

CASE STUDY: HOUSING ON CAPE COD

MISSING MIDDLE

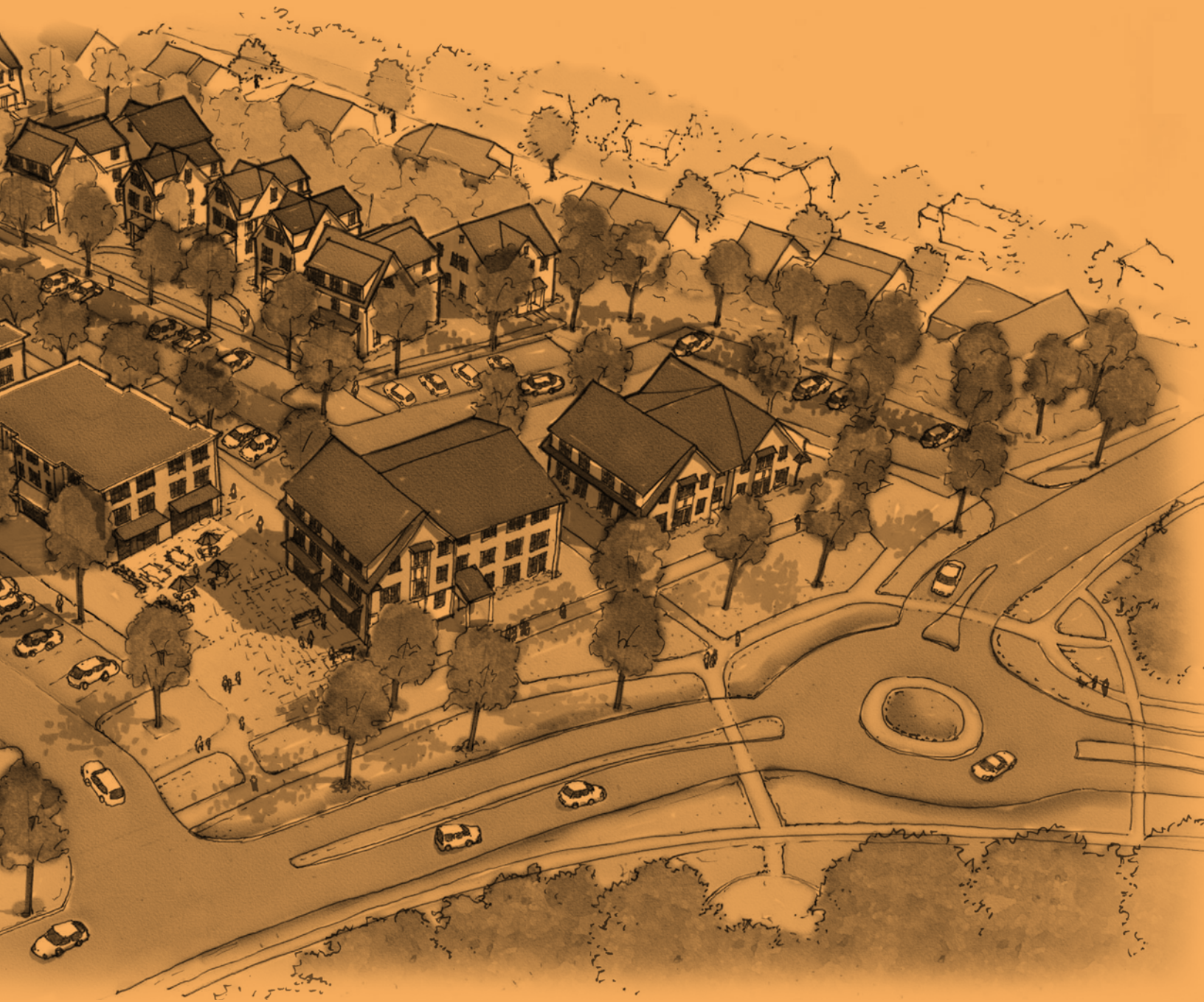


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SECTION 1

Introduction

What is the “Missing Middle” and why does it matter?

Heritage Sands
Dennis Port, MA



America's Missing Middle

“The Missing Middle is a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living.”

- Congress for New Urbanism (CNU)

The “Missing Middle” is a term that applies to a type of housing that has all but disappeared from the current housing stock in the United States. It is “missing” because although it was historically present, and we still have examples of it today, it is virtually non-existent in new construction. We build single-family homes and we build multi-family apartment complexes - but what else is there?

Historically, housing came in all types and configurations, such as row houses, duplexes, and boarding homes. They were often densely clustered at the heart of walkable urban centers that were teeming with activity. The advent of the car, and the post-World War II building industry boom, changed this. Cities were no longer seen as the ideal place to live compared to the fresh air, manicured lawns, and privacy offered in suburbia, suddenly within easy commuting distance. Those who could afford to left the city and those who could not remained. Density became a bad thing, associated with low-income, and often minority, populations. Suburbia evolved into a mass-produced, car-dependent, and virtually unsustainable lifestyle, but was an aspirational environment for many Americans. The zoning laws in most cities and towns in the United States evolved to guide development toward the suburban ideal of single-family homes sitting on large lots.

Due to the changes made to post-WWII zoning ordinances, single-family and multi-family homes are no longer allowed to be built in the same district. The moderate density streets and neighborhoods in historic village centers that we find so charming cannot be built by-right under current zoning regulations. As a result of current development ordinances, there is often a harsh divide between an area zoned for single-family residential and an area zoned for commercial, as there is no opportunity for a softened architectural or mixed-use transition between the two zones. Missing Middle housing, used strategically, can be used as infill to create these much needed transitions.

Missing Middle housing can also increase the limited supply of housing options available for the diversity of financial situations and familial compositions present within the United States. Economic stressors have made the aspiration of owning a single-family home unattainable for many, and for others it may not be the ideal housing type of choice. For a middle-aged empty-nester couple looking to downsize into a more appropriately sized space, is a large multi-family apartment complex their only option? What if they could move to a townhouse in the same neighborhood that they have come to love? Or, would they consider a neighborhood with cottages clustered together, where



Figure 1-1. “It Will Play in Peoria” Overall Winner for CNU Illinois “Fill the (Housing) Gap” 2018 Competition

Source: Union Studio

they can build ties with a new community?

Missing Middle housing aims to fill these gaps within the current housing market. It encompasses a variety of types, calibrated to local regions throughout the United States, and provides the housing choices so many desire. A portion of the existing building stock can be converted into Missing Middle housing. It could be as simple as converting the space over one’s garage into an apartment - simultaneously providing supplemental income to the homeowner, and introducing an affordable apartment into the local housing market. Or, a home could be converted into stacked-flats, with the option for the owner to live in one apartment and rent the other. Missing Middle housing

options also create opportunities to introduce a variety of uses into predominantly residential areas, providing residents with the flexibility to kick-off a new business in a live-work building type.

The goal of Missing Middle housing is to smartly, and seamlessly, increase density within residential areas to provide financial and familial housing choice. But beyond that, it aims to create walkable, diverse, mixed-income, and vibrant communities full of life, activity, and well-being. Missing Middle housing is adaptable and applicable across the country, which lends itself well to combating the monotony of current housing development, as well as providing a range of affordable housing options.

This report uses the Cape Cod region in Massachusetts as a case study for Missing Middle housing, illustrating the need to build additional housing types, as well as the ways in which these types can complement the development patterns in existing historic neighborhoods.

THE TERMINOLOGY

The term “Missing Middle Housing” was coined by Opticos Design founder Daniel Parolek in 2010 to define a range of multi-unit or clustered housing types—compatible in scale with detached single-family homes—that help meet the growing demand for walkable urban living.¹

SECTION 2

The Case of Cape Cod

While Missing Middle housing is applicable everywhere, Cape Cod's strong seasonal economy creates a unique housing market that is complicated by many factors and demonstrates a need for additional housing types.

Condo Community
Falmouth, MA





Figure 2-1. Maps illustrating year-round population and second home trends by sub-region

Source: Cape Cod Regional Policy Plan

Cape Cod's Missing Middle

Creating a variety of housing units that are affordable is essential to accommodating a multitude of lifestyle needs and young families and professionals being able to call Cape Cod home.

ABOUT THE REGION

Cape Cod, a peninsula off the coast of Massachusetts, extends sixty miles into the Atlantic Ocean with a perimeter of more than 500 miles of coastline.² The region, also known as Barnstable County, is comprised of fifteen towns and roughly 214,000 year-round residents.³ Known widely for its natural beauty, historic character, and expansive salt- and freshwater environments, Cape Cod is a global tourist destination and contains more than half of Massachusetts second-homes.⁴

The county is divided into four sub-regions; Upper-, Outer-, Lower-, and Mid-Cape, which are each adversely affected by the region's seasonal economy.⁵ Multiple factors, including Cape Cod's seasonality, zoning laws, and the 2008 recession, have converged

and sparked a housing crisis throughout the county. The Median Home Value is increasing faster than the Annual Median Income (AMI), meaning the percentage of cost-burdened households is increasing.⁶ In general, Lower- and Outer-Cape have higher seasonal populations and economies more acutely focused on tourism while Upper- and Mid-Cape have more stable year-round residents and employment opportunities.⁷ While the entire county is experiencing a housing crisis and its effects, the disparity between sub-regions emphasizes the need for a regional, inter-municipal strategy to approach the housing issues on the Cape that echo those occurring throughout the entire county. Finding a balance between the support of residents, workers, visitors, and the environment is crucial to the long-term health of the region.

01 UPPER-CAPE

Bourne
Falmouth
Mashpee
Sandwich

The Upper-Cape directly abuts the Cape Cod Canal and is connected to the rest of Massachusetts via the Bourne and Sagamore Bridges. Due to its proximity to the mainland, the Upper Cape is less seasonal than the sub-regions to the East. Upper-Cape maintains higher median incomes and lower median home prices. Additionally, Bourne and Sandwich have the youngest populations and highest amount of year-round housing when compared to other Cape Cod towns. While the area does not have any significant natural resources, it is a hub for oceanographic research, including Woods Hole Oceanographic Institute. The Upper-Cape is also home to Joint Base Cape Cod; approximately 22,000 acres of federal land, with 15,000 acres classified as the Upper Cape Water Supply Reserve.⁸

02 MID-CAPE

Barnstable
Dennis
Yarmouth

The Mid-Cape is the commercial heart of Cape Cod. Barnstable, the largest town with the highest population, contains one-third of all built commercial square footage throughout the peninsula. In addition to the regional mall, there is significant development along Route 28 in Yarmouth and Route 132 in Barnstable. The Mid-Cape houses approximately 40% of the year-round population on Cape Cod and the primary employment opportunities are within education and health services. As is true with the entire region, the Mid-Cape has a higher seasonal population and more tourism-centric economy heading East away from the Cape Cod Canal.⁹

03 LOWER-CAPE

Brewster
Chatham
Harwich
Orleans

The Lower-Cape is more seasonal than Mid- and Upper-Cape, but not quite as seasonal as Outer-Cape. Development and housing density decreases, tending more towards rural, as the Lower-Cape includes Nickerson State Park and Punkhorn Parklands. The sub-region has the oldest population and highest median home prices, as well as higher median incomes than Mid-Cape. Employment opportunities are more closely tied to tourism, including retail, and leisure and hospitality.¹⁰

04 OUTER-CAPE

Eastham
Provincetown
Truro
Wellfleet

The Outer-Cape is the most seasonal, in terms of population, housing, and employment, and more rural than the rest of Cape Cod. More than half of the housing is for seasonal use and Truro has the lowest year-round population at just 1,738. Unsurprisingly, Truro also has the highest percent of seasonal housing units totaling 73% of the housing stock. Total housing unit count for each town is well above the number of year round residents. Much of the Outer-Cape is protected as the Cape Cod National Seashore. Wildlife and recreation are abundant but development is limited as the national park encompasses over 27,000 acres of the Outer-Cape.¹¹



Dennis Port, MA

Creating a variety of housing units that are affordable is essential to accommodating a multitude of lifestyle needs, including young families and professionals who would like to be able to call Cape Cod home.

A SEASONAL ECONOMY WITH YEAR-ROUND PROBLEMS

In 2018, the Cape Cod Commission (CCC) hired Union Studio to identify strategies for meeting an increased demand for diverse housing types. The CCC is the regional planning and regulatory agency for Barnstable County. Through the CCC, Union Studio worked with several towns, including, Falmouth, Eastham, Orleans, and most recently Hyannis, to promote awareness, discern community preference, and to illustrate how Missing Middle housing can strengthen the resiliency of each town. This partnership was well timed as Barnstable County and several of its subsidiaries had recently analyzed and compiled reports regarding local housing trends, concerns, and alternative strategies.

In the summer of 2017, Barnstable County and the CCC published the “Regional Housing Market Analysis and 10-Year Forecast,” reporting changes in the composition and market demands of housing on Cape Cod. The study identifies current housing, economic, and population trends, and future projections. Additionally, the report recommends alternative housing types and strategies for decreasing the current affordability gap for all Cape Cod residents.¹² The “Regional Housing Market Analysis” complements the CCC’s Regional Policy Plan, which was last updated in 2018. This fifth iteration of the Regional Policy Plan

outlines development strategies with an emphasis on the environment, the region's natural resources, affordable housing, and maintaining the regional character of Cape Cod. Enhancing and protecting the built environment, along with the creation of diverse housing types, are key components of the Regional Policy Plan in supporting Cape Cod's population.¹³

As the "Regional Housing Market Analysis" report indicates, Cape Cod's housing market has been impacted by a number of macro-economic factors, such as the 2008 recession, the aging baby-boomer population, and the region's seasonal economy.¹⁴ Combined, these conditions have resulted in an over-strained housing market and Cape Cod is currently experiencing a housing shortage. If left unchecked, the situation will only worsen. By 2025, the population is projected to grow by 6,200 people while 66.7% of the entire population will be over forty-five years old.¹⁵ Demographic changes significantly affect the housing market as young professionals relocating for work will need housing that fits their budget, just like retirees

and "empty nesters" who may be looking to downsize.

Cape Cod is unusual in that there is a housing shortage even though housing units outnumber residents in several towns. This is due to the region's renown as a tourist destination and subsequent seasonal housing market. Due to this seasonal demand, year-round housing is unattainable for many Cape Cod residents.¹⁶ From 2010 to 2015, the number of year-round units decreased by 3,000 due to the conversion of existing housing units to seasonal rentals.¹⁷ The surge in seasonal housing comes in the wake of the 2009 housing market crash, as wealthy households less affected by the recession were able to purchase second-homes on Cape Cod at a lower cost. Due to the high demand, the market gained momentum and the trend for seasonal homes continues.¹⁸

The limited year-round housing market and traditional zoning laws endorsing the detached single-family home, have coupled to establish a homogenous



Figure 2-2. Camp Edwards Barracks, Bourne c. 1940

Source: Library of Congress

housing market with little variety. However, in terms of a home, one size does not fit all. Many households, living on Cape Cod and nationally, are searching for housing alternatives that better match evolving family demographics and difficult financial situations.¹⁹

Increasing housing variety on Cape Cod is essential to improving economic trends. Without affordable housing for current and potential employees, employers lose their workers to businesses across the canal, who are able to pay higher wages and offer cheaper housing.²⁰ On Cape Cod, there is a \$28,950 deficit between the income needed to afford a median-priced home (a \$99,350 AMI for a \$346,000 home) and the actual median income for Cape Cod, which is \$70,400.²¹ Additionally, there is a \$15-20 deficit between the median hourly wage and the wage needed to rent a one- or two-bedroom apartment.²²

LOW-DENSITY DEVELOPMENT TRENDS

As Cape Cod continues to grow, how it grows will have a strong impact on the region's economy, natural and built environments, and quality of life. Historically:

- Decades of municipal decision-making limiting growth have protected natural resources and made for a Cape Cod known for its rich landscape, fresh air, and miles of beaches.
- Local zoning laws have separated and spread out land uses, while state and federal highway programs made spreading out simple and cost effective.
- Federal tax policies, combined with local zoning laws, have contributed to establishing the single-family home as the predominant form of housing on Cape Cod.

Cape Cod communities are increasingly recognizing the problems associated with low-density development, which have both contributed to and been magnified by the region's success as a vacation destination. As a whole, Cape Cod is turning towards housing density as a lens through which to address growth.

Cape Cod can continue to grow by finding opportunities to implement development into existing urban centers; seamlessly fitting into the existing density while encouraging walkable communities and year-round and seasonal jobs. Applying a more compact, mixed-use development pattern characteristic of historic village centers combats sprawl while maintaining the Cape Cod that tourists and residents know and love. This will also provide the opportunity to increase housing diversity, which is crucial to supporting the wide range of household types that want to call Cape Cod home.²³

A HISTORY OF CAPE COD: FROM FISHING VILLAGES TO RESORT TOWNS

The Cape Cod region was inhabited by the Mashpee Wampanoag tribe²⁴ when the first permanent European settlement, Sandwich, was established in 1637.²⁵ The towns of Barnstable, Yarmouth, and Eastham shortly followed, and the region was unified as Barnstable County on June 2, 1685.²⁶ While Sandwich, Barnstable, and Yarmouth are thought to have developed as concentrated settlements (four- to ten-acre residential plots), Eastham, as the most remote "first generation" settlement, was comprised of larger farmsteads of around 100 acres.²⁷ Of the following communities, the town of Falmouth, established in 1688, was the only other substantial settlement. Harwich, Chatham, Brewster, and Wellfleet were significantly smaller, widely dispersed, and likely for seasonal use only.²⁸ In 1692, the islands of Martha's Vineyard and Nantucket, previously under the jurisdiction of New York, were transferred to Massachusetts, establishing the extents of the region as we know it today.²⁹

By 1750, Cape Cod had mostly transitioned from an agriculture economy to a maritime economy with a focus on fishing, whaling, and trade.³⁰ Within the county, Barnstable became a primary harbor, supported by the smaller harbors of Provincetown, Chatham, Wellfleet, and Falmouth. Regional trade regularly extended from Barnstable to Boston in the north and New York City in the south.³¹ Through the eighteenth century, due to increased birth rates,



Figure 2-3. Cape Cod Aerial

Source: Tales of Cape Cod

immigration, and maritime success, towns continued to grow and expand along the coastline.³²

Larger towns, like Barnstable, developed in concentrated clusters that were ultimately separated into distinct parishes, such as Cotuit, Centerville, and Hyannis. Residential plot size increased slightly to six- to twelve-acres towards the heart of town and 50- to 100-acres on the outskirts. Development grew linearly; taking advantage of the harbor and roads leading in and out of town.³³

Economic growth continued until the mid-nineteenth century. At this time, both the collapse of the whaling industry and concentration of the fishing industry to larger ports with new deep-water technology, meant that development in many Cape Cod towns stalled.³⁴ This resulted in increased density, especially in Provincetown at 500 persons per square mile, as it was the largest port in the county at that time.³⁵ The Civil War further spurred on a period of economic decline, which began the transition of Cape Cod from a maritime to a seasonal economy.³⁶

The influx of seasonal tourists from the surrounding cities re-sparked economic growth throughout the region. Land transportation, which had always been secondary to water routes, experienced significant improvement. By 1873, the railroad was extended all the

way to Provincetown, and by 1890, almost every single town in the county had railway access.³⁷ Additionally, from 1884 to 1916, the private “Dude Train” operated all summer long to bring tourists and wealthy Bostonians to resorts and seasonal residences on Cape Cod.³⁸ The rise of summer resorts, and increase in employment opportunities, resulted in considerable economic relief throughout the county.

