



Housing Market Overview and Economic and Fiscal Benefits of Housing Development in Barnstable County, MA



REPORT PREPARED BY
THE CONCORD GROUP FOR
HOUSING ASSISTANCE CORPORATION

October 2022





November 3, 2022

Dear Community Members,

Over the past few years at Housing Assistance, we've been noticing an influx of nontraditional clients unable to find housing in any town in our region. They've been educators and health care workers, retirees and retail workers alike- people with steady incomes and a desire to rent or own their own living space but unable to find available or affordable units. Our staff began to question whether these nascent trends were situational or permanent. This report is born of that question and our desire to understand more deeply the relationship between community, economy, and housing.

With that, Housing Assistance Corporation commissioned The Concord Group to delve deeply into the Cape's regional economy and housing market. Unfortunately, those burgeoning trends solidified into what we know now to be a market incapable of serving our year-round residents. Their report uses data to explain our current state of affairs and is prescriptive in its solutions. The result is confirmation that we need to take action now. We can solve our housing crisis and lessen the affordability gap with coordinated, courageous actions that support the entirety of our community.

Please join me and our partners: Cape & Islands Association of Realtors, Cape Cod Chamber of Commerce, CapeBuilt Companies, and the Home Builders and Remodelers Association of Cape Cod, as we launch Housing to Protect Cape Cod (HPCC). This collaboration unites us in advocacy to protect our communities from the continued loss of people who keep our towns and businesses thriving, while maintaining the culture and environment we love.

We can and must do better; together, we can do more. Make your voice heard.

With appreciation,

Alisa Magnotta
Chief Executive Officer
Housing Assistance Corporation

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The Great Job-Housing Mismatch on Cape Cod

This study demonstrates a “Great Job-Housing Mismatch” on Cape Cod. Tight work- force housing inventory, combined with high price points, leads to exclusionary displacement of working households. As a result, Cape Cod has seen severe labor shortages, especially in retail, service, and elderly care.

The “Great Mismatch” will continue to have long-lasting impacts on the community’s balanced and sustainable development if efforts are not taken promptly. A widening wealth gap, negative job growth, polarized industry composition, top-heavy age structure with growing unmet demand for care are a few of the apparent consequences of having too little attainable housing inventory.

The study utilizes a host of data sources to demonstrate the ongoing issue and exacerbating consequences by taking a quantitative approach, this study strives to remain unbiased and transparent with the analysis. The below executive summary highlights some of the major themes and trends as witnessed in the study.

The Situation

For years, institutional apartment developers have been hesitant to build in Barnstable County due to restrictive zoning laws and stringent approval processes. In addition, residents have provided and sustained pushback for the development of large-scale multi-family structures for concerns over traffic congestion, exasperating construction schedules, environmental issues, and loss of the rural nature of towns to sprawl, to name a few.

Employed labor has been displaced throughout the Cape due to the escalation of rents and the lack of multi-family products across the archipelagic region. Housing prices are rising significantly faster than wages because of a lack of housing available and restrictions that artificially raise the cost of housing. The housing strategy of the last 30 years has failed the Cape’s many communities. It has resulted in sprawl, with less open space, and made developing wastewater infrastructure more challenging.

If attainable dwellings are not provided to workers that need them most, the Cape is at risk of losing a tremendous proportion of essential jobs and long-standing businesses. Local, county, and state governments need to take action to preserve and enhance the Cape’s communities by prioritizing available and attainable housing, using public dollars to achieve such benefits.



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The Great Job-Housing Mismatch on Cape Cod

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Mismatches and Exacerbating Displacement Pressures

Displacement on Cape Cod

Through 2026, ESRI is projecting a **loss of 829 households per year** that earn less than \$100K in annual income. Unaffordable housing stock directly contributes to this loss of lower income households as the Cape's workforce has severely limited options in terms of attainable year-round rental housing (Exhibit II-2).

Real displacement will likely be even higher. Last fiscal year, HAC received 529 calls from households whose landlords were selling their rentals. These households stated they were struggling immensely to find other rental options on the Cape and will need to leave in order to find safe, secure, stable housing. Households like these are at severe risk of being displaced, as existing rental inventory throughout the Cape is >99% occupied and the supply is shrinking. For-sale home price appreciation combined with interest rate increases have meant that even high-net worth individuals are being priced out by the ultra-high net worth cohort.

Simply, the Cape's macroeconomic environment is deficient on numerous fronts, and its trajectory is fatal given the current dynamics of the economy. Swift and corrective legislation is not just suggested but required if the Cape has any hope in regaining its labor force and preventing further displacement of crucial laborers and workers.

Continuing to build "capital A Affordable" housing is critically important however focusing too heavily on strictly affordable efforts will not fully solve resident displacement. The housing crisis will only be fully corrected, when municipalities make legislative efforts (zoning to make building legal and offering density bonuses by adding capital A units) to incentivize denser multi-family development. It is not feasible to strictly continue to deliver capital A affordable housing as the costs of doing so does not allow for the scalability of this product type. This will never significantly reduce the imbalance of supply and demand. The development of more market-rate rental units is a necessity to give current and future community members a chance for residency on the Cape.

The Concord Group considered multiple different mismatches in the current economy to focus on in this memorandum to give insight into why and how displacement is occurring, and the ramifications of it. Altogether, there are three distinct mismatches that drive displacement forces: 1) Labor vs. High-Income Residents; 2) Attainable Housing Demand vs. Current Inventory; 3) Aging Population vs. Caregivers. The following will describe and detail the magnitude of each mismatch by leveraging a host of data sources.



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1. Labor vs. High-Income Residents

JOB GROWTH:

Year-over-year employment growth, nationally, has averaged +1.0% over the past ten years. Job growth on the Cape has averaged +0.4% over that period. Over the past five years, job growth nationally has averaged +0.3% per annum. During the same period, the Cape has averaged **-0.9% job loss**. Poor employment dynamics can be directly attributed to dwindling attainable rental inventory through rent escalations and property sales to second-home owners, not to 2020 recession impacts. The small fraction of the workforce able to afford rising rents and costs are in merciless competition with others to obtain what is left of reasonably priced product. Without attainable inventory, workers are forced to live off Cape or quit their job.



Source: Bureau of Labor Statistics; Moody's Analytics



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Since 2014, employment in Barnstable County has not exceeded 1.5% growth in any given year. Even in the three years leading up to the 2020 recession, growth was limited, averaging about 0.33% per year from 2017-2019 (Exhibit II-5A).

Most metropolitan statistical areas (MSAs) lost significant proportions of employed labor during 2020, as the United States, in total, lost almost 900K jobs or 5.7% of its labor force. But the Cape had much more severe job losses as it lost **11.3%** of its labor force in 2020 or almost 12K jobs. Moody's Analytics projects that **the Cape will not fully regain pre-recession employment levels until after 2026**. This is a much slower pace of recovery in comparison to other metropolitan areas. Moody's is projecting job losses in 2023 (**0.3%**) of about **300 workers**, an extremely concerning metric considering most metros are expected to continue to grow over the next few years as they regain and exceed pre-covid employment levels. An important caveat is that projections are made by relying on current market dynamics. In a macro environment with worsening recessionary pressures, job recoveries will continue to face downward pressure. In other words, it is not guaranteed that employment levels will even recover shortly after 2026.

The healthiest MSAs regained pre-recession levels in 2021 or never experienced a dip in employment, while the majority of other MSAs have regained or will regain employment in 2022/23.

In comparison with nearby metros like Boston, Providence, New York, Portland, and Chicago, Barnstable County has experienced the slowest growth in the past five (5) years (**-0.9%**). The County's 10-year annual growth rate is above zero, as stated above (0.4%), but it cannot attribute this small level of growth to constant year-over-year progress. The growth during this period was primarily driven by two years of strong growth in 2012 and 2013 (>2%) as jobs recovered from the depths of the Great Recession (Exhibit II-5F).

VULNERABLE INDUSTRIES AND COST-BURDENED HOUSEHOLDS:

The rise in second home ownership and the lack of attainable inventory has led to the crowding out of the most essential laborers on the Cape. Renters are witnessing their units being sold off as the for-sale market continues its rampant acceleration, and existing homeowners face higher taxes as property values rise. There is apparently missing middle income housing that has forced many employed households into moving off Cape. Industries that maintain communities (healthcare, education, government, retail, etc.) are rapidly losing their labor force.

From 2016-2021, the top four (4) industries of Barnstable County experienced employment losses, with Education & Health Services losing **2.6%** of its employment (Exhibit II-5B).



