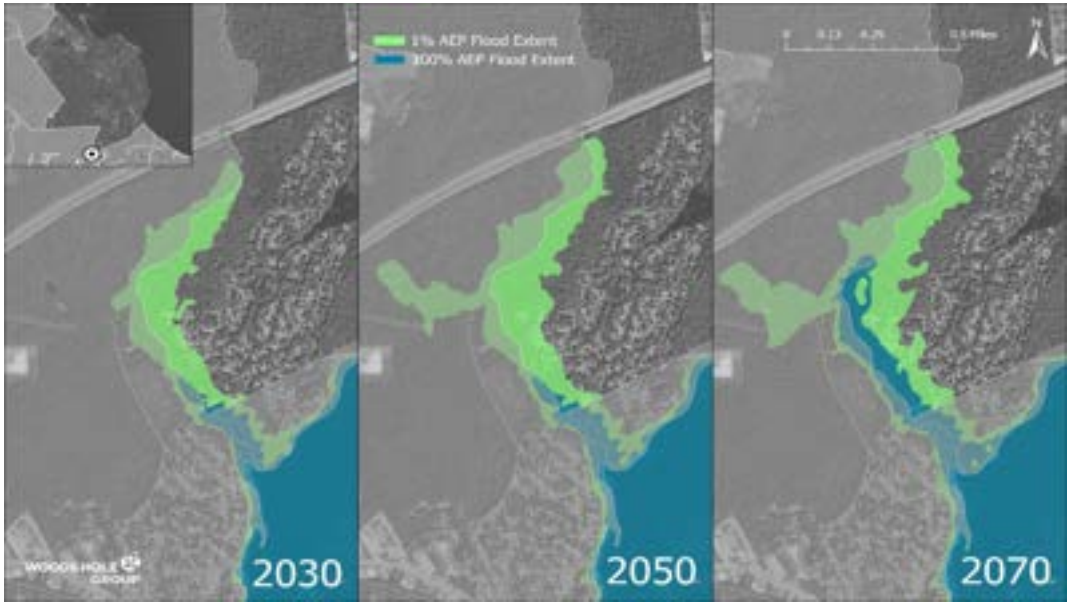
The probability that a storm of that magnitude will be equaled or exceeded within a given calendar year. The 1% AEP has a 1 in 100 chance of occurring at any point in a given year, roughly equivalent to a 100-year recurrence interval. Storms with smaller AEPs are less likely to occur and correspond with more intense storms impacting wider areas, while storms with larger AEPs are more likely to occur and correspond to more moderate storms.

Source: Woods Hole Group, MC-FRM

Flood Projections for Ship's Pond, Surfside Beach, and Ellisville areas of Plymouth