Throughout the early twentieth century, the advent of the car and construction of highways further secured Cape Cod’s place as a popular (and easily accessible) summer destination.³⁹ In 1935, two bridges were constructed to replace the previous drawbridges that had spanned the Cape Cod Canal. These bridges, still known today as the Bourne and Sagamore Bridges, increased the ease of automobile travel.⁴⁰ The canal, which had been initially proposed over 100 years earlier, officially opened in 1914 to more efficiently connect trade along the East Coast.⁴¹ In 1936, the canal was expanded for safer maritime travel.⁴²

During the first half of the twentieth century, population increased by 26% in Barnstable County and well over that in resort-oriented towns like Falmouth, which increased by 76%.⁴³ By this point, Cape Cod had firmly established itself as a prominent vacation destination with a seasonal economy and concurrent development trends.

Cape Cod at a Glance

The following timeline emphasizes key dates that are crucial to the development of Cape Cod in relation to its current housing shortage. The region has transitioned from a traditional maritime economy to a tourism-driven industry, and the events below paint a larger social and economic picture of how this came to be. Hopefully, this timeline illustrates the rich history of Cape Cod and the complexity of factors working in tandem to create current housing conditions within the region.



Fig. 2-7

1692

Massachusetts acquires Martha's Vineyard and Nantucket from New York

1750

Fishing and offshore whaling are major economic activities



Fig. 2-8

1848

Massachusetts railroad service first extended to Sandwich, expanding transportation options to the Cape and starting a resort boom



Fig. 2-9

1637

Town of Sandwich established as the first permanent European Settlement

1685

Barnstable county established

1692-1775

Rise of maritime economy based on fishing, whaling, and coastal trading

1775-1830

Towns grow due to the expansion of diverse economic opportunities

1800's

The end of the whaling industry causes economic hardship and the tourism economy begins to grow as a result

Figure 2-4. Map of Sandwich Village, 1884, Sandwich Historical Society

Figure 2-5. Provincetown, MA, 1939, Old Photo Archive

Figure 2-6. Map of Cape Cod Railroad, 1880, Cape Train History

1914

The Cape Cod Canal opens on July 24, 1914, allowing shorter and safer bypass of the Cape. In 1935, the canal is expanded from 100 feet to 480 feet wide⁴⁶

1935

The Bourne, Sagamore, and railroad bridges open, replacing the inefficient 1916 drawbridges. The rise of the automobile and resultant bridges enabled more widespread, car-centric development and ease of access for seasonal visitors and residents⁴⁷



Fig. 2-10

1991, 1996, 2002

The CCC releases its Regional Policy Plan

2009

The Great Recession and rapid recovery of wealthy greater-Boston households contributed to purchase second homes on the Cape, converting many year-round homes to seasonal homes



Fig. 2-11

1884-1916

Seasonal "Dude Train" from Boston to Cape Cod in operation

1950's

Construction of the Mid Cape Highway (US 6), catalyzing major growth throughout the Cape and further expansion of seasonal a economy⁴⁴

1959

As the rise of the automobile and construction of the highway caused railroad travel to decline, year-round passenger service was discontinued

2008

Air BnB founded¹⁰

2005

HomeAway launches, purchases VRBO⁴⁵

2009

The CCC releases its Regional Policy Plan

2017

CCC releases housing market analysis, highlighting Cape's alarming housing shortage

Figure 2-7. Cape Cod Canal bridge, 1935, Boston Globe Archive

Figure 2-8. Home for Sale in Dennis Port, MA



Fig. 2-12

Fun Fact 01

THE CAPE COD COTTAGE

When the term “Cape Cod” house was coined in 1800, the original Cape Cod style home had already been in existence for over 100 years. These practical homes were characterized by shingle-cladding, central kitchen hearth, and an asymmetrical facade, and are now referred to as half or three-quarter capes. The popularity of the style spread throughout New England and New York and had even reached the Great Lakes by 1830. As the Cape Cod house migrated across the nation, it acquired regional variations and characteristics representative of the times, such as dormers or a gambrel roof. The early twentieth-century saw a resurgence in popularity of the Cape Cod home with the advent of the Colonial Revival Style. These homes were larger, full-capes with symmetrical facades but they often retained their central chimney, steep roof, and modest aesthetic.⁴⁸

The half Cape (or single Cape) was the starter house of its time intended for the growing family or fortune, as one could upgrade it to a three-quarter Cape and

then a full Cape with later additions. Full Capes were often symmetrical with two windows on each side of the door and could be expanded in the back or on the side, while half Capes typically had only two windows on the façade.⁴⁹ The Side Hustle House (Fig. 2-13) is reminiscent of the Cape Cod house, as it is built to be expanded upon. Flexible housing scenarios provide adaptability for economic growth and allow families to age in place. The home addresses many of the housing issues, like housing choice, that Cape Cod is currently facing..

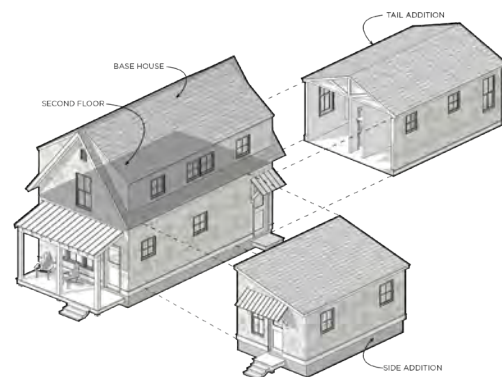


Fig. 2-13

Figure 2-9. “Cape Cod” Style Home in Hyannis, MA
Figure 2-10. The Side Hustle House, Union Studio



Fig. 2-14

Fun Fact 02

THE DUDE TRAIN

Before the age of private jets (and even private cars), the wealthiest Cape Cod- and Martha's Vineyard-goers traveled to their summer houses by private train. The "Dude Train", which operated during the summers between 1884 and 1916, transported wealthy individuals, many who worked and lived in Boston, to and from their summer residences. The exclusive Dude Train, whose many nicknames included "The Flying Dude" and "The Dude Flyer," served members (and guests) only and was not shown on any official timetables. Despite over three decades of operation, its schedule remained consistent. During the weekday, the Dude departed Woods Hole at 7:40am and arrived at Boston's Kneeland Street Station (South Station starting in 1899) at 9:25am. The Dude returned to Woods Hole in the afternoon, departing Boston at 3:10pm for a 4:50pm arrival. This schedule allowed businessmen to have relatively long days in the office and return to summer residences in time to join their friends and families for dinner or evening cocktails. Although the cost of membership was expensive,

around \$2,500 plus fair by today's standards, the Dude promised luxury and speed; traveling the distance an hour faster than public trains on the same line. While the Dude Train stopped running in 1916, it had already laid the tracks for the establishment of the region as a convenient and popular location for wealthy families to maintain a seasonal home.⁵⁰



Fig. 2-15

Figure 2-11. The Dude Train, 1895, Baldwin Coolidge, Historic New England

Figure 2-12. Woods Hole Terminal, 1902, Woods Hole Historical Museum Archives

SECTION 3

Cape Cod's Affordable Housing Shortage

Missing Middle housing can supplement the existing housing market with much-needed variety - providing options at a wide range of price points.

Cottage Community
Dennis Port, MA





Figure 3-1. Major causes of Cape Cod's housing shortage

Source: Quinn and Coxe, "Housing on Cape Cod: The High Cost of Doing Nothing." Housing Assistance Corporation. 2018.

Can Missing Middle Housing Save the day?

According to a 2017 report by the Cape Cod Commission, there is a need for an additional 4,441 rental units.⁵¹

THE MULTI-FACETED ROLE OF MISSING MIDDLE HOUSING

Missing Middle housing can provide several benefits to a region, including the addition of housing choice. Housing choice is crucial in providing ample housing for diverse communities with a range of income and familial compositions. Missing Middle housing is not synonymous with affordable housing but it can help alleviate an affordable housing shortage by increasing supply and providing a myriad of building types. The following section explores the role of Missing Middle housing in an affordable context, but keep in mind that Missing Middle housing is most successful when it is able to support a mixed-income community. Although Cape Cod is currently experiencing an affordable housing crisis, the cost

of housing is steadily increasing, affecting more households every year and creating a greater urgency for housing choice.

CONVENTIONAL ZONING AND VACATION RENTALS HAVE EXASPERATED CAPE COD'S AFFORDABLE HOUSING CRISIS

The forces behind Cape Cod's affordable housing shortage are multifarious, interdisciplinary, and undeniably complex. However, there are two factors that are recognized to have had a significant impact on the lack of affordable housing on Cape Cod - traditional and outdated euclidean zoning combined with the region's seasonal vacation culture.⁵²

THE BASICS OF AFFORDABLE HOUSING

Affordable housing falls within two categories: 'A'ffordable and 'a'ffordable. Respectively, the main distinction is 'A'ffordable housing is typically federally funded and 'a'ffordable housing is more informally occurring. There are many different levels of affordability and it is necessary to provide an ample cost-selection to effectively match varying annual incomes. At its base, affordable housing is housing that does not financially over-burden the household.

The concept of affordable housing applies to both the rental and home-ownership markets, and there is public (state and federal) and private financial assistance available for both types. The

following charts (Figure 3-3 and 3-4) break down the types of rental housing in the United States as the majority of low-income households do not own the home in which they live.⁵³

INCREASE DENSITY AND HOUSING CHOICE

As a region dominated by a housing mono-culture, Cape Cod needs to consider providing a variety of housing types that will intentionally and thoughtfully increase density and provide much needed housing choice. In combination with local programs, such as the Housing Assistance Corporation's landlord incentive program (Figure 3-2), and the growing demand for community engagement addressing questions of housing, Cape Cod can benefit

from prioritizing Missing Middle housing development. This may serve to stem the exodus of locals moving off-Cape, ease the affordable housing shortage, and strengthen the resiliency of the community.



Figure 3-2. Advertisement urging second-home owners to consider converting a seasonal to a year-round rental

Source: haconcapecod.org

What is Affordable Housing?

'A'ffordable		'a'ffordable	
<div> FEDERAL FUNDING</div> <p>'A' affordable housing is housing that has been designated as affordable for a predetermined amount of time and relies on subsidies or other forms of government funding. This includes public housing and privately-owned subsidized or tax credit developments. Public housing and housing vouchers are both funded and regulated by the department of Housing and Urban Development (HUD) and administered through public housing authorities (PHAs) across the country. The Low Income Housing Tax Credit (LIHTC) program is a tax incentive for housing developers, not a subsidy, regulated by the IRS. All 'A'ffordable housing programs have requirements for eligibility, and may include income restrictions calculated from the Area Median Income (AMI), age, familial status, or disability status. Additional stipulations, such as housing inspections and annual income verification, may be required.</p>		<div> > 30% OF INCOME SPENT ON HOUSING</div> <p>'a' affordable housing more generally refers to housing that does not exceed over 30% of the renter's income. Although there may be federal subsidies or tax incentives available, this is not the major source of funding and the same rental limitations, such as income, age, or disability status, typically do not apply. 'a'ffordable units may be private employer programs, such as "workforce housing," an accessory dwelling unit, like an apartment over a garage, or a large single-family home that has been divided into small "micro-unit" rentals. These apartments are mostly market-rate rent, not subsidized, but the concept of what is 'a'ffordable is based off of the household's income and changes for each individual's financial situation.</p>	
<div> HOUSING AUTHORITIES</div> <p>PHAs are located nationwide and are often responsible for administering vouchers and public housing. Funding is limited, resulting in long wait times, but PHAs are able to provide rental assistance to those with little or no income.</p>	<div> PRIVATE DEVELOPERS</div> <p>Private developers are mainly responsible for the development of LIHTC or subsidized housing projects. While subsidized units are often accessible to households with very little income, LIHTC projects are geared towards those with moderate incomes.</p>	<div> WORKFORCE HOUSING</div> <p>Workforce housing is provided by employers as a more affordable housing option (and a recruitment and retention strategy) for employees. However, the term has recently, and controversially, been used to define affordable housing for "working class" professions, like fire fighters and teachers.</p>	<div> PRIVATE LANDLORD</div> <p>"Private Landlord" is being used to define individuals who own small multi-family units or additional income apartments, such as a stacked-flat or an apartment over a garage. These rents are market rate but may also be available to households with Housing Choice Vouchers.</p>
<div> AFFORDABLE RENTAL HOUSING</div> <p>Affordable rental housing comes in a variety of types in order to be accessible to a diverse population with unique financial situations.</p>			

Figure 3-3. 'A'ffordable vs 'a'ffordable Rental Housing

Source: usa.gov

Figure 3-4. 'Affordable Rental Housing Comparison Source: usa.gov

	Income Restrictions	✓	✓	✓	✓	
	Family, Senior, or person with a disability	✓	✓			RENTAL RESTRICTIONS
	US citizen or eligible non-citizen	✓	✓			
	You find the housing	✓		✓	✓	
	Wait List	✓	✓			PERSONAL CONSIDERATIONS
	Affordability	\$\$\$	\$\$\$	\$\$\$	\$\$\$	

HOUSING CHOICE VOUCHERS (FORMERLY SECTION 8)

A housing voucher is a portable subsidy attached to a household instead of a unit. Vouchers are government funded and distributed through PHAs. Funding for PHAs is limited and variable so there is typically a wait list. The voucher is applied to the market rate rent of a privately-owned unit and must be inspected for health and safety. The household is responsible for a set percentage of the rent, in some cases \$0.

PUBLIC HOUSING

Public housing is subsidized housing that is typically administered through PHAs. The subsidy is attached to a unit. Most households in public housing are classified as “extremely low” income as their income is around 30% of the AMI. Nationwide, public housing is in need of approximately \$45 billion in repairs as Congress has not approved new funding since the 1990s.⁵⁴

PRIVATELY-OWNED: LOW INCOME HOUSING TAX CREDIT (LIHTC)

LIHTC housing has minimum and maximum income restrictions but can be combined with additional sources of funding to increase affordability.⁵⁵ For a project to qualify for tax credits a set percentage of the units must be designated as ‘Affordable. The rent is attached to the unit and does not change with the household’s income.⁵⁶ The LIHTC program is responsible for the majority of new affordable housing in the country.⁵⁷

PRIVATELY-OWNED: SUBSIDIZED HOUSING

Subsidized housing has maximum income restrictions based on the Area Median Income (AMI). The rent is attached to a unit but changes in relation to the household’s gross annual income. Subsidized housing is more suitable for households with very little, or no, income as they are only required to pay a percentage of their income as rent.⁵⁸ Funding for subsidized housing is often available through the government.

The Reign of the Detached Single-Family Home

82% of the housing stock on Cape Cod is detached single-family homes.⁵⁹

PROBLEM 01: CONVENTIONAL ZONING LAWS



Post World War II, there was a building industry boom focused on single-family homes. Picture the “American Dream” and you can clearly visualize the detached home on a large yard in the middle of suburbia. This housing type has dominated across the United States to this day, and as a result, formed the basis for many of our current zoning ordinances.



The antithesis of the single-family home is the multi-family apartment complex, which quickly became associated with low-income, and often minority, populations and relegated to less desirable parts of the town or city. Financing to this day has been based around these polar-opposite zoning types, making it hard to finance a small-scale multi-family home as it is still seen as undesirable within a residential context.



On Cape Cod the trend continued and zoning was largely separated into single-family residential use and commercial and/or industrial use. In an attempt to preserve privacy, and adhere to limited water and sewer capacities, homes on Cape Cod required at

least one to two acre lot sizes with large setbacks. To think about this in other terms, each house needed to be built on its own football field.⁶⁰



On Cape Cod, 82% of the housing stock is detached single family homes compared to 52% in Massachusetts and 62% nationally. Currently, the cost of homes on Cape Cod is increasing disproportionately to the Area Median Income (AMI). Homes are in short supply and as a result are becoming too expensive for locals to afford. To further compound the situation, the median home size on Cape Cod has increased faster than the regional and national average, further pushing the cost of housing out of reach for even those earning above-average salaries.⁶¹



Updating zoning ordinances, to decrease minimum lot sizes and allow multi-family housing within existing single-family residential zones would create the opportunity to increase the amount of affordable housing on Cape Cod, and pave the way for constructing a wider variety of building types.