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2016-2021 Annual Growth:

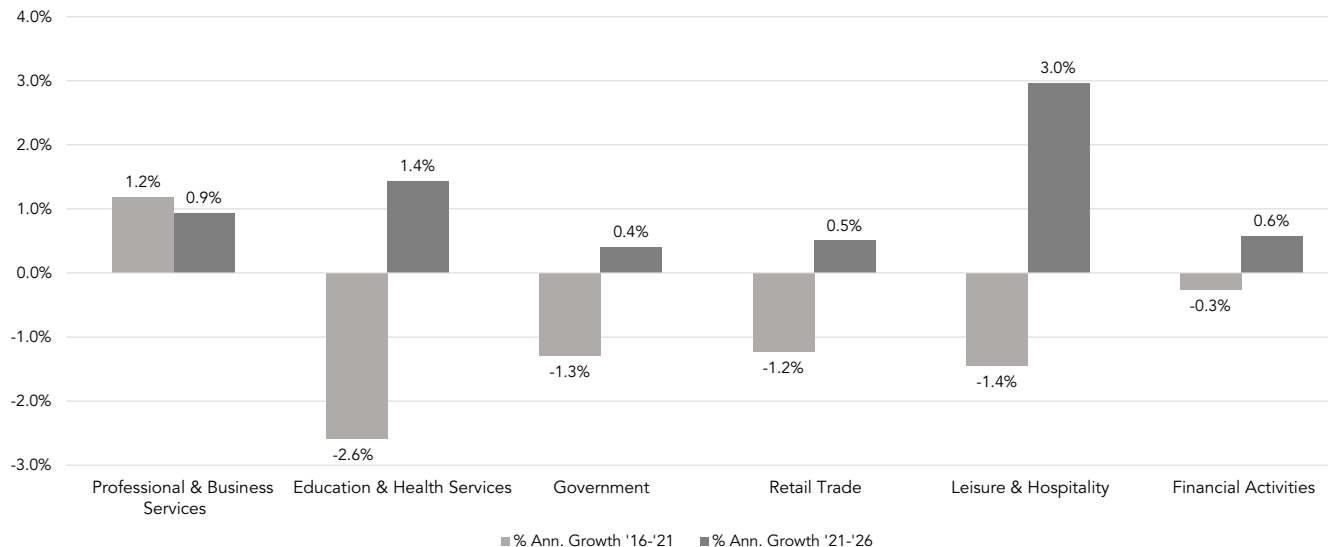
1. Leisure & Hospitality: **1.4% Loss**
2. Education & Health Services: **2.6% Loss**
3. Retail Trade: **1.2% Loss**
4. Government: **1.3% Loss**

Out of the twelve (12) industries profiled, seven (7) industries lost employment during 2016-2021. The construction industry, however, gained 3.7%, highlighting the unrestrained growth in expensive single family home projects. Other services (excluding public administration) also lost **2.0%** of its workforce. Across all industries, there has been an annual loss of **~1.9%** from 2016-2021 (Exhibit II-5B).



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Growth in Top 6 Industries



Source: Bureau of Labor Statistics; Moody's Analytics

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But this loss has not just occurred due to the pandemic. Before 2020, job growth was still compressed, and top industries were losing employment each year. The strongest industry performer was Leisure & Hospitality services, but this is majorly due to the economy catering to the seasonal visitors of the Cape and the second homeowner. This trend will continue without appropriate action to cure the housing crisis.

2016-2019 Annual Growth:

1. Leisure & Hospitality: 1.5% Growth
2. Education & Health Services: 0% Growth
3. Retail Trade: **2% Loss**
4. Government: **2% Loss**

But even for those who have sustained job losses and still desire to live on the Cape, the unaffordability of current and future housing stock has caused the proportion of cost- burdened households to escalate.

Assuming a 30% housing to income ratio, the required income to afford the average rent in Barnstable County in 2021 was \$58,960 (according to CoStar data). This means households would need to pay \$1,474 in rent on average. Leisure & Hospitality, Retail Trade, and those classified as working in Other Services are cost burdened at this level, as the average worker in each of these industries must use more than 30% of their yearly income on housing and upwards of 53% of their annual income to afford these rents. Economic mobility is diminished significantly for households that must spend exorbitant amounts in rental costs. Families don't have enough income to afford everyday essential items. This has lasting effects on intergenerational family prosperity, as the cost of undergraduate education, good healthcare and insurance, and other important expenses become less attainable which forces many into inescapable debt.

The average Education & Health Services worker must spend ~28% of their income on housing. Since many doctors making higher salaries pull the average wage of this industry up, it is likely that many people working as nurses, assistants, and technicians are cost burdened at this rate (Exhibit II-8A). While the Cape continues to age, with expected annual senior household growth of nearly 1% through 2026, fewer healthcare workers are around. This will limit access for residents and costs will soar as supply and demand continues to be imbalanced.

Rental rates in the shadow market are even more costly. Out of the 74 rental listings on the Cape as of mid-October, only 17 or 23% would be affordable for a household earning the median income (~\$87,000). The average rent for these listings was \$1,915 for the average 1,028 SF unit, a PSF value of \$1.86. Thus, the majority of listings or 77% of current shadow rental inventory would not be affordable for households earning the median income. The average rent for these listings was \$4,215 for the average 1,808 SF unit, or a PSF value of \$2.33, putting these units well out of reach for the average worker on the Cape (Exhibit II-8D).



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Monthly for-sale housing costs are even higher than rental units, on average, in Barnstable County. As of 2021, total monthly housing costs after factoring in monthly mortgage payments as well as taxes and insurance was \$2,769, thus putting home ownership well out of reach for Education & Health Service workers, Leisure & Hospitality workers, and Retail Trade workers (Exhibit II-8B). As of October 2022, the required monthly payment for average Cape homes had increased to \$4,158 on average, implying that households would need to make at least \$166,305 to afford payments.

New for-sale housing development is even more unattainable for even relatively high net worth households, as the average yearly housing expenses for current listings is almost \$90,000, meaning that a household must earn ~\$296,000 to meet monthly housing cost payments (Exhibit IV-3A).

As interest rates continue to increase and home values appreciate, monthly payments will become even more costly, and for-sale housing will become even less affordable, even for some households in the higher income tranches (Exhibit II-8C). Wealthy households are being pushed out by ultra-high net worth households, a trend that has also happened on Martha's Vineyard and Nantucket.

According to 2020 U.S. Census data, ~32,000 households in Barnstable County are cost burdened, meaning that they spend more than 30% of their yearly income on housing. For households making \$50-\$75K, 44% are cost burdened. 58% of households making \$35-\$50K are cost burdened (Exhibit II-7F). Many must relocate multiple times per year to find attainable options, as there is very limited rental product available. Home ownership is unattainable for households in these income brackets, but there is no rental inventory available for them either.

As only Manufacturing and Financial Activities industries pay, on average, above \$75K (Exhibit II-5C), this means that much of the labor force is subjected to strenuous housing costs if they are able to find available inventory on the Cape.

JOBS TO LABOR:

The jobs to labor ratio in Barnstable County is 0.9. This means that there is an outflow of labor, or there are more people living within Barnstable County than there is employed labor working in Barnstable County. Healthy economies target a ratio above 1.0 as they seek to retain or house their workforce. Most larger geographies will consistently have ratios above 1.0, since most laborers in a county will also live there too. The fact that the Cape experiences an outflow of labor means that there are issues with housing the labor force within the County (Exhibit II-6A).

In Barnstable County, 12.5% of workers live greater than 50 miles from their place of employment, as of 2019. This number has definitively grown since then. Although some of these workers may still be living on the Cape and commuting to other areas within Barnstable County, a healthy majority must travel across either of the canal bridges two times a day to get from home to work, and vice versa.



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From 2011-2019, an additional 1,961 workers fell into the living greater than 50 miles from work category, equating to a 21.7% change over this eight (8) year period. This group experienced the highest percent change out of the four (4) ranges profiled (Exhibit II-6A) and the second highest nominal change, behind the “less than 10 miles” category. Some popular home destinations off Cape include New Bedford, Boston, Fall River, Brockton, and Plymouth. As of 2019, out of the 87,856 employed labor in the County, over 42,000 people lived outside the County, or almost 48% of the work force.

This suggests that a sizeable proportion of workers must live outside the County, creating traffic congestion on the Cape and on the Canal Bridges especially during morning and afternoon rush hours, and emitting colossal amounts of carbon during each trip which, over time, results in ecological fragility and polluted natural habitats.

LOST GDP:

Things may feel busier, but that’s because there are fewer businesses open and less staffing available to those businesses. The data suggests that the Cape is moving more towards a seasonal economy, where there are twelve weeks plus a shoulder season of economic ballooning followed by nine months of stagnation, where local economies become ruined. Although the Cape has made progress towards having more of a year-round economy in recent years, it stands to lose that if it cannot house its most essential workers.

From 2010-2020, GDP has grown by ~2% cumulatively, much less than the national growth rate of ~11% during that period. Over the same period, GDP and employment growth has been significantly positively correlated, as each metric typically follows the other. As employment losses continue to mount, GDP is likely to also experience losses until many businesses are unable to capture enough revenue to warrant remaining open.

Other seasonal economies like Nantucket, Martha’s Vineyard, and Vail have highlighted how easy it is to lose significant proportions of the labor force until there is little local economy left to provide essential services and goods to residents. See below “Case Studies” for a look inside these matured seasonal economies.