Flood Projections for Red Brook Road area of Plymouth



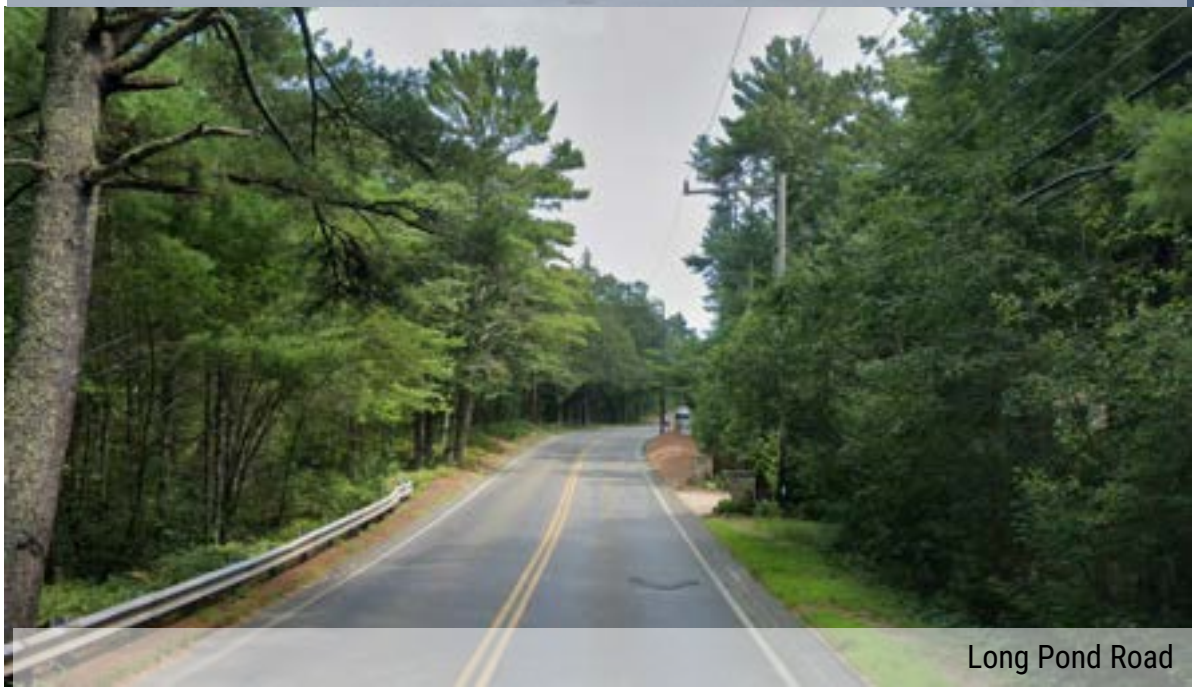
1% AEP Flood Extent – A 1 in 100 chance of a flood like this being equaled or exceeded
100% AEP Flood Extent – A high chance of a flood like this being equaled or exceeded

11 | KEY CHALLENGES

OVERVIEW

The existing conditions analysis as well as public input identify several challenges facing Plymouth now and over the next ten years. While not exhaustive, the following matrix highlights some of these major challenges and their connection to various Master Plan topics. Many challenges relate to multiple topics, but for brevity the matrix focuses on direct connections between topic areas.

Plymouth Center



Long Pond Road

CHALLENGES IN PLYMOUTH + MASTER PLAN TOPICS

This table highlights several important challenges and their relationships to master plan topics to illustrate their inter-connectedness. It is not intended to be an exhaustive list of either challenges or relationships to topics.

	LAND USE	HOUSING	TRANSPORTATION	ECONOMIC DEVELOPMENT	NATURAL RESOURCES	OPEN SPACE & RECREATION	HISTORIC & CULTURAL RESOURCES	PUBLIC FACILITIES & SERVICES	SUSTAINABILITY & RESILIENCY
Housing affordability and attainability for the full range of incomes		●	●	●					●
Importance of aquifer protection to long-term water supply for Plymouth and surrounding communities	●			●	●				●
Competing interests for available land: growth and development vs conservation and open space, revenue vs costs to Town	●	●		●	●	●	●		●
Protection of water quality in ponds	●				●	●			●
Adapting to growth: strains on Town staffing, facilities, police and fire, public water and sewer, roads		●	●	●				●	
Climate change and adaptation: sea level rise, storm intensity and shoreline erosion, extreme temperatures, drought, wildfire, flooding		●	●	●	●	●	●	●	●

CHALLENGES IN PLYMOUTH + MASTER PLAN TOPICS

This table highlights several important challenges and their relationships to master plan topics to illustrate their inter-connectedness. It is not intended to be an exhaustive list of either challenges or relationships to topics.

	LAND USE	HOUSING	TRANSPORTATION	ECONOMIC DEVELOPMENT	NATURAL RESOURCES	OPEN SPACE & RECREATION	HISTORIC & CULTURAL RESOURCES	PUBLIC FACILITIES & SERVICES	SUSTAINABILITY & RESILIENCY
Shifting demographics, especially a growing share of residents 65 years and older		●	●	●		●		●	●
Mobility challenges due to limitations of the roadway network, and interest in more walking and bicycling routes			●			●			●
Overcoming impediments to economic development: land availability where public water and sewer is available, labor force, existing building types	●	●		●	●	●		●	●
Reliance on residential property taxes for Town's tax base	●	●		●				●	
Future of Holtec site: replacing short-term PILOT payments; navigating redevelopment interests for economic development, housing, conservation; lack of direct Town control + potential acquisition cost	●	●		●	●	●		●	●