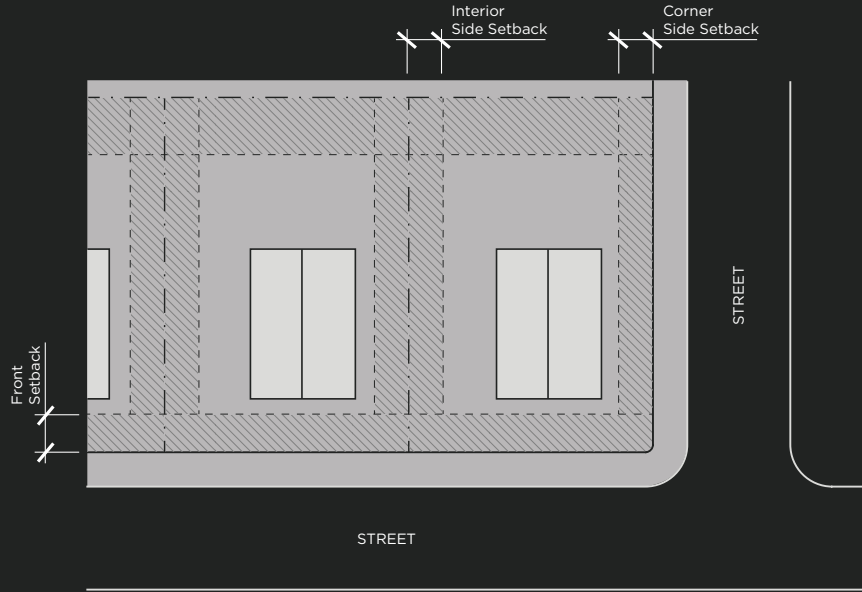


Figure 3-5. Conventional Residential Zoning Setbacks

Source: Union Studio

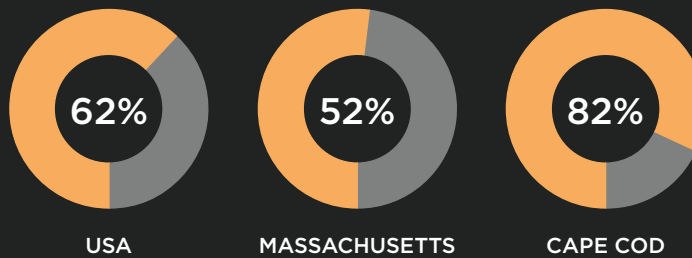


Figure 3-6. Percentage of Housing Stock that is Detached Single-Family Homes

Source: US Census Bureau, American Community Survey

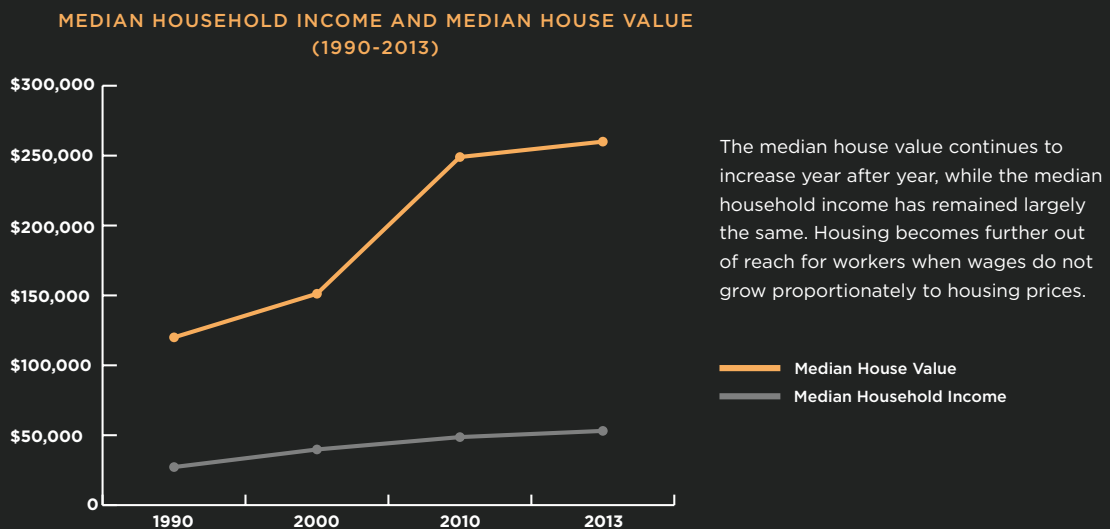


Figure 3-7. Median Household Income vs. Median House Value

Source: Quinn and Cox, "Housing on Cape Cod: The High Cost of Doing Nothing."

The Disappearance of the Cape Cod Local

72% of seasonal homes on Cape Cod are vacant most of the year.⁶²

PROBLEM 02: SEASONAL CAPE COD



Cape Cod's role as a seasonal vacation destination has escalated the affordable housing shortage. There are approximately 58,509 seasonal homes on Cape Cod, which is equivalent to 36.64% of the existing housing stock. In contrast, only 4.4% of the entire housing stock of Massachusetts is designated as seasonal. To make matters worse, 72% of the seasonal homes on Cape Cod are only occupied during the summer.⁶³ This means that although there is an affordable housing shortage on Cape Cod, there are thousands of homes that sit empty most of the year.



Cape Cod is seen as a desirable destination to vacation and retire and has become an ideal market for seasonal rentals. Companies like AirBandb and VRBO have made it even easier to convert one's home to a short-term rental and have seduced homeowners into the possibility of easy supplemental income. The problem is the purchasing power of second home buyers, which is higher than that of locals. The Area Mean Income for Cape Cod is \$67,374. Conversely, over 70% of second home buyers make more than \$100,000 per

year.⁶⁴ As a result, while there is already an over-abundance of short-term rentals, more and more homes on Cape Cod are being converted to seasonal homes as second home buyers continuously outbid locals. Out of the 38% of homes on Cape Cod that are second homes, only 19% are anticipated to be converted to primary residences in the next two decades, meaning that the use of second homes for seasonal rentals will remain steady.⁶⁵ However, due to a surplus of short-term rentals, second homeowners are already not making the profits they anticipated during the summer months.



Between the prevalence of single-family homes and their subsequent conversion to seasonal rentals, there is fierce competition among locals of all incomes for the same limited supply of available housing. The lack of available housing has forced locals to move off of the Cape, put pressure on employers to find and retain employees, and has led to a market inefficiency as limited options require people to live in the wrong size home for their needs.

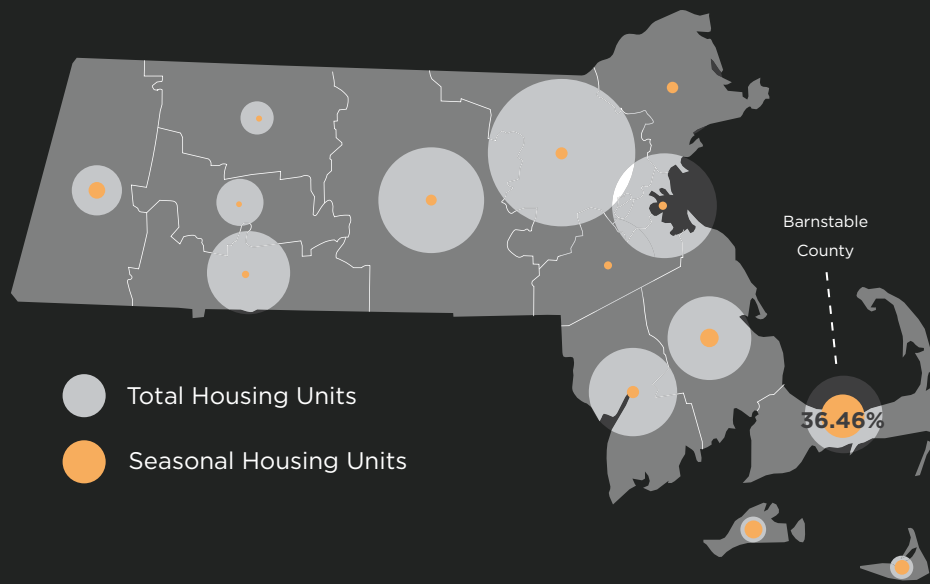


Figure 3-8. Prevalence of Seasonal Housing Units in Massachusetts

Source: Quinn and Coxe, "Housing on Cape Cod: The High Cost of Doing Nothing."

38% OF HOMES ARE SECOND HOMES

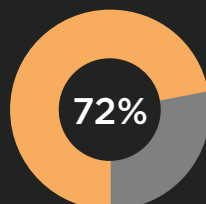


61,142
Second Homes

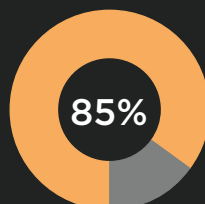
161,632
Total Homes in
Barnstable County

Figure 3-9. Second Homes in Barnstable County

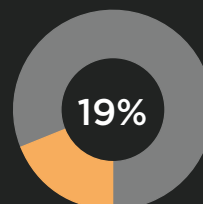
Source: US Census Bureau, American Community Survey



of seasonal homes
are only occupied
in the summer



of second homes
are single-family
homes



plan to convert 2nd
home to primary
residence within the
next 20 years

Figure 3-10. Seasonal and Second Homes on Cape Cod

Source: US Census Bureau, American Community Survey

The Grass is Cheaper Across the Canal

25% of Cape Cod's year-round workers commute over the bridges.⁶⁶

CONSEQUENCE 01: LOCALS CANNOT AFFORD TO LIVE ON CAPE COD

One of the most detrimental consequences of the housing shortage on Cape Cod is that locals are moving away. People are forced to pay over 30% of their income on housing, meaning housing is no longer affordable and many households are financially overburdened. Many locals moving off-Cape are young professionals and families looking for less expensive housing and higher wages over the bridge. This trend has a significant impact on Cape-based employers.

CONSEQUENCE 02: BUSINESSES CANNOT RECRUIT EMPLOYEES

The housing crisis on Cape Cod is affecting employers in two major ways; they are losing employees and having a hard time recruiting new ones. As homes become too expensive, locals, especially young professionals, are moving off of the Cape. With an increase in commuter traffic, both the Sagamore and Bourne bridges are becoming more congested throughout the workweek. Mid-, lower-, and outer-cape are especially affected by the decrease in a local workforce as they are not

in easy commuting distance from the bridge. Currently, around 25% of Cape Cod's year-round workers commute over the bridges.⁶⁷ To compensate, many businesses on the lower- and outer-Cape have needed to close during the winter and even reduce hours during the summer. This puts a strain on the local population as they have to drive further, often to Hyannis, for basic services.⁶⁸

The housing shortage also means that businesses are having a hard time recruiting new employees from off-Cape. Prospective employees do not want to relocate to the Cape out of concern for the lack of housing. As a result, employers are forced to pay more for off-Cape workers to entice them to make the daily commute across the canal. This will ultimately lead to an increase in the cost of living on Cape Cod as businesses raise prices to compensate for the increased wages.

The up-tick in a commuting workforce also means that Cape Cod communities suffer. Commuters do not have the same ties and attachment to the community as a local workforce would have and are therefore not as invested in its future.⁶⁹

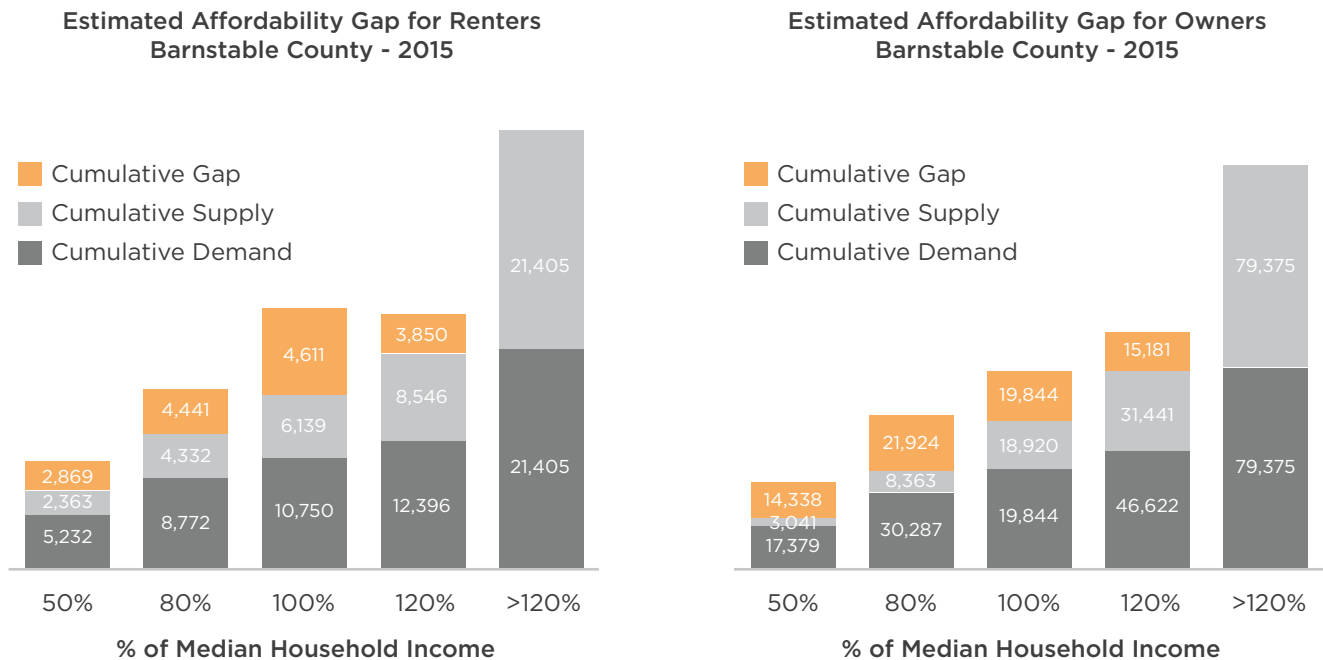


Figure 3-11. Affordable Unit Gap for Renters and Owners

Source: US Census Bureau, American Community Survey

CONSEQUENCE 03: PEOPLE LIVE IN THE WRONG SIZE HOUSE... WHICH CAUSES MARKET INEFFICIENCIES

Another major consequence of the housing shortage on Cape Cod is that people are living in the wrong size house. Since most of the housing stock on Cape Cod is single-family homes there is very little variety to accommodate diverse household compositions. With such fierce competition for year-round housing, partially because locals are being priced out by second home-buyers, people are forced to commit to whatever they can find. This means that a young professional, living alone, may be renting a three-bedroom house that would have been better suited for a family of four.

The lack of housing variety also effects locals at major life transitions. If a couple's youngest child just left for college, for example, they may want to downsize their home. With the lack of housing and variety available, the family will most likely have to stay in their over-sized home or move off of Cape Cod to find a more appropriate and affordable home.⁷⁰ This leads to an inefficient housing market where the housing stock available does not match the housing stock needed.

The issue of market inefficiency is also exasperated by the seasonal rental market as year-round renters are unable to find year-round housing. It is not uncommon, for young professionals especially, to rent a seasonal house during the winter months, and jump from

couch to couch during the summer. The monthly rents in the winter may equal the weekly rents in the summer in some locals, making housing security non-existent for many, and highlighting the need for year-round rentals.

Additional Consequences: Stopping the Exodus

27.5% of Barnstable County's population is over the age of 65.⁷¹

THE PROBLEM WITH RETIRING ON CAPE COD

One of the hardest hit populations on the Cape with regards to the housing shortage is the senior population as they rely most heavily on local healthcare employees. These healthcare employees often work short shifts for low pay. A home health aid might earn under \$12 per hour but needs to earn over \$22 an hour to be able to afford a two bedroom apartment.⁷² The employee may need to relocate off of Cape Cod to find affordable housing and commute over the bridge every day. For such low wages, routinely short shifts, and a long commute, the worker can most likely find the same work off-Cape and much closer to home.

This will ultimately lead to a shortage of healthcare workers and an increase in cost for services for the elderly. This is especially problematic as Barnstable County has the oldest population in Massachusetts, with 27.5% of its population over the age of 65.⁷³ Furthermore, many of the second home-buyers are purchasing homes to which they hope to retire to in the future. The problem with retiring on Cape Cod is multi-fold, as the Cape lacks the young, local workforce needed to replace the retirees who worked on the Cape.

Many retirees are staying in their single-family homes, despite a desire for a smaller and lower-maintenance property, because of the lack of affordable housing choices. According to the Cape Cod Commission, "if seniors were given the option of downsizing into appropriately sized units, this option could potentially fill about one-third of the current housing gap."

The issues surrounding being a senior on the Cape give a clear indication of how multi-faceted Cape Cod's housing problem is. Whether it be the inability to care for an overly-large property or an increase in the cost of necessary health services, retirees may find that Cape Cod is not the relaxing haven they had anticipated and is no longer sustainable on a fixed income.

CAPE COD'S MISSING CHILDREN

Cape Cod's housing shortage is also affecting the number of children living in the region. As year-round housing becomes too expensive for many to afford, young professionals and families are moving from Cape Cod. The outer-cape is being hit especially hard and school enrollment has dropped significantly. In

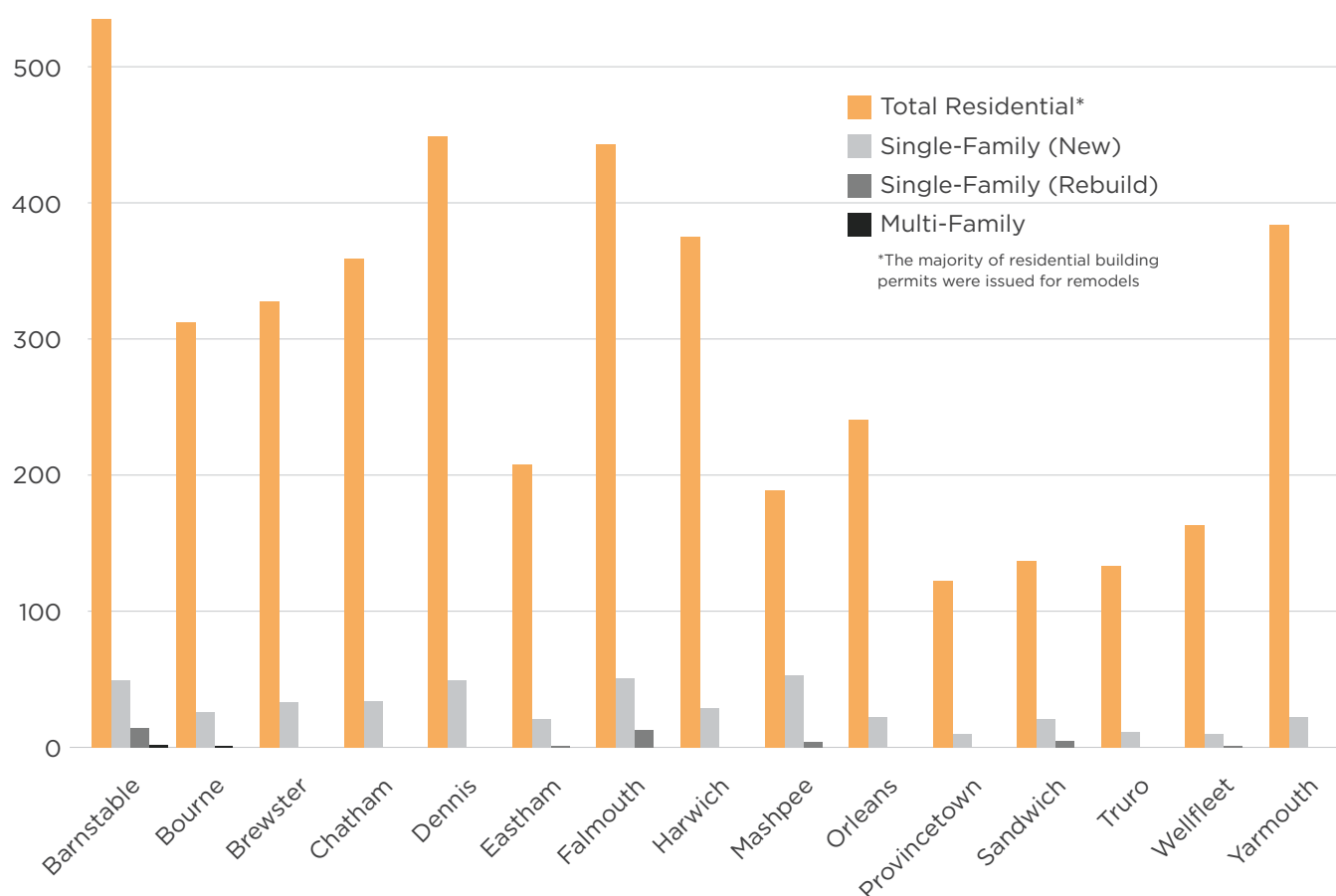


Figure 3-12. Number of Residential Permits Issued for Cape Cod during 2017

Source: capecodbuilders.org

Provincetown, only 5% of the population is under eighteen⁷⁴ compared to almost 20% in Massachusetts.⁷⁵ In response, many preschool and after-school programs have chosen to admit attendees free of charge to provide families with some relief from high housing costs and hopefully maintain a local workforce within a vibrant, mixed-age community.⁷⁶

A HOMOGENEOUS AND SEASONAL COMMUNITY

Locals of all ages are finding that Cape Cod is no longer sustainable as a year-round residence. As young families realize they can make significantly more money,

and find more affordable housing off of the Cape, not even nostalgia is able to persuade them to stay. Taking their children with them, schools are losing students and employers are losing a young workforce.