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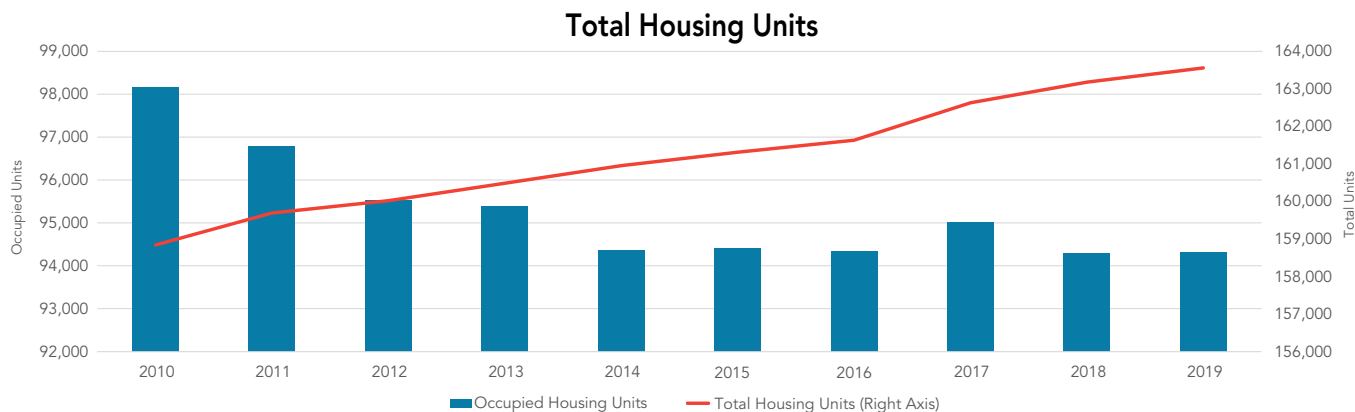
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2. Attainable Housing Demand vs. Current Inventory

SECOND HOMES ("MCMANSIONS"):

Although the total number of housing units has increased over time, the number of occupied housing units has declined over time. This implies that a greater proportion of homes are being built or bought and used temporarily for vacation or second home uses (Exhibit II-7A). These individuals will only be partial contributors to the local economy, as a typical second homeowner does not reside in his or her home for more than a few months every year. This severely impacts business revenue and can lead to situations where businesses are unable to consistently staff their stores, which can eventually destroy revenue and cause closures. While bringing more families to a town will cause an influx of children into the school system, a larger in-place population will bring long term benefits to a community by stabilizing its economy and protecting it against economic downturns and shocks to the system.



Source: U.S. Census Bureau, 2010 & 2019 ACS 5-Yr Estimates

In addition, between 2010 and 2019, total housing units in Barnstable County increased by over 4,700 units. However, the number of year-round occupied housing units declined by over 3,800. This clearly highlights the increase in part-time residency and second-home ownership.

While the increase in total housing units might appear to be positive at first glance, many new builds have been expansive homes only affordable to high-net-worth households. Based on the new housing stock available, as seen in the previous section, these units are not attainable for year-round employed labor earning the median income. This means that nurses, firefighters, retail workers, government employees, and others will be unable to find new housing stock.



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CURRENT HOUSING STOCK:

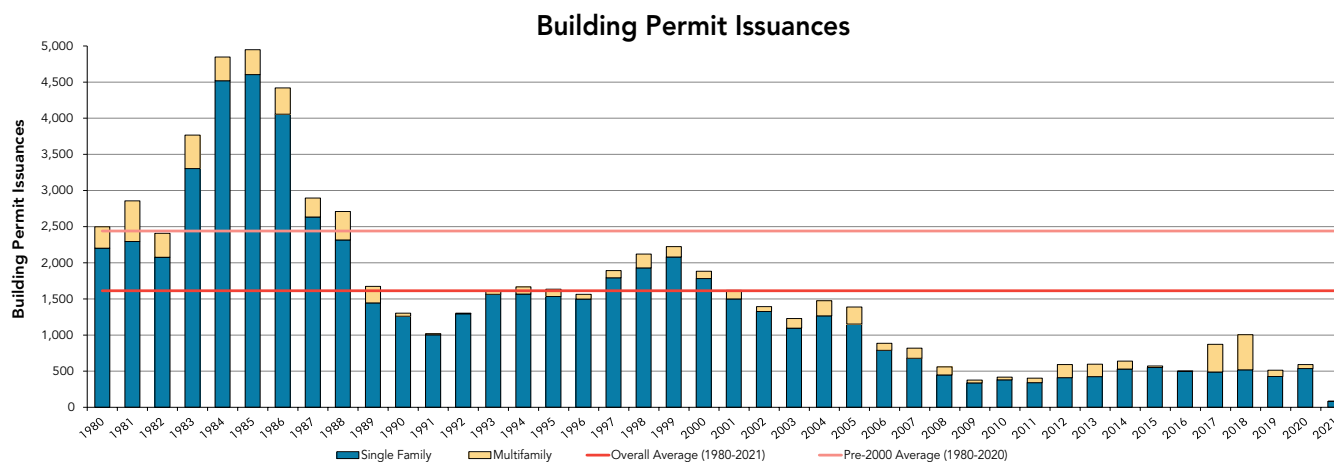
The housing stock in Barnstable County is very uniform, with single-family detached homes making up more than 80% of existing inventory. As seen in the prior section, these homes have been shown to be completely unattainable for most workers earning at or less than their industry's average wage (Exhibit II-7C). Therefore, only 8% of total housing inventory can be categorized as having 5+ attached units, highlighting the severe lack of institutional multi-family housing in the County. 3% of the housing stock possesses 20 or more attached units (Exhibit II-7C).

For developers, higher density is the only way to justify larger scale housing construction that will be attainable for the average worker. Larger multi-family developments are a necessary component of a functioning economy as they provide attainable units for the work force. Currently, there is little in the pipeline with this sort of scale due to restrictive zoning laws and community pushback. Thus, workers on the Cape are left with entirely unaffordable new housing development and almost entirely unaffordable current housing inventory, provoking many to find temporary rentals or housing in cheaper areas outside the County.

Nevertheless, commuter communities such as New Bedford and Fall River face similar issues as the Cape. Rent appreciation coupled with a lack of inventory in these areas has meant that families must move even farther inland to find viable housing options.

STAGNANT DEVELOPMENT:

According to the United States Department of Housing and Urban Development (HUD), building permit issuances, both for single-family and multi-family product types, have slowed down tremendously. The annual average of building permits issued between 1980 and 2020, which includes the period of underbuilding immediately after the Great Recession, was 1,614 units. This is almost 800 units lower than the pre-2000 annual average, meaning that there has been very limited housing development on the Cape in the 21st century.



Source: U.S. Department of Housing and Urban Development



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The number of permits issued for single-family units has greatly exceeded the number of permits issued for multi-family units. The 10-yr average (2012-2021) for multi-family building structure permits is 137 while the average for single-family building permits is 453. Although “McMansions” have materialized in all parts of the County, more attainable multi-family dwellings have seen extremely limited growth even over a period where about 2,000 jobs have been added (Exhibit II-5A). For reasons such as community pushback and developer unwillingness due to stringent zoning and permitting processes, high-density housing stock has been extremely limited in the past ten (10) years.

NEW JOBS AND HOUSING DEMAND:

Considering the current environment of housing stock in Barnstable County, driven by historical trends, over the last decade in conjunction with job growth pace, there is clearly unmet demand for housing affordable to the average worker in the County.

From 2010-2019, total jobs increased by ~10%, while year-round housing, both for renters and owners, **declined by ~4%**. The lack of options for new workers has contributed to critical workers living farther away from their place of work in more affordable towns to the West of the County (Exhibit II-7B).

Barnstable County					
Housing Type	Historical		%	Forecast (1)	
	2010	2019		2029	
	#	#	Change	#	%
Year-Round Owner-Occupied	78,880	75,287	(4.6%)	71,397	(5.2%)
Year-Round Renter Occupied	19,284	19,036	(1.3%)	18,762	(1.4%)
Total Year-Round Housing Total	98,164	94,323	(3.9%)	90,632	
Jobs	91,512	100,443	9.8%	103,251	
Housing to Job Ratio	1.07	0.94		0.88	

Source: U.S. Census Bureau, 2010 & 2019 ACS 5-Yr Estimates

Between 2010 and 2019, the year-round housing to job ratio in Barnstable County declined from 1.07 to 0.94. Assuming trends in housing and job growth remain similar, the housing to job ratio in the County will keep falling, reaching ~0.88 in 2029. Current housing availability and future pipeline dynamics will continue to drive workers off the Cape and will increase commute times, which will directly contribute to increased traffic and congestion. If these trends continue, many workers may make the decision to permanently leave the Cape, draining the full-time work force and affecting local businesses that provide needed services and responses to year-round residents.