The elderly are retiring with no one to fill their newly vacated positions and are quickly realizing that Cape Cod is not affordable on a fixed-income. Healthcare continues to increase in cost as employees opt to live and work off-Cape, and seniors find they are unable to even downsize their homes for greater ease and affordability due to the lack of housing choice on Cape Cod. Meanwhile, the seasonal and second-home market continues

to grow, further increasing the disparity.

Although the picture painted here seems grim, increasing the variety and affordability of housing on Cape Cod will go a long way toward ensuring the stability of a year-round workforce. Besides programs to slow the conversion rate of year-round to seasonal rentals, such as the Housing Assistance Corporation's \$1,000 incentive campaign, introducing new affordable housing units is crucial.⁷⁷ This can be done by strategically increasing density to revitalize the housing market with types that have long existed on Cape Cod but seem to have been recently forgotten.

SECTION 4

Demystifying Density

Implementing creative approaches to achieve moderate density can add necessary housing diversity and strengthen Cape Cod communities.



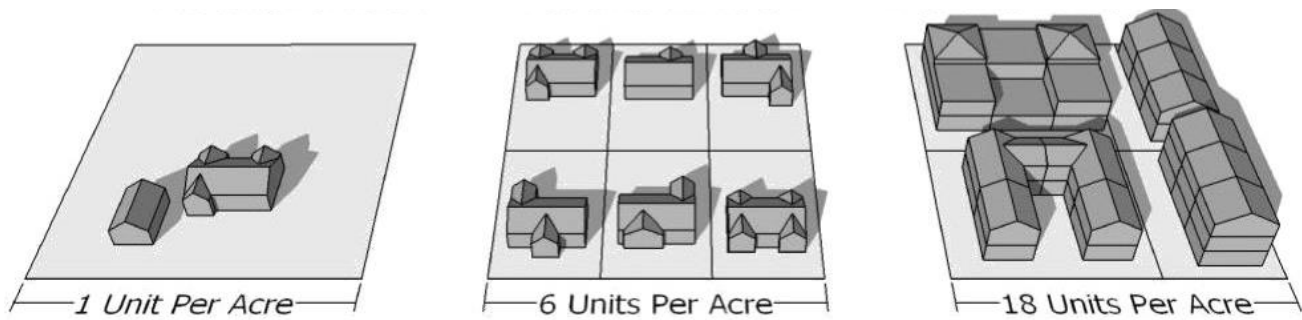


Figure 4-1. Density Diagram

Source: Union Studio

Density? Yes In My Backyard!

Is all density the same? Can we find options that feel “right” for the community?

THE DENSITY DISPUTE

Applying smart growth strategies and turning communities away from unrestricted urban growth requires creative approaches to achieve moderate density. When discussing housing, density is typically described in terms of how many residential units are located per acre of land, often expressed by dwelling units per acre (DU/acre). Density is most commonly associated with high-rise apartment buildings but this is a narrow understanding of its definition. Instead, density functions on a scale from low to high with moderate density as the idealized condition for many of Cape Cod’s village centers. Developing a clear understanding of density helps ease community concern and the common misconceptions that come with it. Cape Cod retail spaces, restaurants, offices, institutional buildings, and residential areas can all benefit from higher density, higher quality, and a vertical mix of

uses that help foster public activity and communal life. New housing, ranging from market-rate to basic workforce housing, should be the predominant upper floor use in new mixed-use projects.⁷⁸ Moderate density residential types, such as medium-scale apartment buildings or a manor house, can serve as appropriate development on the outskirts of village centers, helping to ease the transition between denser downtowns and more sparse residential neighborhoods.

Communities are often wary of neighborhood change, especially when density is mentioned. But density does not always have to mean the high rise buildings that people often fear. Initial studies in Falmouth, Eastham, and Orleans focused on the main commercial areas for each community -- the “transitional” areas at the edge of single family districts -- whereas in Hyannis the focus was on “context appropriate infill” in a historic residential district adjacent to “main street”.

20 DU/ACRE = 20 DU/ACRE

DENSITY CAN COME IN MANY FORMS...

Similar densities can occupy the same amount of space in many ways. Although they look quite different, both images to the right demonstrate 15-unit configurations upon a 3/4 acre lot (20 DU/acre). The left image was what the zoning regulations called for, while the image on the right is what was built by getting various waivers from the town.



Cottages on the Greene (East Greenwich, Rhode Island)

1 unit on 0.25 - 0.5 acres =
2 - 4 DU/acre



Typical Single-Family Home | Cape Cod

2 units on 0.12 acres =
16 DU/acre



Duplex | Pleasant Street, Sandwich

5 units on 0.27 acres =
18 DU/acre



Manor House | Main Street, Sandwich

3 units on 0.29 acres =
10 DU/acre



Manor House | Pleasant Street, Sandwich

11 units on 0.49 acres =
22 DU/acre



Walk Up | South Street, Hyannis

8 units on 0.4 acres =
20 DU/acre



Stacked Flats | Glenwood Ave & Chancery Lane, Falmouth

Common Myths About Density Explained



	 Compact	 Dispersed
LOCATION	Development occurs within a limited area, generally a traditional downtown, that has been designated for growth	Development is dispersed, often leapfrogging over previously developed areas to outlying areas
DENSITY	5 - 7+ units per acre	1 - 4 units per acre
FEATURES	Sidewalks Pedestrian oriented Mix of commercial and residential uses Multi-story, smaller lots conserve land	Few sidewalks Auto oriented Separate commercial and residential uses Single story, large lots consume land

Figure 4-2. Compact vs. Dispersed Development

Source: "Is Density Detrimental?"

COMPACT GROWTH HAS WIDESPREAD IMPLICATIONS

Density and its implications should be examined through multiple lenses, including: economic development, public finance, natural resources, and community character. Land use patterns affect personal income, productivity, and economic growth, as reductions in transportation costs due to higher density mean that households can reallocate their spending to better benefit from wealth and economic growth.⁷⁹ Additionally, property values of housing adjacent to higher density are more likely to increase than decrease.⁸⁰ Compact village centers, with density clustered around commercial cores, create vibrant, walkable communities that can generate a variety of housing types, including mixed-use. These dwellings may also be more affordable as density reduces land costs per unit.⁸¹

In general, higher density development is less expensive than dispersed development due to the

increased efficiency of infrastructure, utilities, and public services. For example, compared to a density of 4.5 dwelling units per acre, a density of one dwelling unit on five acres costs roughly 60%. This is due to increased infrastructure costs, directly correlated to the length of resources like roads and pipes, that are necessitated by low-density development.⁸²

Transportation can be thought about in a similar way. High density communities are less dependent on the car, are able to sustain viable public transportation, and individuals may be able to easily commute between home, shops, and work by foot or bike. With a decreased dependence on the car, higher density can also lead to healthier conditions, both for the inhabitants⁸³ and for the environment. Beyond a decreased auto-emission rate, higher density development also reduces energy consumption and preserves greenspace.⁸⁴ By consolidating and infilling development, natural resources can be better protected and utilized for recreation, agriculture, and wildlife.



Myth



Fact

Higher density development overburdens public schools and other public services and requires more infrastructure support systems.

Higher density housing requires less extensive and more efficient infrastructure and services, such as water, sewer, and school bus transportation, which reduces overall costs in comparison to lower-density development. Furthermore, although families with children boost the local economy, households with children are less likely to live in high-density developments.⁸⁵

Higher density developments lower property values in surrounding areas.

Several studies, including ones by the National Association of Homebuilders and Harvard's Joint Center for Housing Studies, have concluded that the construction of higher density development does not negatively impact property values in the vicinity. In fact, new high-density housing can signify a healthy and growing economy and actually increase property values.⁸⁶

Higher density development increases traffic congestion and parking challenges compared to low-density development..

Due to the proximity of businesses and residences, higher density development decreases automobile dependency in favor of walking, biking, car shares, and public transit. Therefore, it generates less traffic than low-density development per unit and creates opportunities for shared parking when needed.⁸⁷

Higher density development leads to higher crime rates.

The crime rates at higher-density developments are not significantly different from those at lower-density developments. Higher density communities also have a lower rate of traffic fatalities due to decreased automobile dependence.⁸⁸

Higher density development is environmentally more destructive than lower density development.

Higher density development allows for the preservation of more green space than lower density development as less land per unit is required. It is also more energy efficient and requires less construction of impervious services, which cause run-off and contaminate water quality, than low-density development.⁸⁹

Higher density development is unattractive and does not fit in a low-density community.

New England villages are historically compact so increased density can easily merge with and contribute to the local character. Higher density housing can also be infilled throughout existing low-density communities while being sympathetic to the existing environment, attractive, well-designed, and well-maintained.⁹⁰

No one in suburban areas wants higher density development.

Our population is changing and the identity of a household has become increasingly diverse. Higher density housing provides opportunities for affordable housing choice within existing neighborhoods, so that as a family evolves it does not need to break its ties to an established community.⁹¹

Higher density housing is only for lower-income households.

The single-family home was originally propelled into popularity by favorable government and financial conditions. However, with benefits like a lower environmental impact, proximity to shops and business, and diverse and vibrant communities, changing household demographics and social issues have established the desire for an alternative housing choice.⁹²

SECTION 5

Community Discussions

Every community is unique and community engagement ensures that proposed solutions are connected to and meet the expectations of the community.



Community Meeting
Newport, RI

Capturing Community Character

**Places that are truly loved will
be cherished and maintained.**

Union Studio was hired by the Cape Cod Commission to explore ways to help alleviate the shortage of housing on Cape Cod. Union Studio has conducted studies related to Missing Middle housing in communities on the Cape, including Falmouth, Orleans, Eastham, Hyannis, and Sandwich. Upon reviewing existing background studies and conducting initial research, Union Studio's next step is always to initiate community conversations to develop a mutual understanding of the problem and its implications and to collectively work towards a design solution. While the housing issue and its effects are experienced throughout Barnstable County, each town and sub-region is unique, and thus the architectural interventions in each community should reflect and respond to the local community.

These community conversations are essential to building trust. Residents may be wary of impending change, especially when increasing housing density is involved. Helping to communicate and illustrate the problem, why a project is important, and how it will help address the problem is essential to getting project support from the community. No one knows the character of a town better than the local community members themselves. Residents provide critical feedback that can direct the design processes and outcomes. Community engagement ensures that the imagined solutions are deeply connected to the community and the actual expectations of the people, and places that are truly loved will be cherished and maintained.

Visual Preference Survey

SAMPLE QUESTIONS

SECTION 1: BUILDING MASSING/SCALE



Do you think a building of this **scale** would be a good fit within the study area? (Select one)

Definitely a good fit	Probably not a good fit
Could be a good fit	Definitely not a good fit

SECTION 2: BUILDING CHARACTER/STYLE



Do you think a building of this **style** would be a good fit within the study area? (Select one)

Definitely a good fit	Probably not a good fit
Could be a good fit	Definitely not a good fit

When thinking about how best to incorporate moderate forms of transitional density in a given area of Cape Cod, Union Studio conducted a visual preference survey in each new study area to gauge sentiments surrounding housing types of varying scales and styles. Both the survey and community presentations show multiple examples of each type across the scale and style spectrum and ask participants to think about which options could fit in their respective communities. The data from each survey was analyzed and then used to design housing solutions that are reflective of the community's needs and respectful of existing context and character.

SURVEY TAKEAWAYS (EASTHAM, FALMOUTH, & ORLEANS)

- Generally speaking, respondents in Eastham were most comfortable with buildings ranging from 1 to 2 stories whereas respondents in Falmouth and Orleans were most comfortable with buildings that are 1.5 stories to 2.5 stories. In all three communities, respondents are generally not comfortable with buildings of 3 or more stories.
- In all three communities, respondents were most drawn towards traditional buildings with simple detailing. Respondents were least receptive to very contemporary buildings.
- Eastham was most receptive to contemporary styles, but this changed as buildings grew in scale.
- In general, style preferences for Falmouth and Orleans were similar. Orleans was slightly more comfortable with more ornate versions of traditional styles than Falmouth.

DO YOU THINK A BUILDING OF THIS **SCALE** WOULD BE A GOOD FIT WITHIN THE STUDY AREA?

SHORTEST

TALLEST

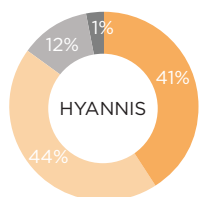
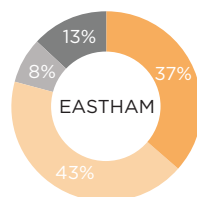
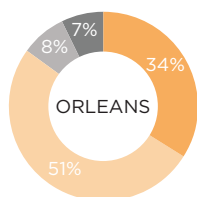
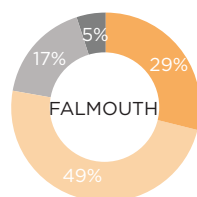
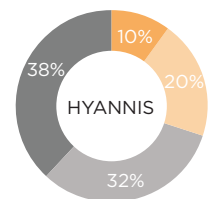
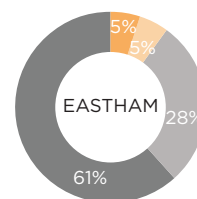
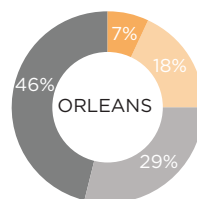
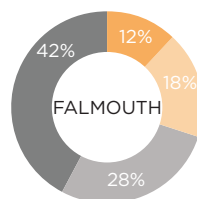
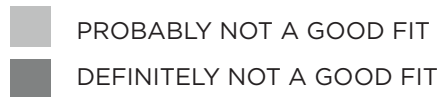
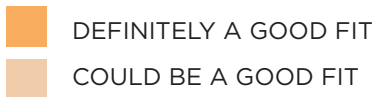
SINGLE-FAMILY



TOWNHOUSE



MULTI-FAMILY



DO YOU THINK A BUILDING OF THIS **STYLE** WOULD BE A GOOD FIT WITHIN THE STUDY AREA?

TRADITIONAL

CONTEMPORARY

SINGLE-FAMILY



TOWNHOUSE

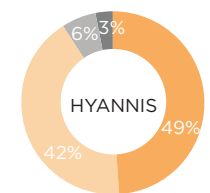
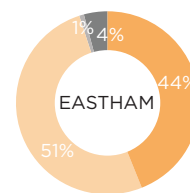
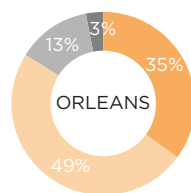
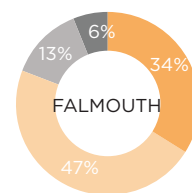
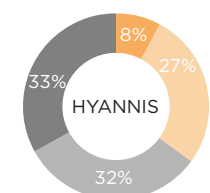
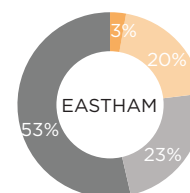
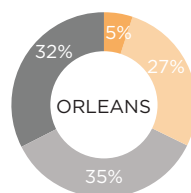
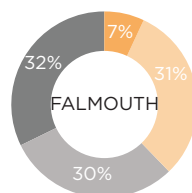


MULTI-FAMILY



DEFINITELY A GOOD FIT
COULD BE A GOOD FIT

PROBABLY NOT A GOOD FIT
DEFINITELY NOT A GOOD FIT



SECTION 6

Missing Middle Housing Types

Missing Middle housing types should be determined based on local character, precedents, and housing-stock.



Brewster Landing
Brewster, MA

The Truth About Missing Middle Housing

Missing Middle housing types should be calibrated to the scale and style of the surrounding built environment.

Missing Middle housing types should be calibrated to the region where they are being considered and re-introduced. For example, “West Coast” Missing Middle should, and does, differ from “East Coast” Missing Middle, as these regions have historically different building types and styles. Missing Middle housing should strengthen the character of a neighborhood, not detract from it.

When thinking in terms of the neighborhood context, scale is equally as important as style. One of the goals of Missing Middle housing is to blend into the surrounding context, subtly increasing density. The strengths of the types vary per situation - just because it is a Missing Middle housing type does not necessarily mean it is the right type for the location. Careful consideration should be given to the surrounding context and goal of the project. Are

you softening a transition between commercial and residential? Are you infilling a detached single-family neighborhood with multi-family housing? These projects may call for two different combinations of Missing Middle housing. The goal is to seamlessly integrate much needed housing into the existing built environment to increase density and create sustainable, vibrant communities.

After extensive research into existing local precedents, the following types were proposed by Union Studio for New England, specifically the Cape Cod region, .

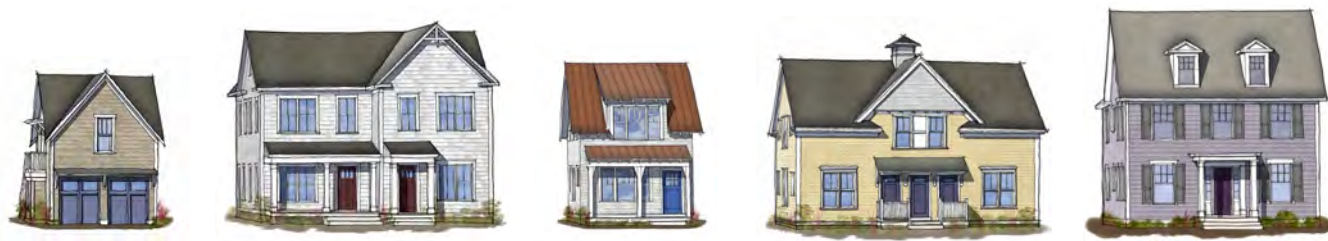


Figure 6-1. From Left: ADU, Duplex, Cottage, Micro-Units, Manor House

PROS

CONS

Missing Middle Housing

- **Provides Housing Choice:** Infuses housing market with a variety of housing options that fit a broad range of familial compositions.
- **Improves Affordability:** Increases number of available housing units - lowering cost and competition. Can be designated 'Affordable'.
- **Lowers Building Costs:** Infilling existing built communities lowers the cost of tapping into municipal networks, like water and sewer systems.
- **Increases Sustainability:** Increases density which promotes walkable communities and public transportation.
- **Maintains Character:** Calibrated to the style of the neighborhood to be compatible with existing housing stock.

- **May Require Zoning Variances:** Multi-family housing is typically not allowed in traditionally zoned detached single-family neighborhoods. Additional work may be required to get the appropriate permits and permissions.
- **Push-back from Community:** Local residents often run when they hear the words "density" and "multi-family." Time and care should be taken to engage with and educate the community about the reality of Missing Middle housing.
- **Lack of Awareness:** Many people are not familiar with the term "Missing Middle Housing" or the problem it is trying to alleviate. Education is an important first step when introducing Missing Middle housing.



Figure 6-2. From Left: Stacked-Flat, Townhouse, Walk-Up

Our Approach to Missing Middle Housing

The following diagram illustrates the local range of Missing Middle housing types that Union Studio developed for the New England region. The types range in scale and density and can be used individually or in combination, depending on the size of the project. Here, the types are ordered approximately by dwelling units per acre. Types can additionally be clustered together, like with the cottage court, to achieve higher density. Each type is discussed in more detail on the following pages.

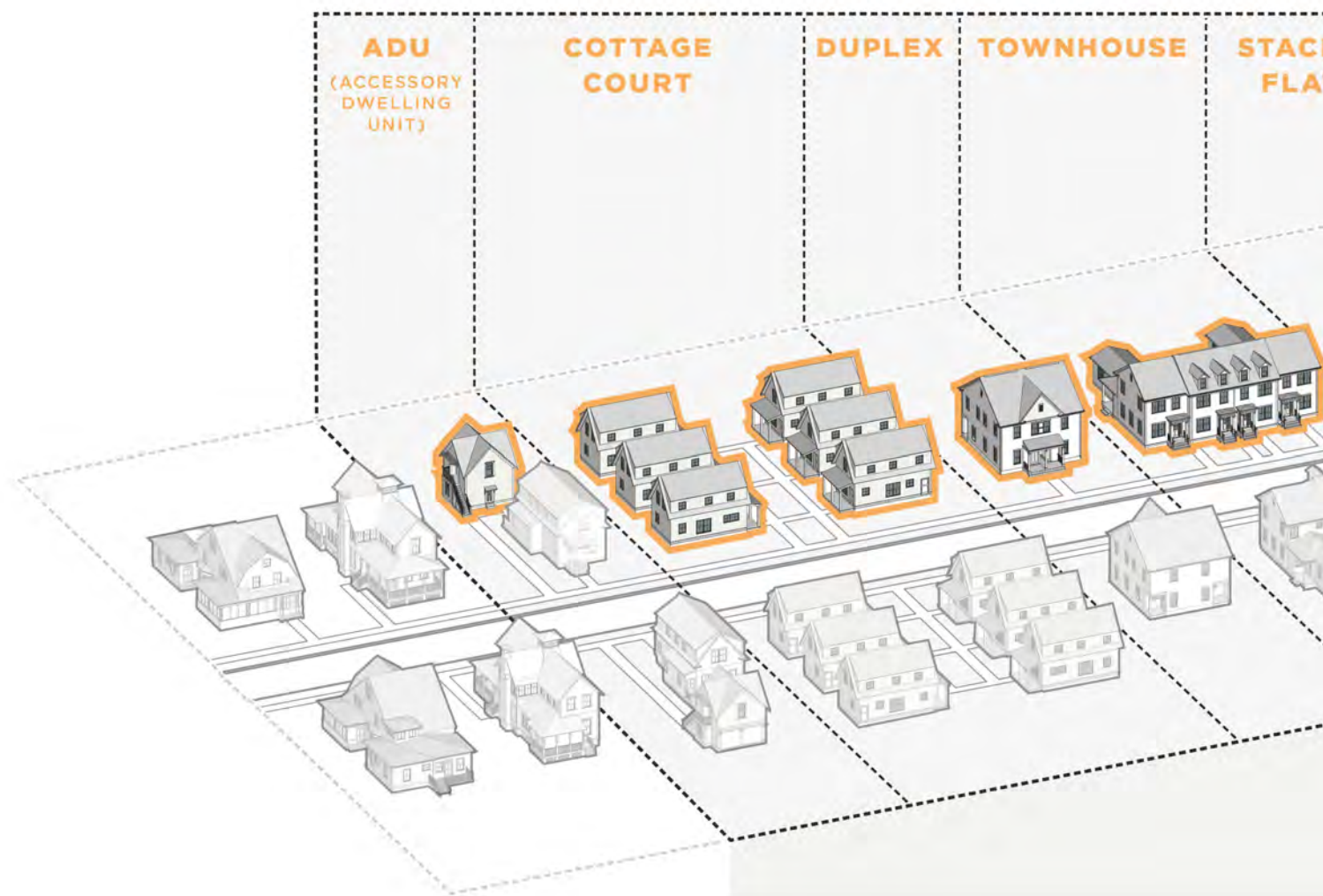
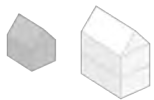




Figure 6-3. Missing Middle Housing Types

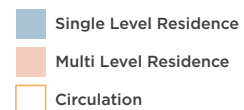
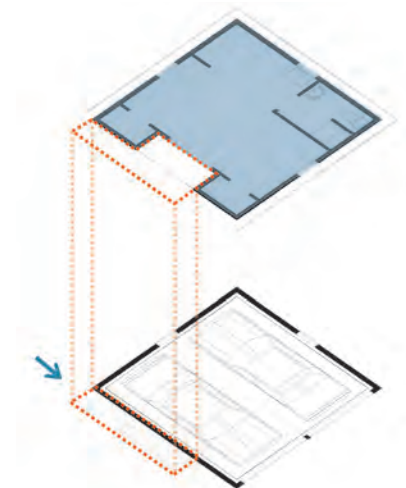
BUILDING TYPE:



Accessory Dwelling Unit (ADU)

An Accessory Dwelling Unit (ADU) is a secondary unit on a shared lot with a primary structure/home.

- **Typical Size:** Usually 1 to 2 stories
- **Considerations:** Often a converted barn or garage, flat with a separate entry above garage, or cottage building on same lot as another residential structure.
- **Alias:** Carriage house, granny flat, in-law apartment, garden cottage
- **Density:** Incrementally increases the density of the lot



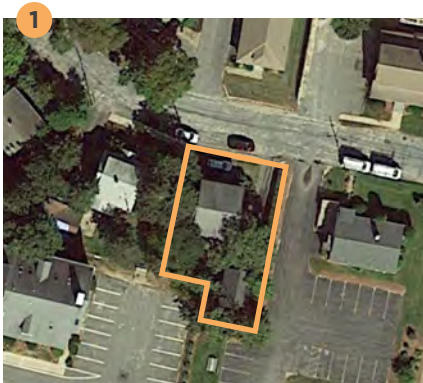


Figure 6-4. Parkway Place, Hyannis



Figure 6-5. Worcester Ave, Monument Beach



Figure 6-6. Spring Street, Hyannis



Figure 6-7. Hyannis ADU doubles the density of the lot by providing a unit over the detached garage.

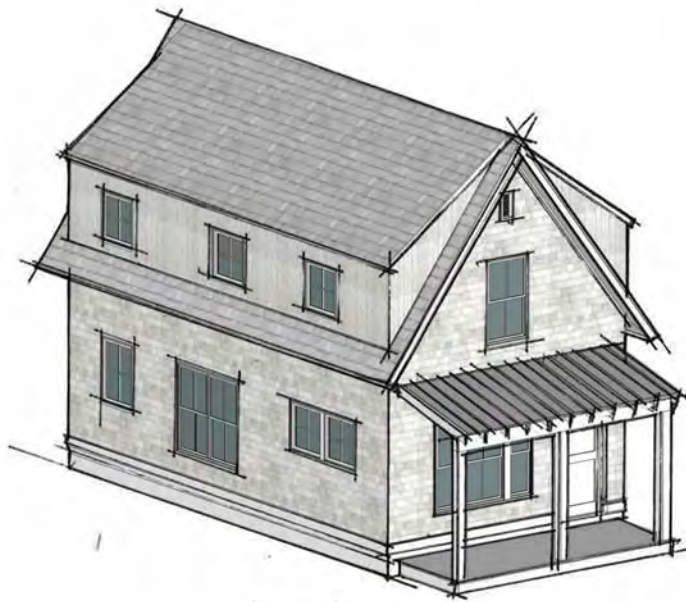


Figure 6-8. Monument beach ADU provides an additional dwelling in the scale and style appropriate to its surroundings.



Figure 6-9. Hyannis ADU blends into the neighborhood as a converted garage behind a single-family home.

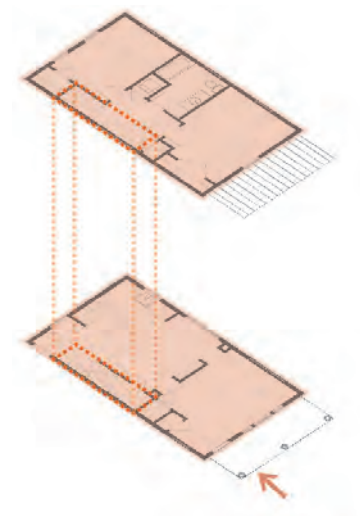
BUILDING TYPE:



Cottage

Cottages are small-scale, single-family detached units.

- **Typical Size:** Range from 1 to 2 stories
- **Site Plan:** Density is achieved by clustering houses along street or lane on smaller parcels.
- **Density:** 1 unit per building / Cottage Clusters are typically 2 to 4 dwelling units per acre



- Single Level Residence
- Multi Level Residence
- Circulation



Figure 6-10. Canary Street, Sandwich



Figure 6-11. Heritage Sands, Dennis Port



Figure 6-12. Old Wharf Road, Dennis Port



Figure 6-13. Sandwich cottages are designed in the traditional Cape Cod style and achieve density through small lots and proximity.

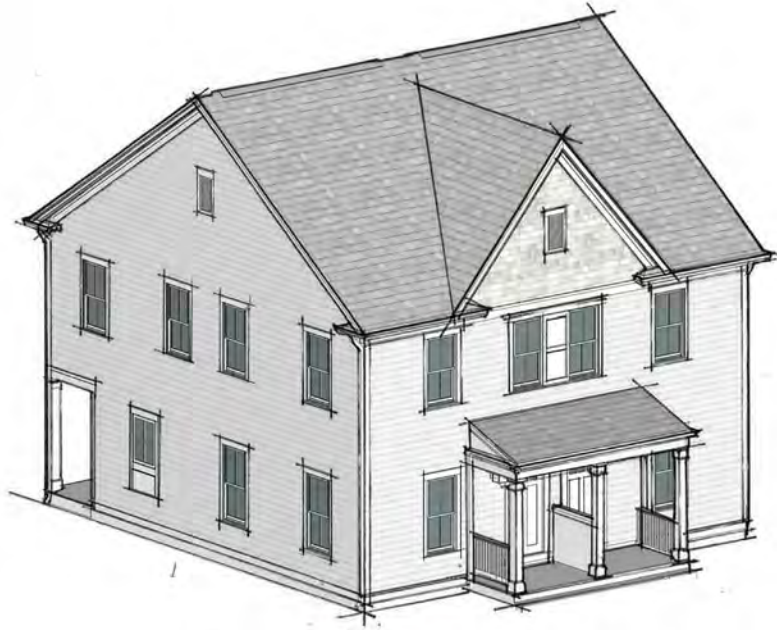


Figure 6-14. Dennis Port cottages are clustered around “cottage courts,” with front porches facing the shared community space.



Figure 6-15. Dennis Port cottages create a vibrant and high density beach community.

BUILDING TYPE:



Duplex

Duplexes are single-family semi-detached units, meaning they share a common “party wall.”

- **Typical Size:** Usually 1.5 to 2 stories
- **Consideration:** Typically designed with individual entries.
- **Density:** 2 units per building / 4 to 11 dwelling units per acre



- Single Level Residence
- Multi Level Residence
- Circulation



Figure 6-16. Dory Lane, Eastham



Figure 6-17. King Street, Falmouth



Figure 6-18. Pleasant Street, Sandwich



Figure 6-19. Eastham duplex's asymmetrical design allows the units to read as one single-family home.

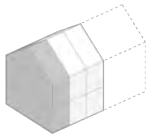
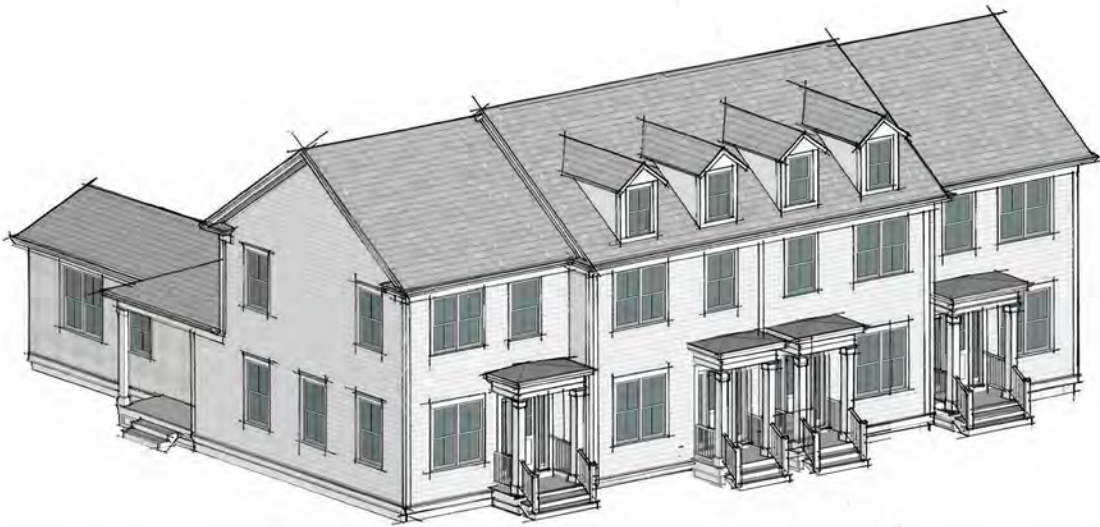


Figure 6-20. Falmouth duplexes are joined by garages, providing greater privacy, and appear as a row of detached cottages.



Figure 6-21. Sandwich duplex discreetly hides private entrances on each side to better blend into the neighborhood.

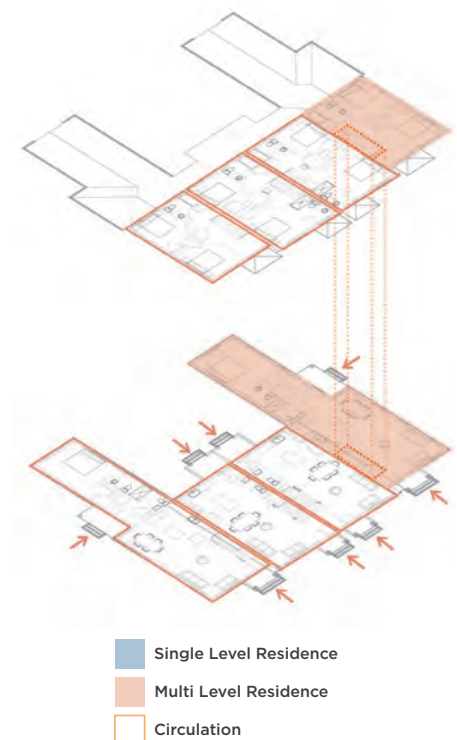
BUILDING TYPE:



Townhouse

Townhouses are single-family attached units which are arranged in a series and share multiple common “party walls”.

- **Typical Size:** Usually 1 to 2 stories
- **Site Plan:** Usually groups of attached units as part of a larger development
- **Considerations:** Sometimes 3 stories if garage is on ground floor with living above.
- **Density:** 3 to 6 units per building / 5 to 12 dwelling units per acre



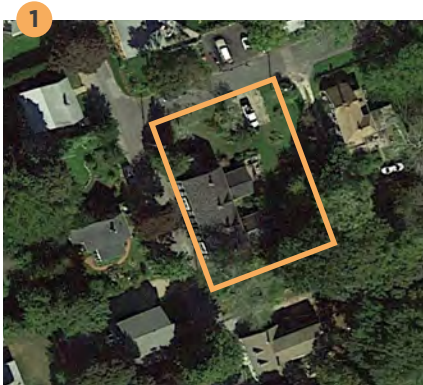


Figure 6-22. State Street, Sandwich



Figure 6-23. Bayberry Village, Orleans



Figure 6-24. West Falmouth Hwy, Falmouth



Figure 6-25. Sandwich townhouses incorporate additions for greater flexibility and to add visual interest.

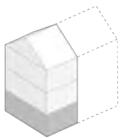
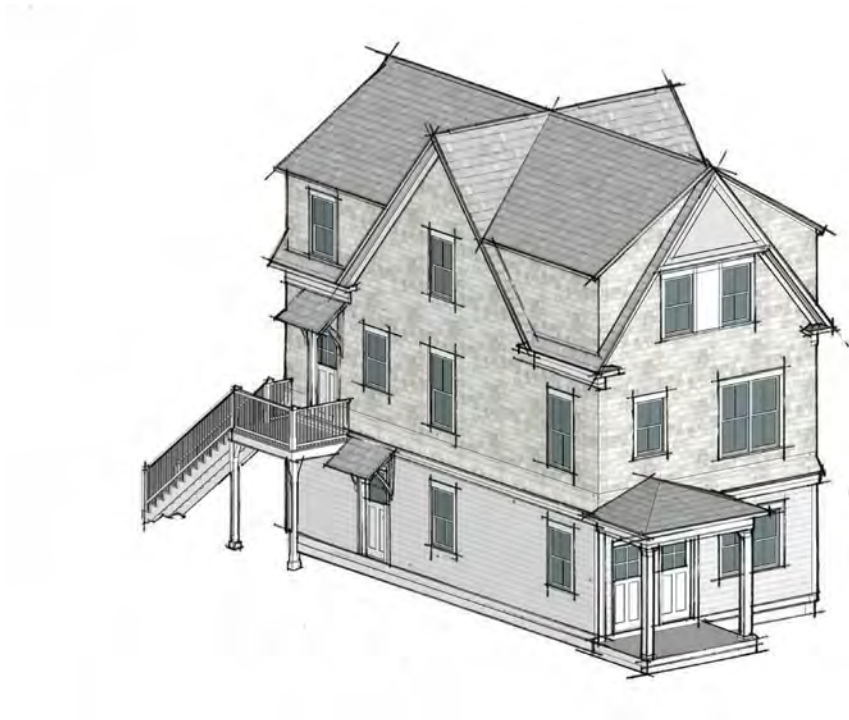


Figure 6-26. Orleans townhouses are designed to read as separate units.