Mismatches and Exacerbating Displacement Pressures

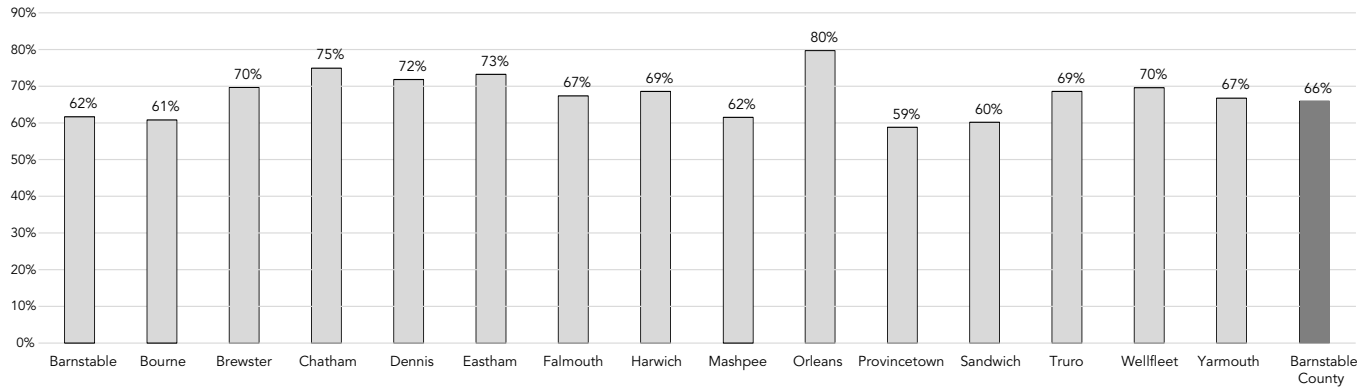
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3. Aging Population vs. Caregivers

The senior population (55+) makes up 49% of the total population in the County and 66% of total households (chart below) in the County (Exhibit II-2). Projections estimate that this segment of the population will continue to grow over the next five years, at a rate of 0.8% per year or 865 people per annum. By 2026, projections estimate that the majority of the population (51%) will be classified in this cohort. Younger working age individuals are being replaced by older, wealthier retiree households that contribute minimally to the year-round economy. Eventually, there will not be enough younger professionals to care for the aging population, creating healthcare shortages and inaccessibility issues.

Senior Households (Share of Overall)



Source: ESRI Demographics

At the same time, and as seen above, healthcare workers are facing increased rates of cost-burden and displacement. At current average rental rates, healthcare workers making the average salary of the industry must pay 27% of their yearly income on housing. Excluding salaries of physicians, it is likely that many nurses and technicians are already cost burdened and many more have already been displaced. If this trend continues, critical healthcare workers will begin to leave their jobs as it is no longer feasible or productive to drive such distances for such little yearly income.

This begs the question as to who will take care of the aging population as this gap between the number of elderly individuals and caregivers continues to widen? Healthcare workers are vital to every community, but especially in ones that have higher median ages, as seniors have higher probabilities of debilitating injuries or illnesses. But when operationally important workers are displaced, hospital waiting rooms will grow and actual medical services will likely take a significant blow.

The Cape is not an area in which many younger individuals age in-place. Children raised in the County will choose to relocate after high school and college to larger cities with more job opportunities and flexibility. Those who wish to return cannot do so without moving into their parents' basement or finding temporary housing options. This negatively effects the growing elderly population because, in addition to the limited medical workers on the Cape, they also do not have family members to take care of them.



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Housing Market Crisis

Rent growth in the County has outpaced median income growth over the past 10 years. Between 2010 and 2020, average asking rents grew by 30% while median household incomes grew by 27.4%. However, median incomes are not rising because of workers earning more. This median income growth can be directly tied to resident displacement as middle income groups are being replaced by high net worth households. Although higher income earners are generally protected by rising housing costs, middle- to low-income earners have been subjected to cost-burden as there is very limited housing dedicated to being attainable for the middle class.

Since 2006, there have been 580 “capital A Affordable” units developed in the County, as the total amount of affordable units was ~1,800 as of mid-July 2022 (Exhibit II-7G). Nevertheless, asking rents have also increased for these units to about \$1,270 as of 2022 YTD, meaning that a household must earn ~\$51K to comfortably afford such prices. At this level, many workers in the Retail Trade sector would be cost burdened. The issue is that there is very limited inventory and high demand for such inventory, creating under-supply issues which means only select residents can obtain such housing through extensive lottery processes where most are left without any options.

As of 2020, there were ~29,000 households living in the County earning \$50K or less. The roughly 1,800 affordable rental units represents a small fraction of these lower income households. It is no surprise, then, that ~72% of these households are cost- burdened (Exhibit II-7F) as they must pay market rates or find short term housing options.

Additionally, households in the \$50-\$75K income bracket also lack adequate housing options. This cohort represents 17% of households in the County according to 2021 ESRI data. But almost half (44%) are cost burdened due to the Cape’s extremely limited “cheaper” housing stock. It is likely that the remaining half purchased their homes when it was more affordable, and before the exponential home price appreciations of the past couple years. Nevertheless, the lack of rental inventory forces the cost-burdened cohort to source deals in other ways such as renting through the shadow market or finding temporary rentals. Although those making above \$61K would be able to afford the average asking rent for market-rate properties in the County, there are only ~2,000 units of inventory and they are 99.5% occupied. This metric alone displays the unhealthiness of the rental market.

In healthy rental markets, the target occupancy rate is closer to 93-95%, providing more turnover in units and decreased competition which will ultimately benefit the consumer. When occupancies are above 99%, properties can drive prices as there is high likelihood that there are enough higher income earners who will “win out” over their lower income counterparts.



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Housing Market Crisis

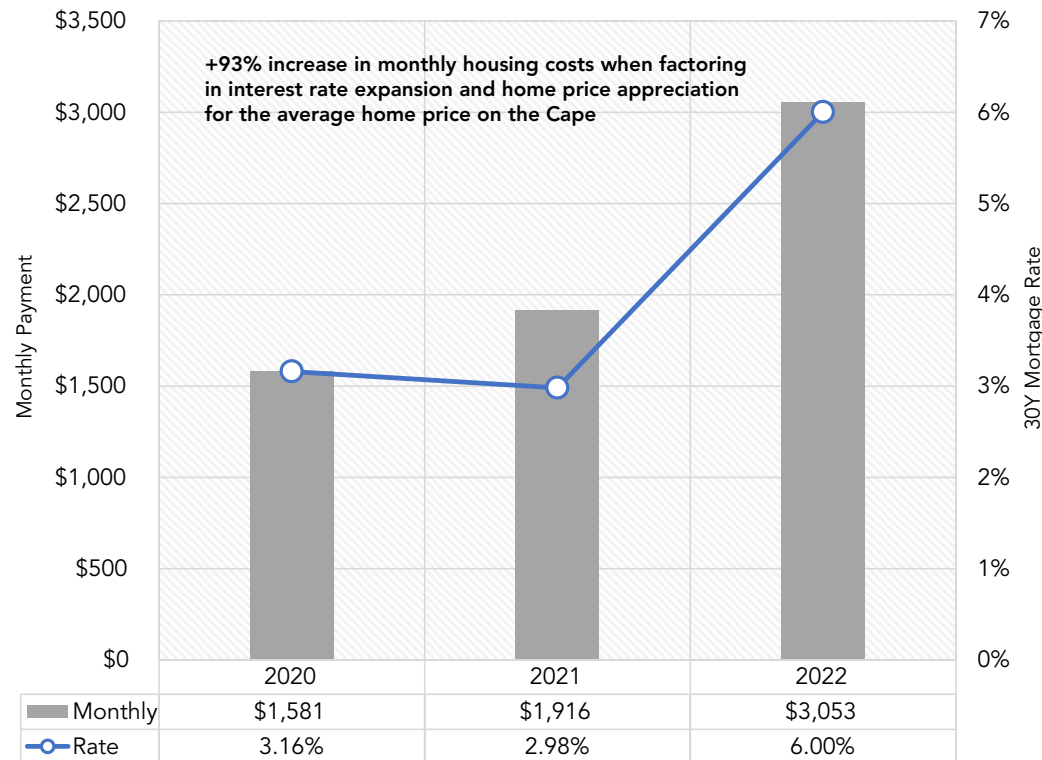
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The same trend has plagued the for-sale market as new construction is entirely unaffordable for anyone except the ultra-high net worth individual. Highlighted in the section above, new builds in the County have become entirely unaffordable for most working-class individuals and families. As of July 21st, 2022, there were 73 listings for newly constructed homes on Redfin. These homes were either single family residential homes (54), townhomes (8), or condos (11). The average price across all product types was roughly \$1.7MM at the average 2,434 SF unit (\$696 PSF). To afford a home at this price, assuming a 20% down payment and 6.0% mortgage rate, a household would have to pay ~\$7,400 per month or ~\$89,000 per year. Assuming a 30% housing to income ratio, the lowest a household could earn without being cost burdened would be ~\$296K. This represents 338% of the median income on the Cape and 498% of the average wage on the Cape. When using the cheapest new construction price (\$699,900), the required income (30% housing to income) was still very high at \$124,516, representing 142% of the median income on the Cape and 209% of averages wages on the Cape (Exhibit IV- 3A). Hence, the problem of affordable housing is not only failing to be corrected, but it is moving viciously in the wrong direction.



Housing Market Overview and Economic and Fiscal Benefits of Housing Development in Barnstable County, MA



Source: TCG, Redfin

Housing Market Crisis

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The Cost of Doing Nothing

As witnessed in the section prior, the housing market crisis is the primary issue on the Cape, forcing low- to moderate-income residents to make difficult decisions about their future in the County. Since there is such limited attainable rental pipeline as well as unaffordable current housing stock, even moderate-income earners face high likelihoods of being cost burdened. For new residents, the prospect of finding attainable housing is unlikely. The for-sale market is entirely unaffordable for those earning average wages and the rental market has little availability. If new market-rate attainable housing is not built, then these trends will continue and more of the labor force, both current and future, will be forced to relocate to more affordable neighborhoods outside of the County. This exodus has already been witnessed considering the Cape's population loss during the second decade of the century.

Between 2010 and 2020, Barnstable County confronted a population loss of about 4,000 people or a **1.83% decline**. At the end of 2020, there were about 213,000 people living on the Cape. These former residents have been replaced by a steady inflow of second homeowners who have, as we have highlighted above, driven home prices to historically high levels. These households are typically high net worth and have the flexibility of working remotely or are already retired, thus contributing only a small fraction to the local economy as buyers but nothing as workers.

Retail revenue, specifically, is severely impacted by this as there are limited profits for half of the year when second homeowners depart from the Cape. According to TCG's estimation, there was about an \$80MM difference between 2010 retail revenue and 2020 retail revenue (2017 dollars) from population loss alone (Exhibit IV-4). This puts pressure on local businesses that rely on a steady flow of income in the months outside of the peak seasons. They must already rely on new seasonal employees each peak season who must be trained, thus taking away time to improve business practices. And as profits slow down during the off season and workers leave, many shops and stores find themselves working strenuous schedules to keep their doors open just to break at or below even. Ultimately, as a place becomes increasingly driven by tourists and second-home owners, year-round residents and especially small business owners will suffer. These dynamics put pressure on local governments to allocate more towards local business relief in efforts to subsidize failing operations, which can equate to higher taxes for residents.

Population loss in the Cape has and will continue to bring about severe consequences. It means towns and businesses will have to subsidize more workers, creating unprecedented pressures on local economies and higher prices will be passed onto consumers.

The Cape is at a fork in the road. Given current employment dynamics, the Cape will not recover pre-2020 employment until well after 2026. Households will continue to be displaced at escalating rates as there is simply no inventory left for the average worker to afford. 829 displaced households per annum will likely turn into more than 1.5K displaced households per annum in the next couple years. And as these households are replaced, those replacing them will not be the ones to hold local jobs, burdening local businesses that will soon not have employees necessary to stay open.



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The Cost of Doing Nothing

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Case Studies

The effects of displacement have been witnessed in communities across the country. Some places, like Martha's Vineyard, are farther down the road in terms of the negative changes that have arisen due to housing shortages.

According to a Washington Post article, "schools have struggled to staff classrooms, indigenous people whose families have lived on the island for centuries have been forced to leave their homeland, firefighters and government workers can't afford to stay in the communities they serve. People juggling two, three, even four service-industry jobs say they live each month knowing they are one rent hike away from moving into their cars or tents or onto a friend's couch" ("On Martha's Vineyard, even the doctors can't afford housing anymore" (Lang 2022)). Laura Silber, the coordinator of the Coalition to Create the Martha's Vineyard Housing Bank, said that if you don't have municipal workers, or teachers, or emergency workers, a community will cease to be able to function. Many workers must move "every few weeks" to find semi-affordable options. Because of policymakers' indecisiveness and lack of affordable housing development, the island is more than 10 years late in confronting its housing crisis, according to experts.

In Vail, Colorado, the same displacement effects have ravaged the community in which 80% of households are second homeowners, contributing to a shortage of around 4,400 housing units, according to a Vail Valley Partnership analysis from 2019. 80% of employers have said that the lack of affordable housing options is "hurting their ability to hire workers" ("Decades in the making: Vail Valley's workforce housing crisis has been building since the beginning" (Williams 2019)). As already witnessed, lift lines have had to close, and restaurants are short-staffed. Ultimately, the reputation of the place and destination as one of the best ski resorts in the country has suffered and will continue to do so due to the lack of workforce housing.

The Benefits of Multi-family Housing Development

An important component of the study focused on the recognizable benefits of building more multi-family housing on the Cape. In Section III, The Concord Group (TCG) highlights several ways in which every new multi-family building of 250 units will benefit the area. From a quantifiable amount of job creation to more ambiguous benefits like place making and modernization, multi-family development can make a difference in the short- and long- term. Simply, having attainable housing retains jobs and the workforce.

Per every 250 units, 38 total permanent jobs are created by the residential component of a new building assuming a 0.15 permanent local jobs per unit ratio, which matches the 10-yr 5+ unit permits to job ratio. This is accounting for new residents who will be holding new positions, and not existing workers with jobs already on the Cape. The latter cohort will indeed fill many of the rooms, as some will relocate from locations farther from their employment site. TCG also calculated that an additional 20 permanent jobs will be added from a retail component, if applicable, by adding a ground floor dining option, fitness studio, shop, or other niche store to the first level of a new multi-family development. In total, 58 permanent jobs are expected to be created per a 250-unit building (Exhibit III- 2A).



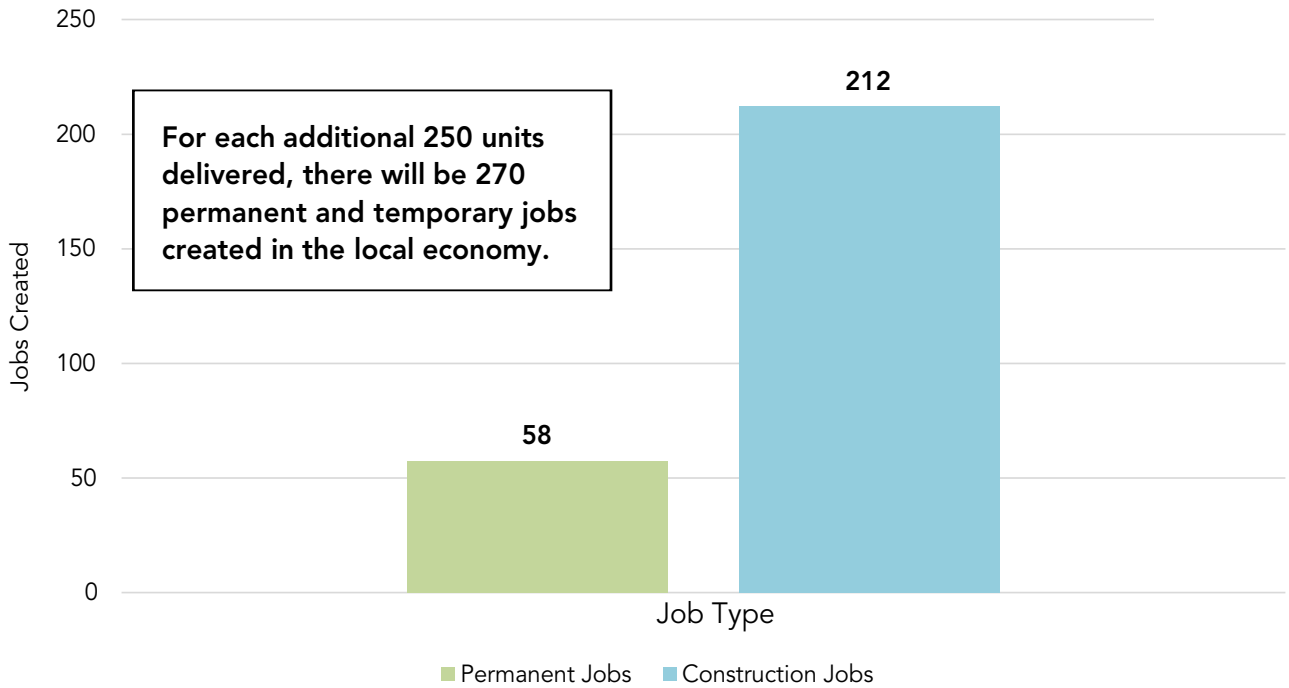
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In addition, there will be temporary jobs created during the construction process. Exhibit III-2A shows the assumptions that are factored into the calculation, where TCG finds that ~212 temporary construction jobs would be created by adding a 250-unit multi-family building to the Cape. This number considers annual residential revenue, NOI, planned retail space and subsequent NOI, and project capitalized value (Exhibit III-2A).