Figure 6-27. Falmouth townhouses are designed to appear as one larger residence.

BUILDING TYPE:



Stacked-Flat

A stacked flat is a first floor flat with a single story flat or two story townhouse above.

- **Typical Size:** Usually 2 to 3 stories
- **Alias:** Two-family, Three-family, Double decker, Triple decker
- **Considerations:** May be designed with individual entries or one entry.
- **Density:** 2 to 3 units per building / 8 to 15 dwelling units per acre

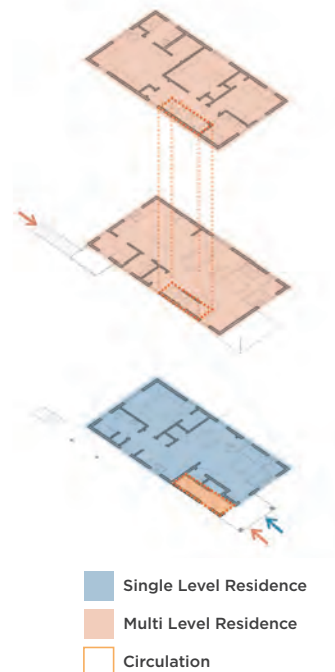




Figure 6-28. Chancery Lane, Falmouth



Figure 6-29. Atlantic Ave, Provincetown



Figure 6-30. Chancery Lane, Falmouth



Figure 6-31. Falmouth stacked-flat discreetly provides private entrances for each unit.

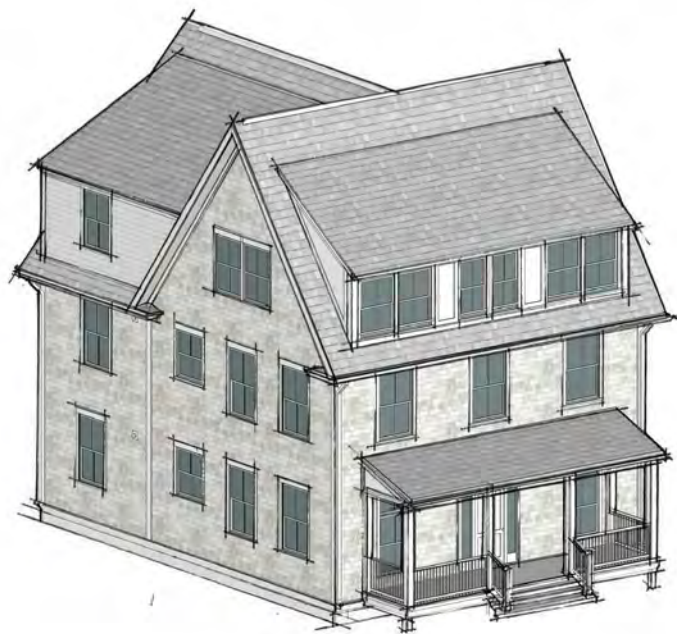


Figure 6-32. Provincetown stacked-flat houses three stacked units with an additional attached ADU.



Figure 6-33. Falmouth stacked-flat utilizes a shared entrance to maintain single-family residential character.

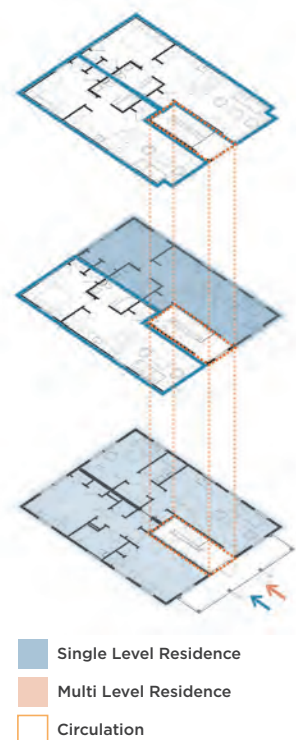
BUILDING TYPE:



Manor House

A manor house is a small-scale multi-family that looks like a large home.

- **Typical Size:** Usually 1.5 to 3 stories
- **Considerations:** Usually a large family home converted to smaller units.
- **Density:** 4 to 6 units per building / 5 to 12 dwelling units per acre



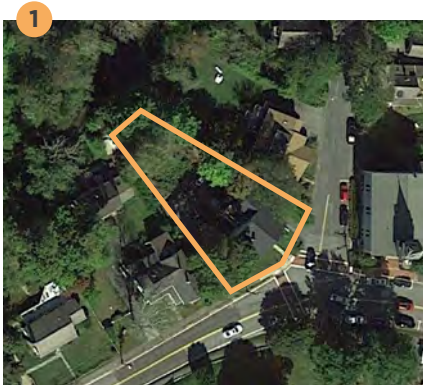


Figure 6-34. Main Street, Sandwich



Figure 6-35. Pleasant Street, Sandwich

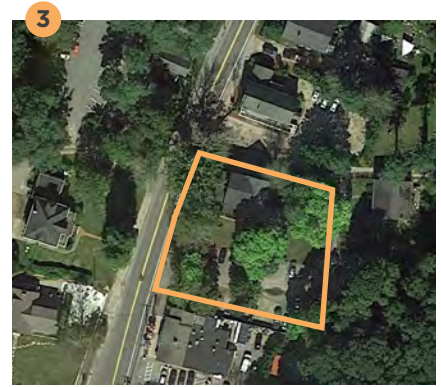


Figure 6-36. West Falmouth Hwy, Falmouth



Figure 6-37. Sandwich manor house presents a strong face to the street and discreetly shields parking behind.



Figure 6-38. Sandwich manor house fits the scale of the surrounding residential neighborhood and anchors the corner lot.



Figure 6-39. Falmouth manor house showcases a classic single-family type elevation and sits back from the main thoroughfare.

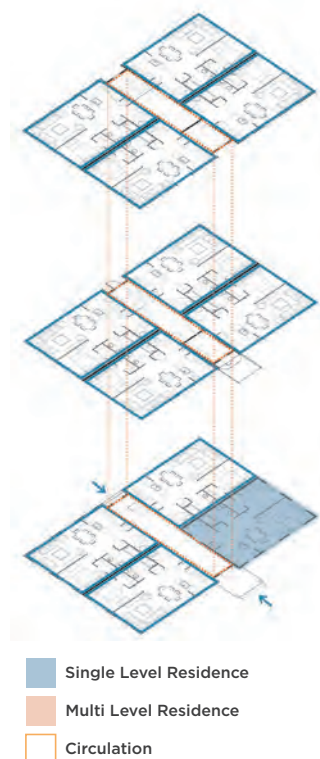
BUILDING TYPE:



Walk-Up

Walk-ups are small scale multi-family buildings, which are commonly comprised of a series of flats with shared circulation

- **Typical Size:** Usually 2 to 3 stories
- **Considerations:** Typically comprised of studio and 1-bedroom units. Can be comprised of single-room occupancy or micro-units to achieve higher density.
- **Density:** 8 to 12 units per building / 5 to 25 dwelling units per acre



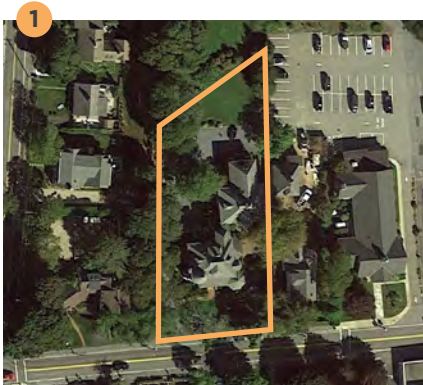


Figure 6-40. Route 28, Harwich Port

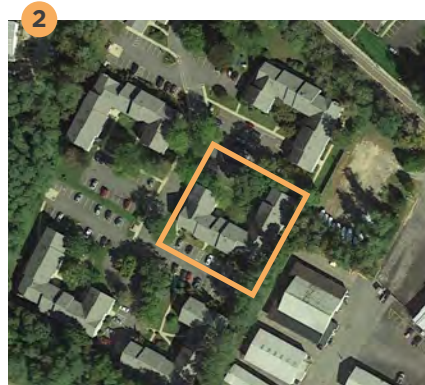


Figure 6-41. Rock Harbor Village, Orleans



Figure 6-42. Jarves Street, Sandwich



Figure 6-43. Harwich Port walk-ups have re-purposed a 19th-century home, which was previously converted to a bed and breakfast



Figure 6-44. Orleans walk-ups have been clustered around common greens to achieve higher density.



Figure 6-45. Sandwich walk-ups occupy a building that was formerly storefronts and office space.

SECTION 7

Making the Case for Missing Middle Types

Thoughtfully designed Missing Middle projects can directly address Cape Cod's housing shortage.



Side Hustle House
Urban Infill Site

Making the Case for Missing Middle Types

ILLUSTRATIVE CASE STUDIES

As part of the Community Resiliency by Design effort for Cape Cod, a series of site plans were developed to illustrate how these various Missing Middle building types could be assembled onto a site or collection of sites. The first three sites — Davis Straits in Falmouth, Route 6 & Brackett Road in Eastham, and Main Street/Orleans Center in Orleans — were part of the initial effort and collectively show a density range of 10–20 units to the acre and include a variety of Missing Middle types in a couple of different contexts. In each case the respective Towns helped identify underutilized land that could serve as the basis for these illustrative case studies. For the fourth example located in East Hyannis, the study area called for a range of potential infill strategies, and the case study includes projects currently under development and speculative projects.

PROJECT CASE STUDIES

Union Studio has been fortunate to work on multiple projects on Cape Cod. In addition to the case studies explored with the Towns, there are currently several built, in progress, and anticipated projects. These projects range in size from the single home of the Side Hustle House to the planned community of Brewster Landing. Three projects will be further explored, which directly address Cape Cod's Missing Middle: the Side Hustle House, Sea Captains Row, and 255 Main Street, Hyannis.

All three projects utilize different building types and strategies to help alleviate Cape Cod's housing shortage and are currently in beginning built. The Side Hustle House was designed to fit on a range of sites, from urban to rural, and the first will be built in Eastham. Sea Captains Row and 255 Main Street are located in Hyannis and included in the illustrative case study for the Town.

WHERE WE'VE BEEN ON
CAPE COD...



- | | | |
|---------------------------------------|----------------------------------------|-------------------------------------------------|
| 1 Brewster Landing / Brewster | 6 Route 6 Masterplan / Eastham | 11 Patriot Press / Hyannis |
| 2 Hokum Rock Home / Dennis | 7 Side Hustle House / Eastham | 12 Sea Captains Row / Hyannis |
| 3 Maritime Landing / Dennis | 8 Orleans Village Masterplan / Orleans | 13 Hyannis Village Masterplan / Hyannis |
| 4 Heritage Sands / Dennis Port | 9 255 Main Street / Hyannis | 14 Sandwich Marina Vision Plan / Sandwich |
| 5 Davis Straits Masterplan / Falmouth | 10 Lofts at 57 / Hyannis | 15 South Sandwich Village Masterplan / Sandwich |



Falmouth, MA

ILLUSTRATIVE CASE STUDY

In Falmouth, the focus of the Community Resiliency by Design effort was the Davis Straits area. The Town identified this currently auto-centric, mostly commercial zone as a good location to promote future mixed-use, moderate-density redevelopment in keeping with the more historic core to which this area serves as an extension. As with many other locations on the Cape, one challenge of is the lack of transition from the high-intensity commercial core to the adjacent low-intensity, single-family residential neighborhoods. To address this, the illustrative plan proposes infilling a corner of an existing retail center with several of the Missing Middle types that provide

denser and are two to three stories in height. Three-story Walk-Ups, including several with commercial uses on the ground floor, line the main street and primary access to the retail area. Further back into the site, the types transition to smaller scale two-and-a-half story Manor Houses, Stacked Flats, and Townhouses, with two-story Duplexes included along the edge adjacent to the existing single-family homes. The resulting density for this illustrative case study is roughly 20 dwelling units (DU) to the acre.

BEFORE



AFTER





Eastham, MA

ILLUSTRATIVE CASE STUDY

The Town of Eastham recently revamped their zoning ordinance to promote the addition of moderate density housing in their commercial core. The revised ordinance includes the restriction of building height to two stories and a maximum footprint area of 3,000 square feet, among other requirements, which are intended to keep future development in line with the scale of existing buildings. The case study proposes replacing two existing commercial structures with a collection of Missing Middle building types. Larger Walk-Ups are located along the main street, and the buildings transition to a smaller scale with Manor Houses, Townhouses, and Duplexes along the edge

adjacent to existing single-family homes. As a result of the lower building heights, there are less dwelling units per structure, and the resulting density is roughly 15 units to the acre if each building is only residential. A more ideal approach would be to include commercial uses in the lower level of the buildings along the main street which would reduce the density to 9 dwelling units (DU) to the acre and provide a greater connection to the commercial corridor.

BEFORE



AFTER





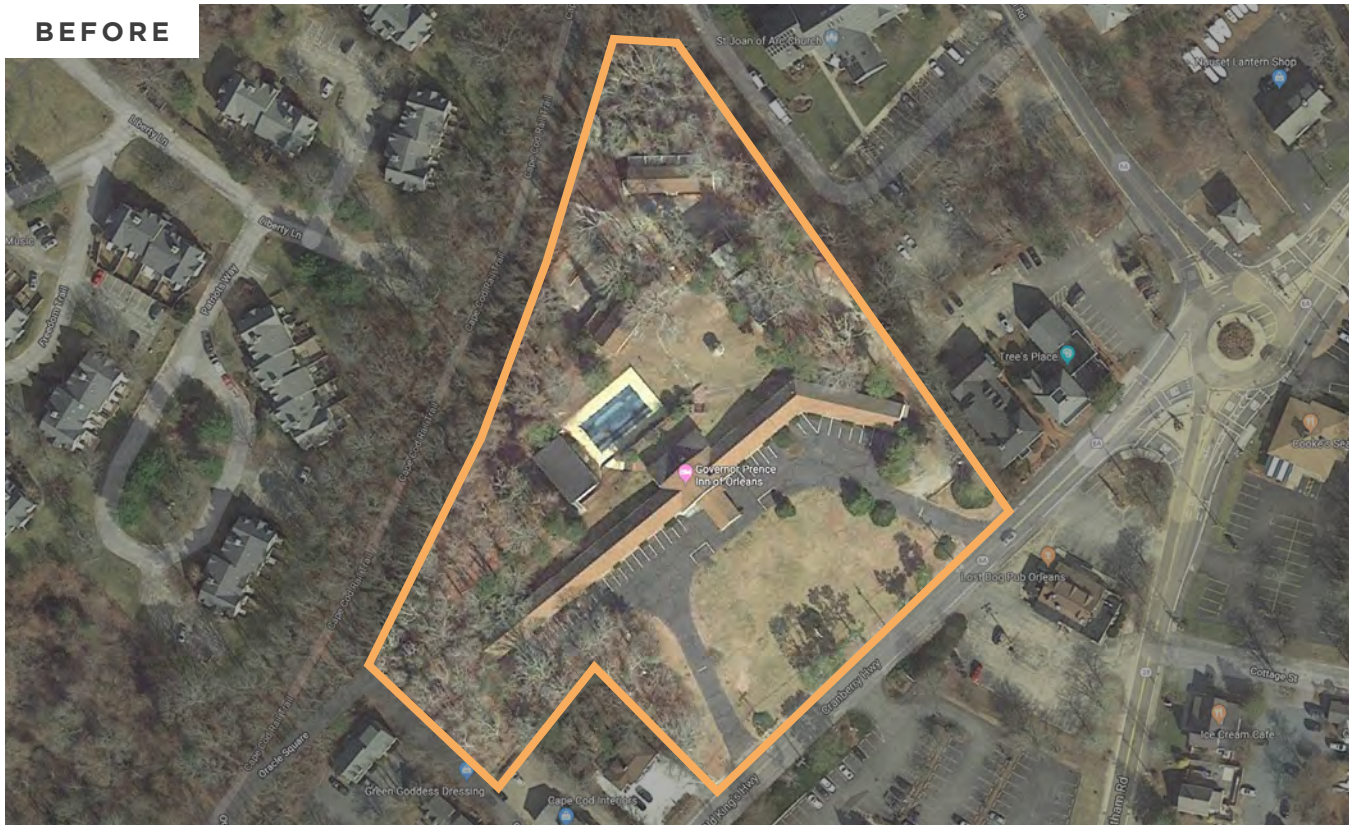
Orleans, MA

ILLUSTRATIVE CASE STUDY

In Orleans, the study area for the Community Resiliency by Design effort included the entire Village Center, an area in the center of town that includes a mix of commercial and multi-family housing. The maximum allowable density in this area was recently increased from 8 dwelling units (DU) to the acre to 12 units DU to the acre with the possibility of 14 DU with density bonuses. While the Village Center currently includes examples of moderate density, most of these developments feature only a single building type — all Townhouses or all Walk-Ups — and do not maximize the density. For the illustrative case study, a range of building types were included to show a cluster

of buildings in place of an existing motel. Along the main street, a single mixed-use building is shown, as are Townhouses and a Manor House at the maximum allowed height of two-and-a-half stories. The core of the proposed community includes Manor Houses, Stacked Flats, Townhouses, and Duplexes at two stories. In the corners of the site furthest from the main road, one-and-a-half-story Cottages are included in small cottage courts. The resulting density in this case study is roughly 10 DU to the acre.

BEFORE



AFTER





Hyannis, MA

ILLUSTRATIVE CASE STUDY

The East End includes many historic structures, as well as a diverse range of uses. This illustrative case study looked at four strategies for incorporating Missing Middle types on scattered infill sites.

- 1. Revitalization of Existing Structures —** 255 Main Street originally housed the Hyannis Board of Trade and is currently being renovated into a mixed-use Walk-Up.
- 2. Addition of Accessory Dwelling Units (ADUs) —** There are several accessory structures in this area and many lots have space to build for new ones.
- 3. Infill Empty Lots —** The plan adds new Missing Middle types to empty lots and inefficient parking areas.