Source: TCG

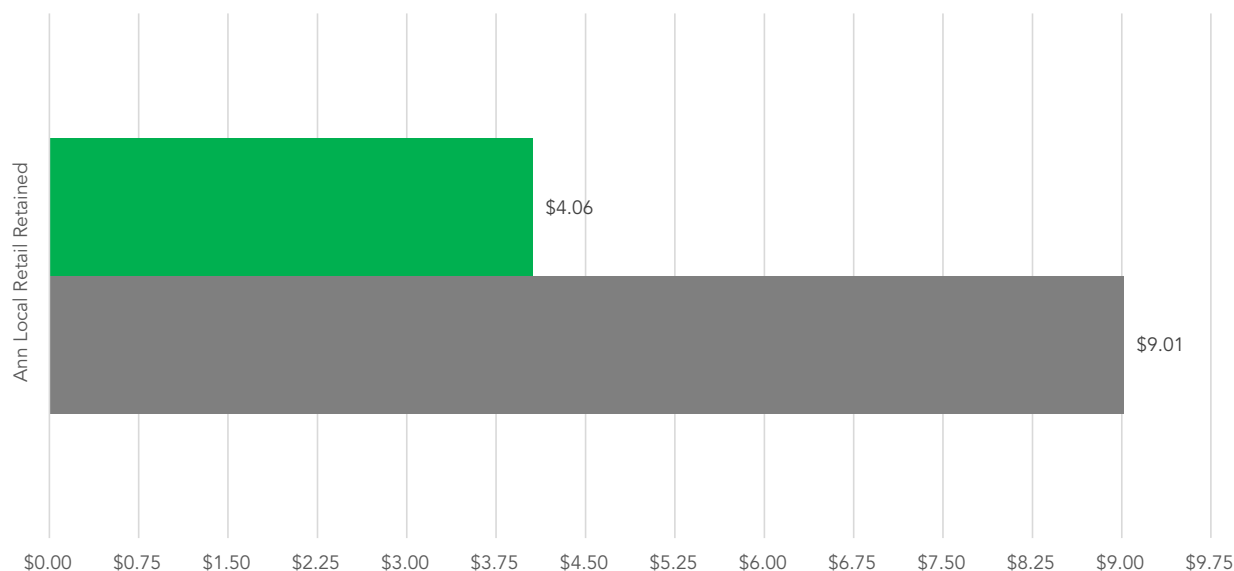
When new residential units are delivered, there will be a direct benefit on the local economy in terms of increased retail sales. Based on TCG’s calculations in Exhibit III-2B, there will be an estimated ~\$4.06MM additional retail income added by new residents living in the local economy (Exhibit III-2B). This number is derived from actual annual retail spending capacity per capita on the Cape and adjusted for inflation. 45% of sales are expected to remain within the Cape, considering the rise in eCommerce platforms. Nevertheless, this increased spending due to building more multi-family inventory will undoubtedly benefit the communities on the Cape, as businesses will be able to rely on more consistent revenue.

The Benefits of Multi-Family Housing Development

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Local \$ Retained as Total of Retail Revenue (\$MM)



Source: TCG

There are also multiple different fiscal benefits to adding more multi-family units through sales tax generated by residents of the community, sales tax generated at the community, and property tax generated by the community. An estimated \$85,399 in county and city sales tax revenue will be generated from resident spending. An additional \$40,000 will be generated from spending at the ground floor retail component of the community, if applicable. Lastly, the county will generate ~\$600,000 from annual property taxes from a 250-unit multi-family community (see Exhibit III-3A and Exhibit III-3B for calculations and assumptions).

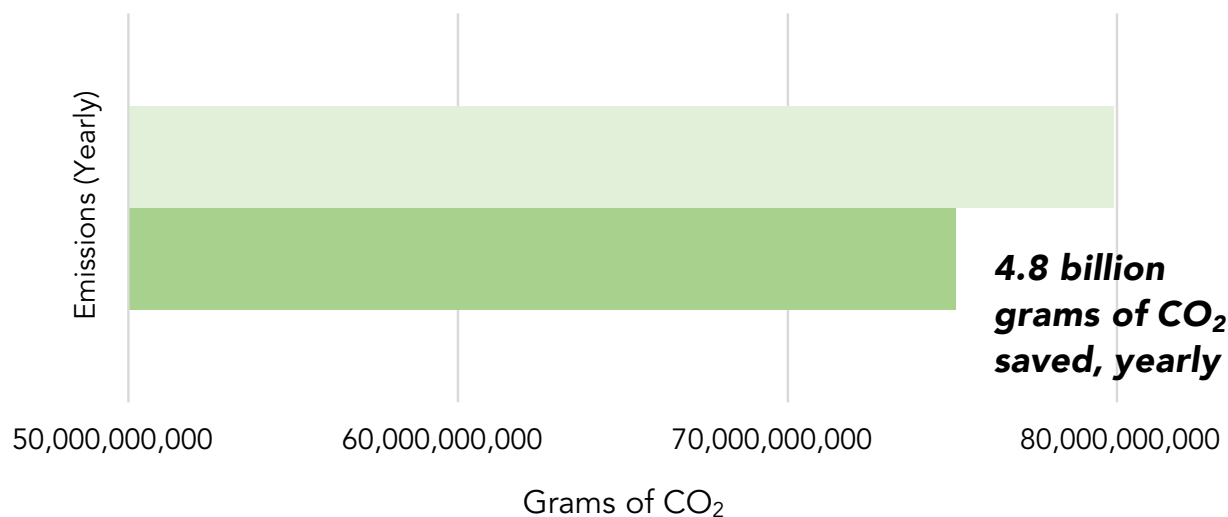
By allowing the workforce to live closer to where they work, there will also be considerable environmental benefits. TCG ran an assumption scenario based on emission statistics of a Honda Accord, or the most popular car in Massachusetts. This was conducted by taking the 428 people added by a 250-unit multi-family building from the “greater than 50 miles” from work group and placing them into the “less than 10 miles” from work group. These categories are derived from 2019 census data that tracks how far people must travel to get to their places of work. Thus, by adding these people into the much shorter commuting distance group, we can compare emissions between the current situation and potential scenario if every resident was able to live less than 10 miles from their workplace. In the end, the CO₂ saved is astronomical over the course of a year, which will go to improve the air quality of the Cape and long-term sustainability of the place. TCG calculated that some 4.8 billion grams of CO₂ would be saved in such a scenario.

The Benefits of Multi-Family Housing Development

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Current vs. Scenario Emissions - Yearly



Source: TCG

The efficiency of high-density projects also creates direct and indirect economic and social value, if situated near town centers. Local businesses will thrive off the consistent patronage of residents from a new multi-family development. Full-time residents will feel part of a community that seeks to include not just high-income homeowners but essential workers and responders. Although village centers might have struggled over the pandemic, adding more residents to these historic areas will undoubtedly cause them to regain momentum and thrive in ways like never before. By utilizing less space to house more, environmentally protected areas and sensitive habitats can be protected. Traffic will lessen as more people are closer to their place of work, and these individuals will benefit from having more time with family and more economic mobility, in turn contributing more to the local economy.



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The Benefits of Multi-Family Housing Development

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Recommendations

Housing is infrastructure, but current zoning laws prohibit large-scale multi-family structures in many areas across the Cape. Without these developments, residents are forced to compete in an extremely expensive market which offers very little housing options to households earning \$75K or less per year. This causes workers to look elsewhere, and typically off Cape, for housing options suitable for their budgets or to be cost burdened. If actionable steps are not taken soon, critical laborers will be incentivized to permanently leave.

Towns must look beyond the arbitrary target of 10% “capital A Affordable” inventory. Only focusing on building affordable units catered to extremely low income and low- income residents will not remediate the issue. The costliness of these projects both for developers and municipalities makes it impossible to scale and build enough units. This is why reforming zoning prohibitions is critical, so that the market can naturally respond by building moderate income multi-family housing and then additional gaps can be filled with distinctly affordable product. Creating a legal pathway is critical for ensuring that enough year-round rentals are built in the many submarkets of the Cape.

Towns should be monitoring the number of seasonal rentals, year-round rentals, second home ownership (part-time residents), and year-round ownership so that the balance does not continue to shift towards second home ownership. The only way to achieve or preserve such an appropriate ratio is by building meaningful new supply, including dense multi-family product catered to the workers in each town that keep the local economy running.

Healthcare workers, emergency response workers, retail workers, teachers, and other employed labor that keep a community functioning will soon be absent in communities throughout the Cape. This will lead to local business closures and short- staffed shops, increased home prices, higher taxes, lost municipal revenue, heavy traffic, and negative environmental consequences. These byproducts negatively affect not only the community at large, but the quality of life of full-time and part-time residents.

Towns must quantify the number of units necessary to meet low- to moderate- income household demand, with the recognition that this is a long-term vision, and steady year-over-year progress is required to reach such lofty goals. As of 2020, there were 28,789 households on the Cape earning \$50K or less and only 1,789 “capital A Affordable” units. This gap has only increased over time, as the pace of population growth has significantly outweighed attainable multi-family housing development. To decrease this gap, the Cape must commit to getting closer to the 1/3 year-round rental ratio each year. As seen in the analysis, adding 250 multi-family housing units will contribute significantly to providing more opportunities for households in addition to bolstering the local and regional economy.

Every locality across the Cape must be committed to closing the gap by supporting the reformation of zoning laws and provide development incentives to multi-family builders so that the market can respond effectively. In addition, to further close the gap, reforms must then require a certain proportion of new units should be incentivized to be affordable for the lowest income households. Typically, this proportion of wholly affordable units will be anywhere from 15%-25%, depending on the needs of a community.



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Recommendations

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Localities should work with development partners to ensure that housing development and future projects meet the needs of a variety of income types. This will include, of course, the capital a affordability requirements listed above, but also should consider other avenues of affordability including smaller units, higher bedroom count per unit, creative units including macro-units, multi-generational housing, densification scenarios, and other toolkit items in order to maximize housing production and its effectiveness in meeting the full-time resident's demand.

In addition to building more units, municipalities must unite around legislation that pools funds for financial assistance, rental housing preservation, housing trust funds, and homeowner education programs that seek to make relatively localized improvements, over time, to existing housing conditions. More suggestions can be found in Exhibit IV-1, which details how a municipality might increase housing stability with the "Policy Playbook."



Housing Market Overview and
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Recommendations

The above assignment was completed by Tim Cornwell, David Reynolds, Kadek Ayu Vergi Agustini, and Yijia Yang.

TCG used best efforts to collect information and prepare forecasts.

No guarantee is made to any information or forecasts in this report and exhibit package. Actual results may vary.