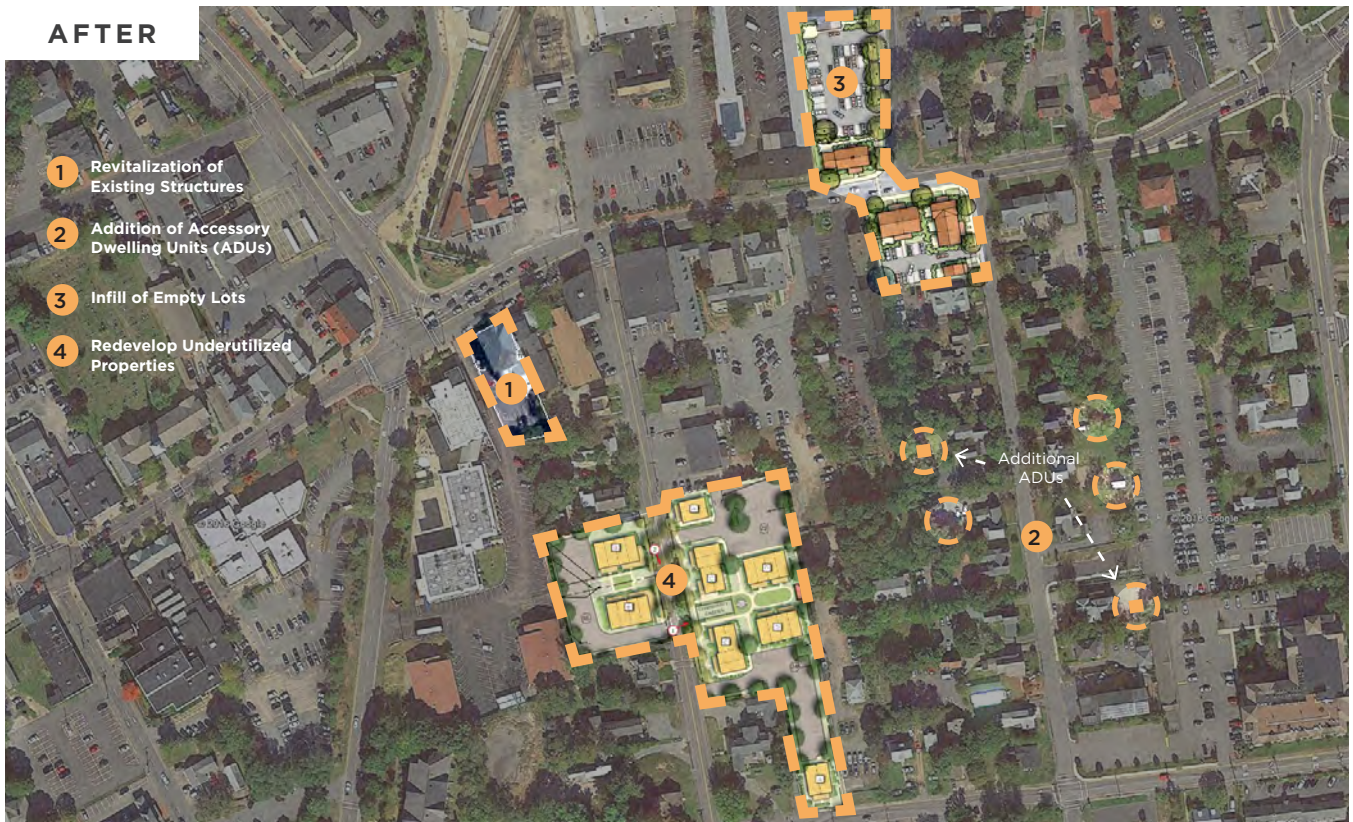
- 4. Redevelop Underutilized Properties —** At Sea Captains Row, several structures that are beyond repair are being replaced with a series of Manor Houses intended as housing for the local workforce.

Through a combination of these strategies, the Town can add much needed housing that complements the existing scale and character of the East End.

BEFORE



AFTER



- 1 Revitalization of Existing Structures
- 2 Addition of Accessory Dwelling Units (ADUs)
- 3 Infill of Empty Lots
- 4 Redevelop Underutilized Properties

SIDE HUSTLE HOUSE

Eastham, MA

Buying your first house used to be a rite of passage, but it is no longer a realistic option for many Americans. There are many things causing the current housing crisis; the Side Hustle House was created so that design isn't one of them.







Figure 7-1. Rendering of the base design of the Side Hustle House

Side Hustle House

BUILDING TYPE | COTTAGE

According to the ‘Shape the Cape’ demographic survey, more than half of young Cape Cod residents need to supplement their primary income because they are not earning enough from their primary jobs to cover their basic living expenses and add to their savings. Alternative work options such as Uber, Airbnb, TaskRabbit, and LuLaRoe have all been part of filling this growing demand. It is time for the housing market to catch up.

The Side Hustle House has the charm of a classic Cape cottage and the flexibility of a Swiss Army knife. It supports a wide range of living arrangements, from growing and intergenerational families to roommates and unattached singles. It can start as a simple two-bedroom unit and turn into a three-bedroom house

with an office, a two-bedroom home with a vacation rental, or a one-bedroom unit with an apartment above.

Each configuration is designed with the balance of privacy and connection in mind. The primary living spaces are all oriented to one side, so a series of houses can be built in a row without compromising privacy. The exterior design is a fresh take on a classic cottage, ensuring the home’s long-term marketability.

Side Hustle House was the winner of the Cape Cod Young Professionals’ Housing Design Competition in the 2-bedroom category. The first Side Hustle House will be constructed in Eastham, Massachusetts.

SOMETIMES IT'S BETTER TOGETHER

The Side Hustle House is designed such that it can stand alone, be placed side-by-side, or be clustered in a cottage court to achieve higher density and create a community.



Figure 7-2. Example of Side Hustle Houses clustered together to create a cottage court



Figure 7-3. Illustrative perspective of cottage court

CHANGE IS GOOD

The Side Hustle House can grow as you do, making it the perfect place to start a business or a family.

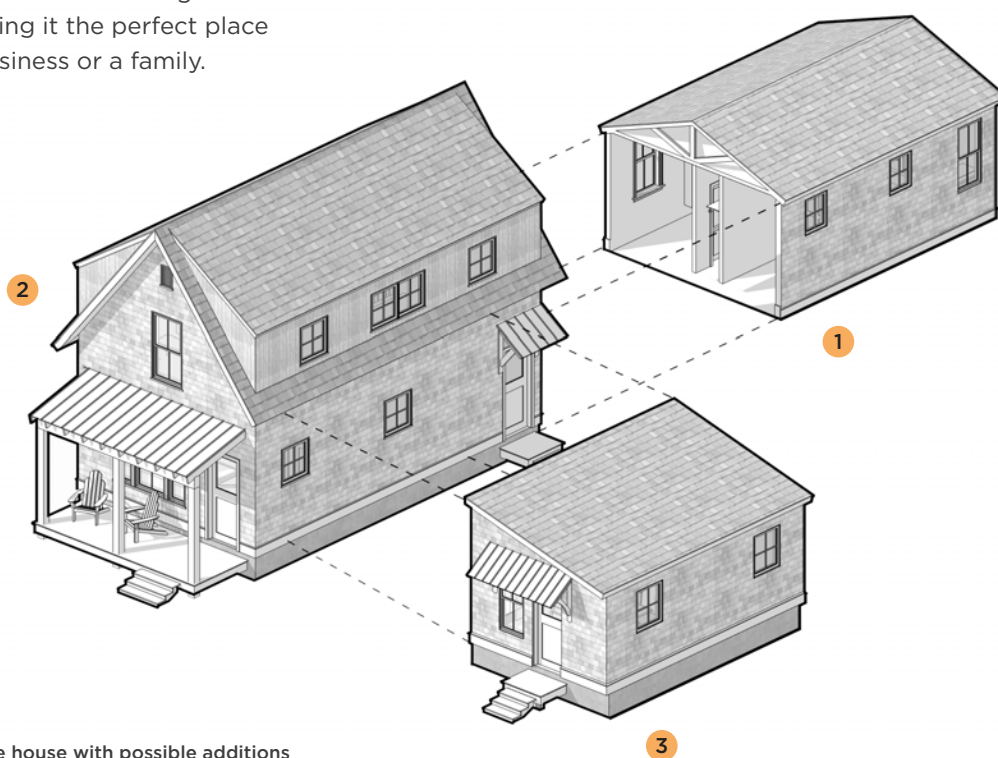


Figure 7-4. Base house with possible additions



Figure 7-5. Alternate elevation variations

STANDING OUT WHILE BLENDING IN

The Side Hustle House was designed to be translatable across the country. Find the land and customize the cottage to fit the existing character of your neighborhood.

1



Figure 7-6. Rear addition alternatives

2



Figure 7-7. Second floor alternatives

3

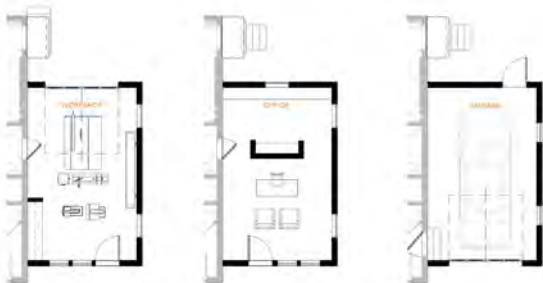


Figure 7-8. Side addition alternatives

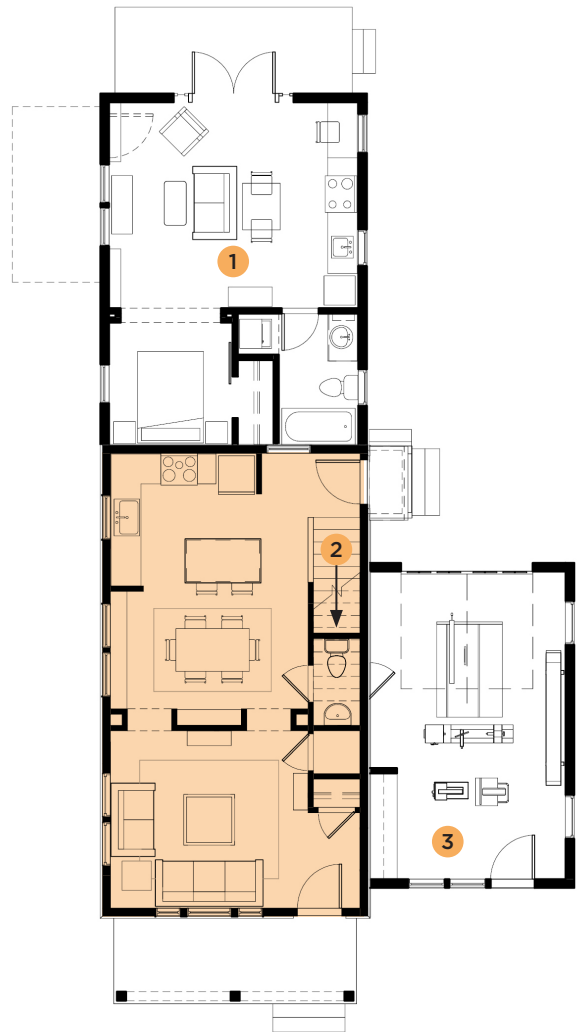


Figure 7-9. First floor of the base plan (highlighted in orange) with optional additions



An architectural rendering of a new residential development. The scene is viewed from an elevated perspective. In the foreground, a large, light-colored house with a gabled roof and multiple windows is prominent. To its left, a paved walkway leads to a circular green lawn area with a low stone wall and a person walking a dog. Further back, there's a rectangular garden bed with several raised planters. In the background, another building and more trees are visible under a clear sky.

SEA CAPTAINS ROW

Hyannis, MA

A new neighborhood of Walk-Ups with apartments for both rental and homeownership will provide much-needed workforce housing.



Figure 7-10. Perspective view from Pleasant Street looking south

Sea Captains Row

BUILDING TYPE | WALK-UP

Union Studio is working with CapeBuilt Homes to redevelop the historic Sea Captains Row neighborhood in downtown Hyannis. New apartments — both rentals and condominiums with a variety of bedroom configurations — will provide much-needed housing to support a growing community on the Cape who want to live within walking distance to their work and commercial and recreational amenities. The project team held an evening listening session in Hyannis sponsored by the Cape Cod Young Professionals organization to solicit direct feedback from the community to inform the design of the neighborhood.

The site plan uses the buildings to create a well-defined, engaging street for pedestrians walking to the ferry in the summer and organizes the buildings around common green spaces that encourage active gatherings and a venue for neighbors to get to know one another. Most of the buildings will be constructed with modular building systems. The architecture is designed to capture the character and details of the historic row of the houses belonging to sea captains that once lined this street.

BEFORE



AFTER



MAINTAINING CHARACTER

Sea Captains Row looks to historic precedents on Pleasant Street to stay true to the character of existing buildings.

Figure 7-11. Existing home on Pleasant Street



Figure 7-12. Elevation along Pleasant Street looking east

MODULAR DESIGN

Sea Captains Row capitalizes on modular building systems and design to heighten efficiency and maintain a cohesive appearance. This is achieved through the intentional repetition and rotation of the building structures and elevations.

ARCHITECTURAL TETRIS®

Each walk-up is organized to achieve the density associated with the building type while complementing the existing residential character. A mix of private entrances and shared circulation are strategically placed for maximum efficiency and minimal visual impact.

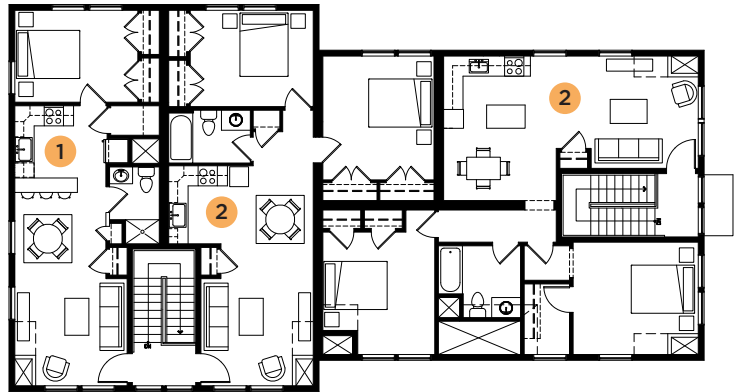


Figure 7-13. Plan of the third floor of a typical building

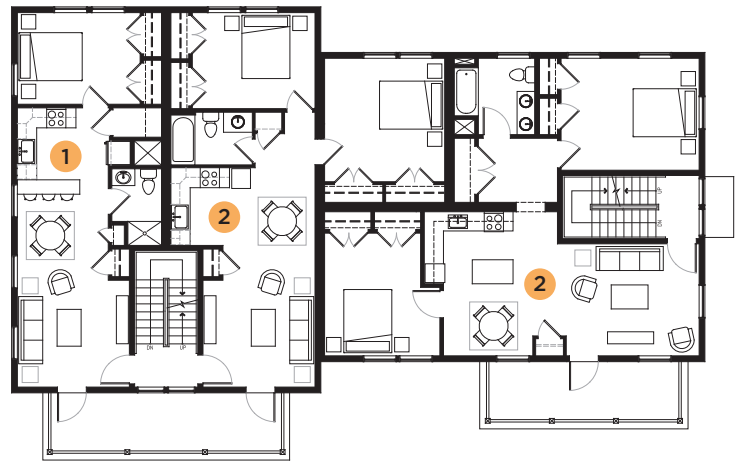


Figure 7-14. Plan of the second floor of a typical building

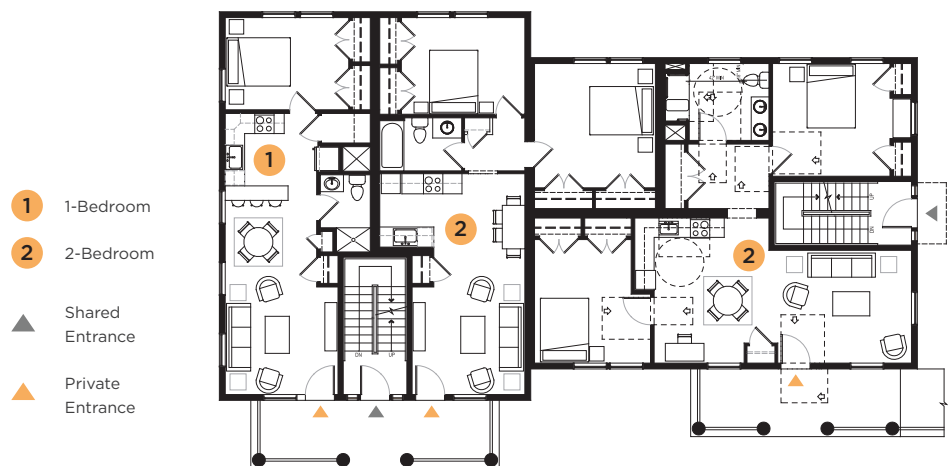


Figure 7-15. Plan of the first floor of a typical building



255 MAIN STREET

Hyannis, MA

The rehabilitation and conversion of an historic building in Hyannis into apartments with dining and retail on the first floor will allow it to once again contribute to the vibrancy of Main Street.





Figure 7-16. View of the rear of the building at 255 Main Street while under construction in August 2019

255 Main Street

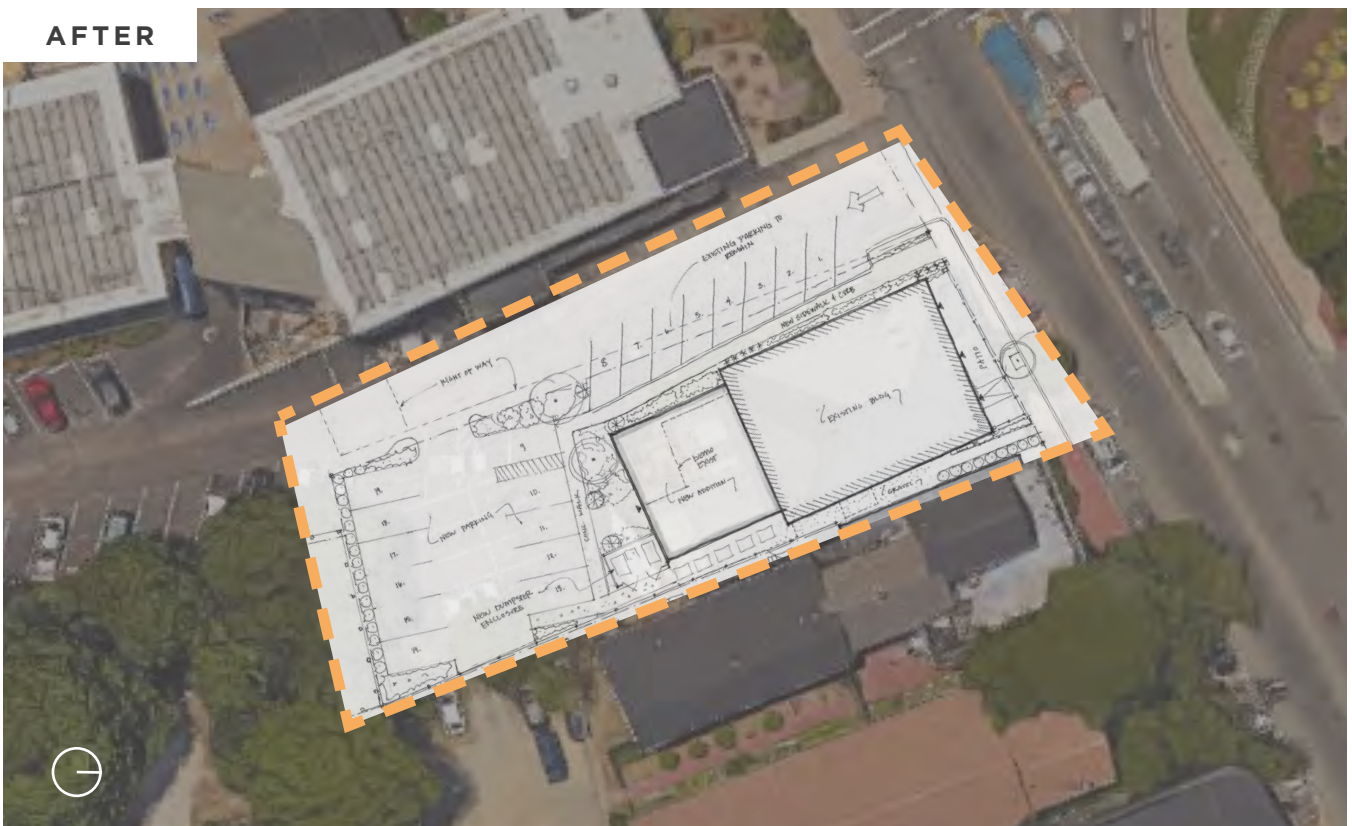
BUILDING TYPE | MIXED-USE WALK-UP

Located in the heart of Hyannis's historic village, 255 Main Street played a key role in the town's economic development. Constructed in 1880, 255 Main Street was the original home of the Hyannis Board of Trade. Most recently, it housed a CPA and lawyer's office and vacant first floor retail space. Over the years, the storefront had been modified and several additions added.

Today, the building is being restored in a character true to its historic style and converted to mixed-use. The first floor will contain 4,000 square feet of retail and dining with a rehabilitated storefront and outdoor patio off of bustling Main Street. The second and third floors will house 10 residential units with additional storage and laundry in the basement.

The third floor, currently the attic, will be enlarged with the addition of dormers, for a total of 6,000 square feet of residential space in the building.

255 Main Street is both mixed-use and mixed-type as it employs numerous strategies for a successful multi-family dwelling. Although most appropriately defined as a walk-up, the multi-level units highlight the creativity and flexibility inherent in Missing Middle housing. Combined with the mixed-use program, the project will revitalize the Main Street lot and once again contribute to Hyannis's economic development and historic village.



RAISING THE ROOF

Keeping within the historic character of the building, the addition of dormers is in keeping with the style of the building and allows the under-utilized attic to be repurposed as a residential floor.



Figure 7-17. Proposed elevation of the south side of the building



Figure 7-18. Hyannis Board of Trade, c. 1904

Source: Images of America, Hyannis and Hyannis Port



Figure 7-19. Front elevation, c. 2014



Figure 7-20. Perspective rendering, 2018

AN EYE TO THE PAST

The proposed design looks to the original 19th-century building to inform its renovation. This is the most evident on the east facade which took cues from the historic storefront.

MAXIMIZING FLOOR AREA

The second and third floors are both residential, but the entries to all of the units are from the second floor. The private stairwells for the third floor units allow for the maximization of the former attic.

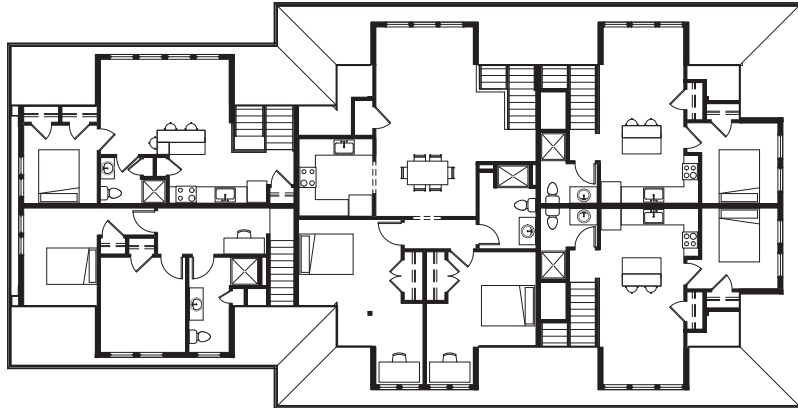


Figure 7-21. Floor plan of the renovated attic (third floor)

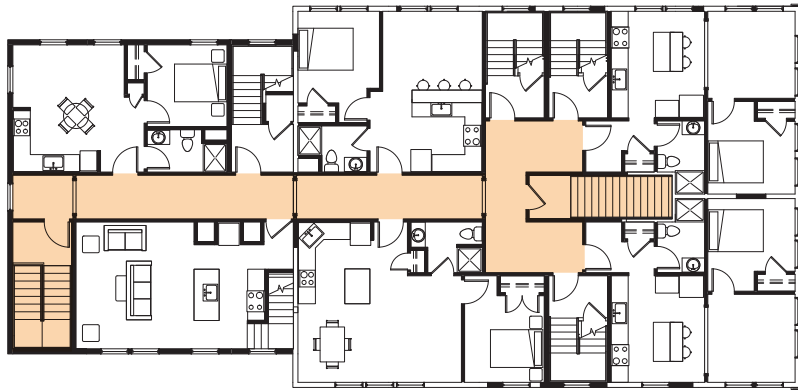


Figure 7-22. Second floor plan. All residential units are accessed via a shared corridor (highlighted in orange).

MIXED-USE

255 Main Street includes 4,000sf of commercial space on the first floor, including dining, retail, and a commercial kitchen.

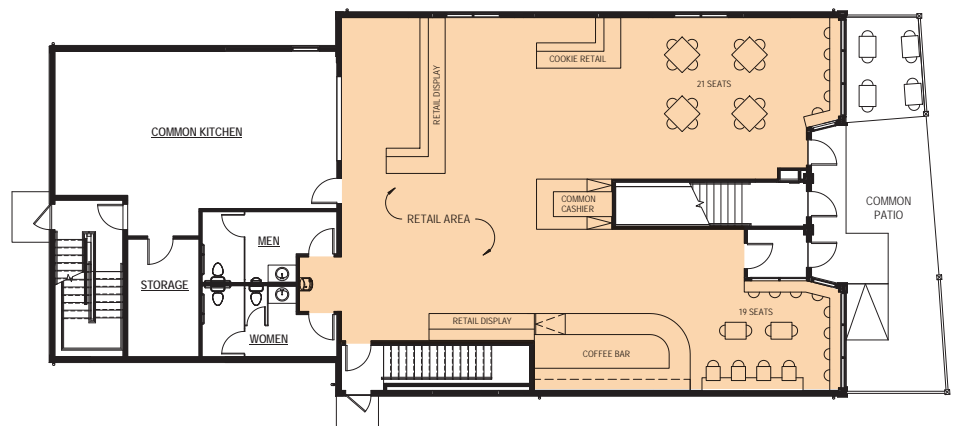


Figure 7-23. First floor plan. Retail and dining are highlighted in orange.

SECTION 8

Additional Considerations

There are a myriad of strategies to explore when introducing Missing Middle housing.

Heritage Sands
Dennis Port, MA





Figure 8-1. Falmouth Mixed-Use with Retail on the Ground Floor and Residences Above

Additional Considerations

Form-Based Codes allow for the introduction and regulation of Missing Middle housing.

There are numerous approaches that can supplement Missing Middle housing and a variety of ways that it can be implemented. The following are just a few additional strategies that should be considered.

MIXED-USE

Mixed-use can be implemented as a variation of the previously presented housing types. Typically, this is included as a commercial use on the first floor. Although all types can be converted to mixed-use, there are several that may inherently make more sense, such as a Stacked Flat, Townhouse, Manor House, and Walk-Up. Providing mixed-use Missing Middle types may increase affordability, walkability, and the

quality of the public realm.

STRATEGIES FOR IMPLEMENTATION

There are several ways to strategically increase the density of an established detached single-family neighborhood. The first option is to legally allow the inclusion of accessory dwelling units (ADUs) by right. ADUs can blend seamlessly into the built environment as they can take the form of a basement apartment, small home addition, or conversion of the space over the garage to an apartment. This is a relatively simple, easy, and inexpensive way to increase density, housing choice, and affordability .

CONVENTIONAL ZONING

Density use, FAR (floor area ratio), setbacks, parking requirements, maximum building heights specified.

ZONING DESIGN GUIDELINES

Conventional zoning requirements, plus frequency of openings and surface articulation specified.

FORM-BASED CODES

Street and building types (or mix of types), build-to lines, number of floors, and percentage of built site frontage specified.

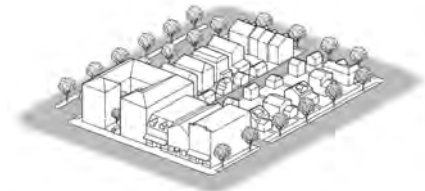
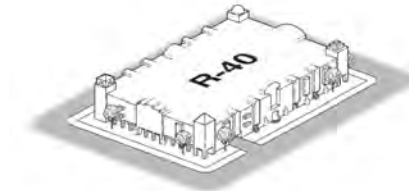


Figure 8-2. Different approaches to zoning regulations

Source: Form-Based Codes Institute

The other strategies are to infill or redevelop underutilized lots. This could mean a number of things, including sub-dividing a larger lot into separate parcels so that one or more additional housing units can be constructed. Another consideration may be to convert an existing single-family residence into a small multi-unit dwelling, such as micro-units, stacked-flats, or a duplex. Additionally, there may be a vacant lot, or even a parking lot, that can be repurposed with at least one Missing Middle type, if not more, to provide multi-family housing.

FORM-BASED CODES

Form-based codes (FBCs) allow for the introduction and regulation of Missing Middle housing. According

to the Form-Based Codes Institute, “A form-based code is a land development regulation that fosters predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. Form-based code is a regulation, not a mere guideline, adopted into a city, town, or county law.”⁹³ Although FBCs are not the only way to introduce Missing Middle housing, the major benefit of implementing a FBC is being able to zone an area by form instead of use. This creates the opportunity to soften a transition between commercial and residential or multi-family buildings and detached single-family homes by infilling the appropriate Missing

Middle housing types. FBCs also provide the opportunity for mixed-use residential projects, which could serve to revitalize a downtown or provide a live-work space for a young professional. Ultimately, FBCs have the potential to increase density, promote economic and social diversity, and improve the quality of the public realm.⁹⁴

JUST THE TIP OF THE ICEBERG

Beyond the strategies listed here, there are countless other considerations that may be relevant to a Missing Middle housing project. All avenues should be explored to create the best housing solutions for the existing context.

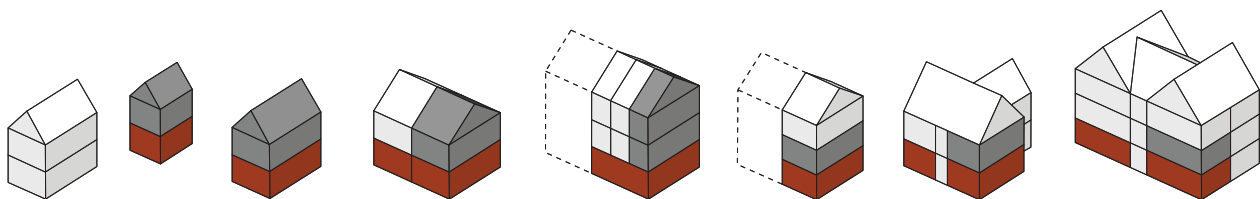


Figure 8-3. Diagrams of Missing Middle housing types showing a mix of uses with commercial uses shown in red on the ground floor

SECTION 9

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APPENDIX A

Cape Cod By the Numbers

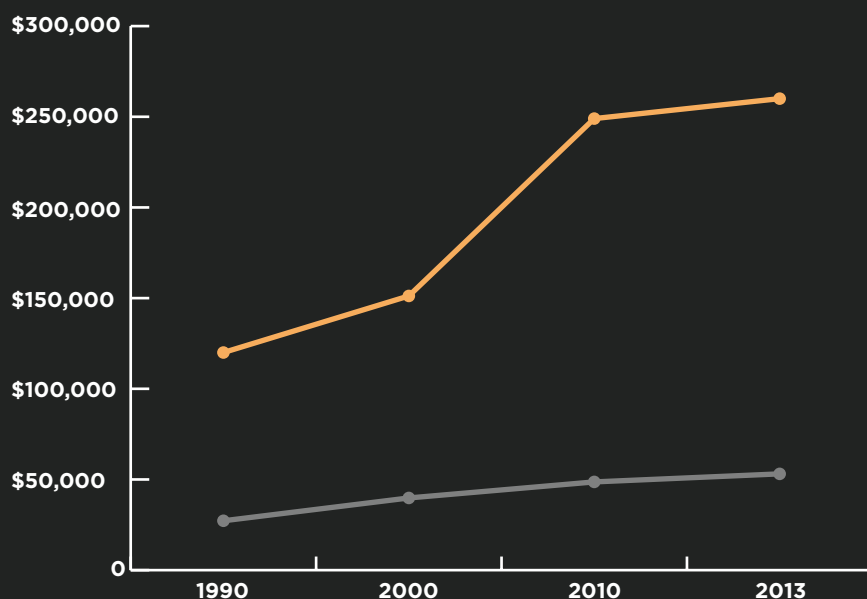
26,000 households on Cape Cod are 'cost burdened', spending more than 30% of income on housing.

36.46% of Cape Cod's total housing stock is comprised of seasonal homes.

72% of Cape Cod's seasonal homes stand vacant for most of the year.

82% of housing units on Cape Cod are detached, single family homes.

MEDIAN HOUSEHOLD INCOME AND MEDIAN HOUSE VALUE (1990-2013)



The median house value continues to increase year after year, while the median household income has remained largely the same. Housing becomes further out of reach for workers when wages do not grow proportionately to housing prices.

— Median House Value
— Median Household Income

Source: Housing Assistance Corporation

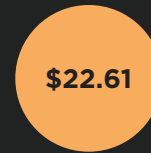
WORKERS ARE PRICED OUT OF BARNSTABLE COUNTY

The Cape and Islands region is home to the oldest average population in the state. Businesses face a shortage of younger workers to replace baby boomers as they retire. But stagnant wages are not the driving force behind Cape Cod's housing problem. Although wages on the Cape are lower than the state average, the main contributing factor is the difference in purchasing power between the year-round workforce and second homebuyers. Cape Cod's workers, with a median income of \$67,374, are routinely outbid by second homebuyers - 70% of whom make more than \$100,000 per year.

Source: Cape Cod Commission

6,688,736 213,413

Source: US Census Bureau



Hourly wage needed to afford a two-bedroom rental on Cape Cod.



Retail/Sales



Home Health Aid



Waiter/Waitress



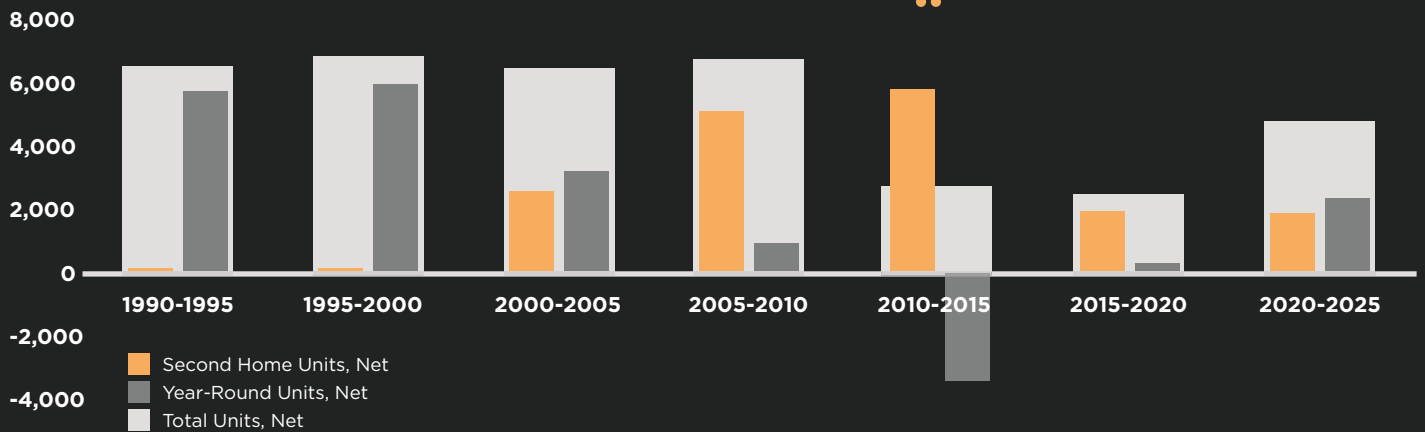
Carpenter



Landscaper



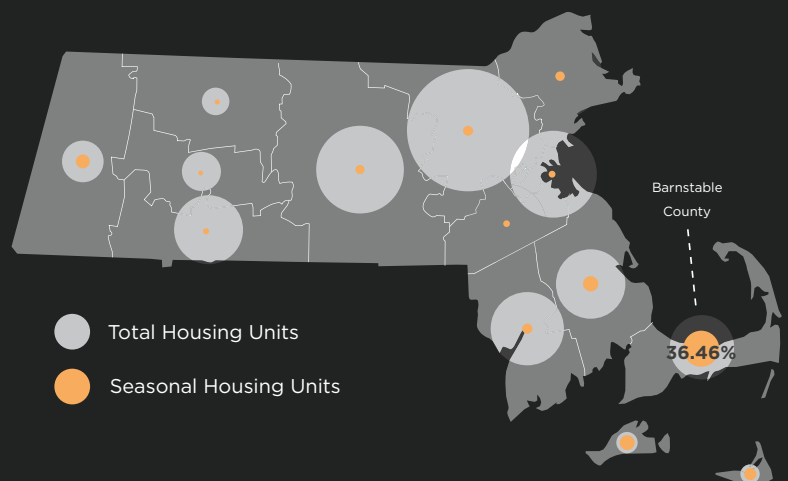
Teaching Assistant



Seasonal housing units comprise 36.46% of Cape Cod's total housing stock.

...compared to only 4.4% statewide. In fact, the number of seasonal homes on Cape Cod is expected to increase at twice the rate of year-round units.

Source: Housing Assistance Corporation



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