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I. Executive Summary

Overview

- Housing Assistance Corporation of Cape Cod (“HAC”) has hired The Concord Group (“TCG”) to provide an analysis of the benefits of housing development in the fifteen towns that comprise Cape Cod and are included in Barnstable County.
- This analysis will be used as part of HAC advocacy efforts for more year-round rental housing in Barnstable County.
- The following memorandum outlines TCG’s key takeaways and conclusions:

The Situation

- In addition to the reluctance institutional apartment developers have had over building in Barnstable County, residents themselves have provided and sustained pushback for the development of larger multi-family structures for concerns over traffic congestion, exasperating construction schedules, and water supply and contamination issues, to name a few.
- But employed labor has been displaced in many county subdivisions due to the escalation of rents and the lack of multi-family products across the archipelagic region.
- If affordable dwellings are not provided to those who need them most (police officers, schoolteachers, hospitality workers, etc.), the Cape is at risk of losing a tremendous proportion of essential jobs and long-standing businesses.

Methodology

- Market Areas: 15 County Subdivisions which make up Barnstable County, Barnstable County, and Massachusetts as a whole
 - County Subdivisions: Barnstable, Bourne, Brewster, Chatham, Dennis, Eastham, Falmouth, Harwich, Mashpee, Orleans, Provincetown, Sandwich, Truro, Wellfleet, and Yarmouth
 - County: Barnstable, MA [Synonymous with Barnstable MSA and Cape Cod]
 - State: Massachusetts
- We use a variety of different data sources, including the US Census Bureau, Moody’s Analytics, State of the Cities Data Systems, ESRI, Bureau of Labor Statistics, Census On the Map, U.S. Department of Housing and Urban Development, Zillow, as well as a host of other resources.



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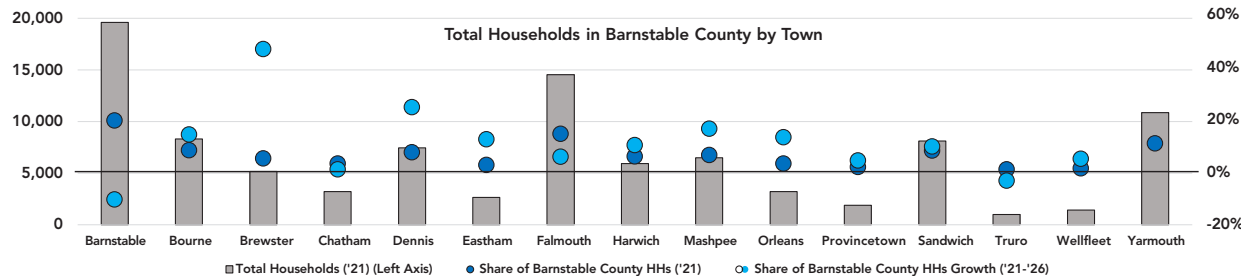
Demographics and Employment Trends

Demographics:

- As of 2021, there are around 99,845 households residing in Barnstable County, MA (coextensive with Cape Cod). Household distribution, however, varies greatly between the 15 towns that make up the county. The largest town on Cape Cod is Barnstable, which has over 19, 600 households as of 2021. The three largest towns in Barnstable County by total households, Barnstable, Falmouth, and Yarmouth, account for around 45% of the county's total households
- 2021 median household income in Barnstable County is \$82,092, slightly lower compared to the median household income in Massachusetts (\$85,273). While median household income in the county is lower than the statewide median household income, median household net worth is over 70% higher in the county than in Massachusetts (\$348, 600 vs. \$194,000). This is likely due to higher property values and home equity, especially among older households living on Cape Cod.
- Median age in Barnstable County is 54.0 years, much older compared to the median age in Massachusetts (40.6 years) and the U.S. (38.8 years)
- 19% of households in Barnstable County are renters.

Vulnerable Industries Employment:

- The average salary of Leisure & Hospitality and Retail Trade workers is 72% and 30% lower than the average salary in Barnstable County, respectively.
- The top 6 industries in Barnstable County, Prof. & Business Services, Education & Health Services, Government, Retail Trade, Leisure & Hospitality, and Financial Activities, have all experienced negative employment growth over the past 5 years except for Prof. and Business Services which has grown 0.5% annually (2016 – 2021).
- Barnstable County lost 11.3% of its labor force in the year 2020 and has yet to return to pre-covid employment levels.



Source: ESRI Demographics



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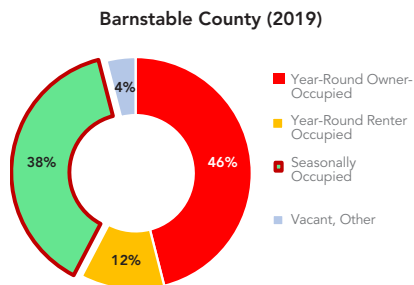
Housing Market Crisis

Housing Unaffordability:

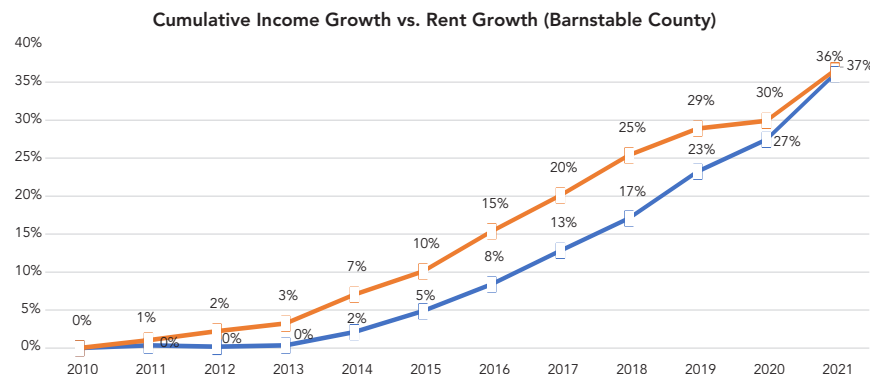
- Median incomes have skyrocketed due to the increased proportion of high-net worth individuals on the Cape.
- For housing that is available, many workers in lower-earning industries cannot afford the asking rent.
- Based on the 2022 YTD (October '22) average asking rent in the County (\$1,474) and assuming that households spend 30% of their income on housing, a typical household on Cape Cod will need to earn at least \$58,960 to be able to pay for rental housing without being cost burdened.
- Based on the average asking rent in Barnstable County, lower-income workers in industries such as Leisure & Hospitality and Retail Trade are severely cost burdened, having to spend 53% and 40% of their yearly wages on rental housing, respectively.

Lack of Housing Units:

- The annual average of building permits issued between 1980 and 2020, which includes the period of underbuilding immediately after the great recession, is 1,614 units. This is almost 800 units lower compared to the pre-2000 annual average.
- 38% of housing in Cape Cod is occupied seasonally, and 4% of inventory is currently vacant. Only 12% of total housing units are renter-occupied, meaning there is little product for those demanding rental options, and close to half (42%) of the existing housing inventory is devoted to temporary residents or is completely vacant (based on 2019 ACS data).



Source: ESRI Demographics



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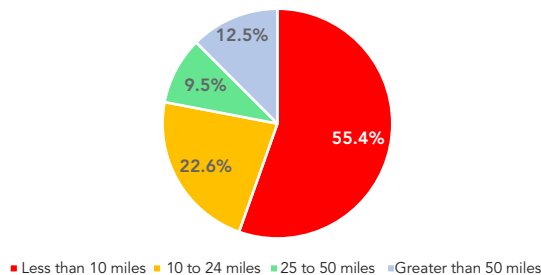


Commuting Patterns

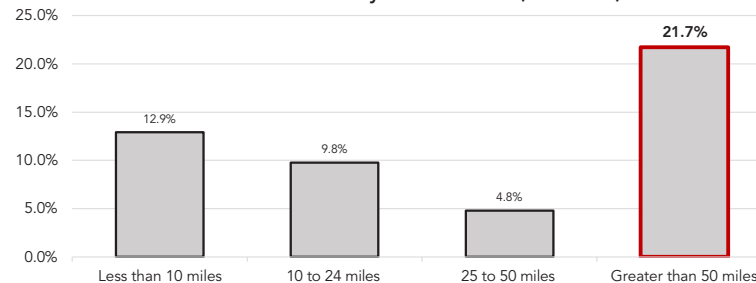
Commuting Pattern Problems:

- Jobs / Labor Ratio: 0.905
 - When this ratio is below 1.0, this means that there is an outflow of labor, or there are more people living within an area than working within a place.
 - Healthy and sustainable economies target a ratio above 1.0 as they want to retain (house) their workforce.
- Out of the ~88,000 workers in Barnstable County, about 42,000 or ~47% of all workers live outside the county as of the 2019 US Census. More than 44% of all workers must travel at least 10 miles to get to work. While some of these workers live on the Cape, others are stuck with longer commute times. 22% (or >1/5) of the employed labor must travel at least 25 miles. A small fraction of these people could also be living on the Cape, but the majority must deal with crossing the canal bridges during their daily commutes.
- According to Paul Niedzwiecki, CEO of the Cape Cod Chamber of Commerce, businesses on the Cape hire about 20,000 to 25,000 seasonal workers annually. Among them, 3,000 to 5,000 are foreign workers coming through the H-2B and J-1 visa programs.
- Between 2010 and 2019, there was a significant increase in the number of workers commuting more than 50 miles to get to their workplaces. The total number of people commuting more than 50 miles increased by 21.7%, almost double the increase in the number of workers commuting less than 10 miles.
- Daily summertime bridge traffic reached its' peak in 2021 when almost 140,000 cars came to and from the Cape. This peak was achieved in concert with the largest year-over-year change in traffic, likely fueled by the return to tourism after COVID's disruption in 2020.

Home Distance for Barnstable County Workers (2019)



Growth in Workers by Home Distance (2011-2019)



Source: 2011-2019 OntheMap

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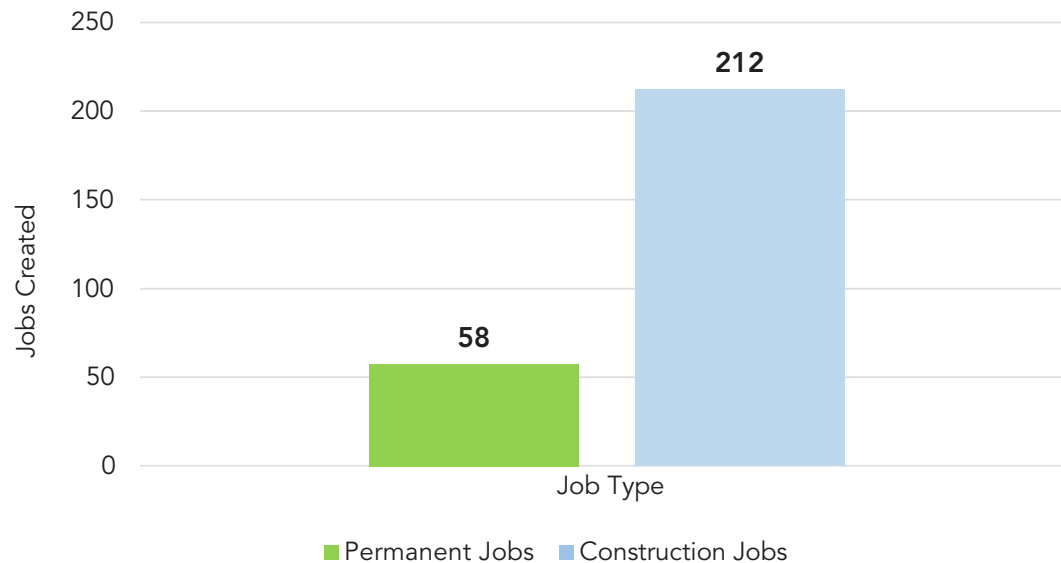
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Benefits of Multi-family Housing Construction (per 250 additional multi-family units)

Job Creation

- With every 250 units added, it is expected that about 0.15 jobs will be created per unit built. This estimation does not take from the already existing labor supply on Cape Cod but assumes that with the availability of new housing options, professionals who work elsewhere will flock to the county, adding jobs in different sectors of the economy, as rental housing becomes more abundant.
- Additionally, with the redevelopment or ground-up construction process, a sizeable number of over 200 temporary jobs will also be created. These temporary jobs range from construction managers to glass and glazing installers.
- There will also be jobs added for those who manage and work on the property. Property management teams, leasing specialists, and groundskeepers will be essential to the function of the property after it's delivered. If a retail component is added, there will also need to be people working in the store.
- Permanent Jobs Created: ~58
- Construction Jobs Created: ~212
- Net New Jobs Added: ~307



See calculations (Exhibit III-2A)

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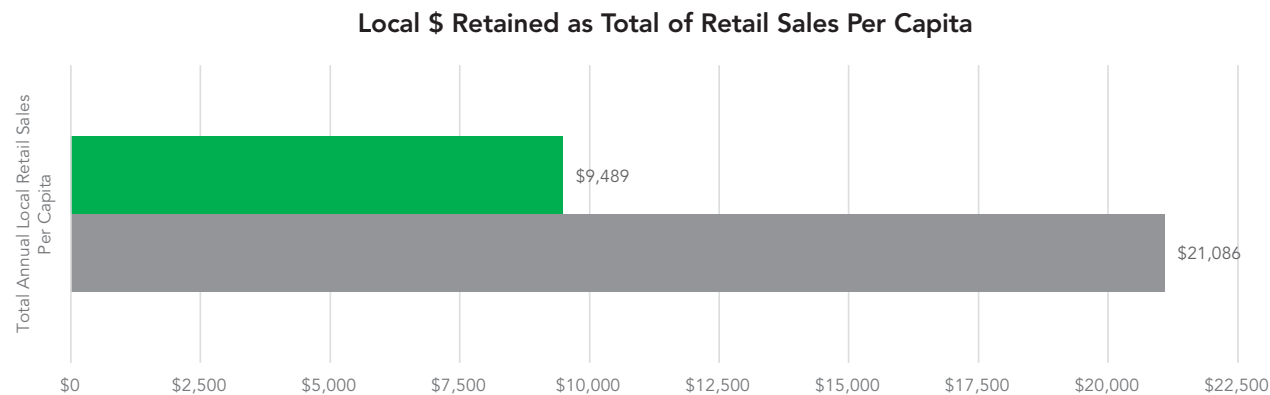


Fiscal Revenue

- The amount of fiscal revenue generated by the community was linked in part to the retail section (detailed below) but also comprised of an assumption we made regarding the effective local and county sales tax retention, based on the 6.25% statewide sales tax rate. This assumption was 1% for both the city and county retention or 16% of 6.25%.
- Property tax revenue from the community was generated by multiplying the total capitalization value of the 250-unit project by the county property tax rate. The city retention of the total property tax was assumed to be 20% of 0.80% or 0.16%.
- Retail Sales Tax Revenue from Local Resident Spending (City + County Rev.): ~ \$85,399
- Sales Tax Generated at Community (City + County Rev.): ~ \$40,000
- Property Tax (County Rev.): ~ \$604,200
- Property Tax (City Rev.): ~ \$120,840

Retail Revenue (Local Economy)

- Average retail expenditures as a total and per capita were estimated based on 2017 per capita retail spending capacity from ESRI. That number was adjusted for inflation and multiplied by the number of new residents among the 250-unit community (conservatively assuming 1 person per bedroom and 95% occupancy of the community). To estimate the number of retail expenditures that would remain in the local economy, we assumed 45% based on other case studies around the country and by speaking with residents.
- Total Annual Retail Expenditures: ~ \$9.01 (\$MM)
- Total Annual Local Retail Expenditures: ~ \$4.06 (\$MM)
- Total Annual Local Retail. Exp. Per Capita: \$9,489



See Calculations (Exhibit III-2B, III-3A-B)

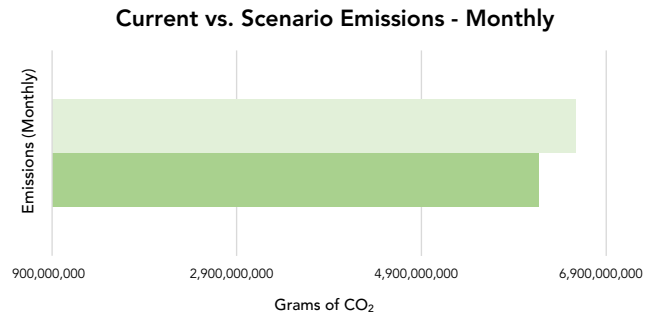
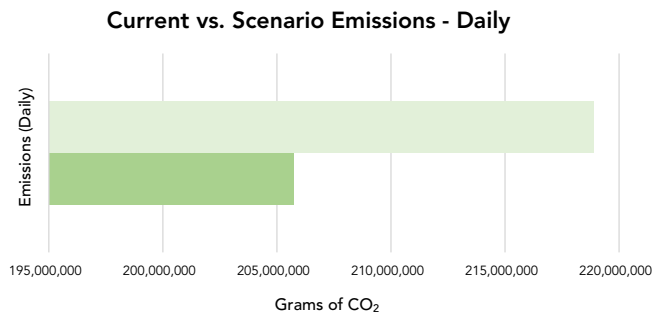
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Environmental Benefits

- The environmental benefits of bringing employed labor closer to their place of work are unquestioned. Nevertheless, we sought to figure out a way in which we could quantify the CO₂ emissions saved by decreasing commuting times to and from work.
- Based on the emission statistics of a relatively environmentally friendly but also popular vehicle, we produced a model to estimate the amount of CO₂ emissions generated from a day's travel of someone living less than 10 miles from work, 10 to 24 miles from work, 25 to 50 miles from work, and greater than 50 miles from work.
- By housing the employed labor population closer to employment nodes on the Cape, more than 4.5 billion grams of CO₂ could be saved from ever entering the atmosphere every year.
- Our calculations were made by assuming that existing employees were taken from the population living 50+ miles away from their place of work and added to the population living less than 10 miles from their work, in a scenario where 250 new affordable housing options were added to the Cape. In that case, this would be the reduction in carbon pollution:
 - Daily: ~13,000,000 grams / CO₂
 - Monthly: ~394,000,000 grams / CO₂
 - Yearly: ~5,000,000,000 grams / CO₂



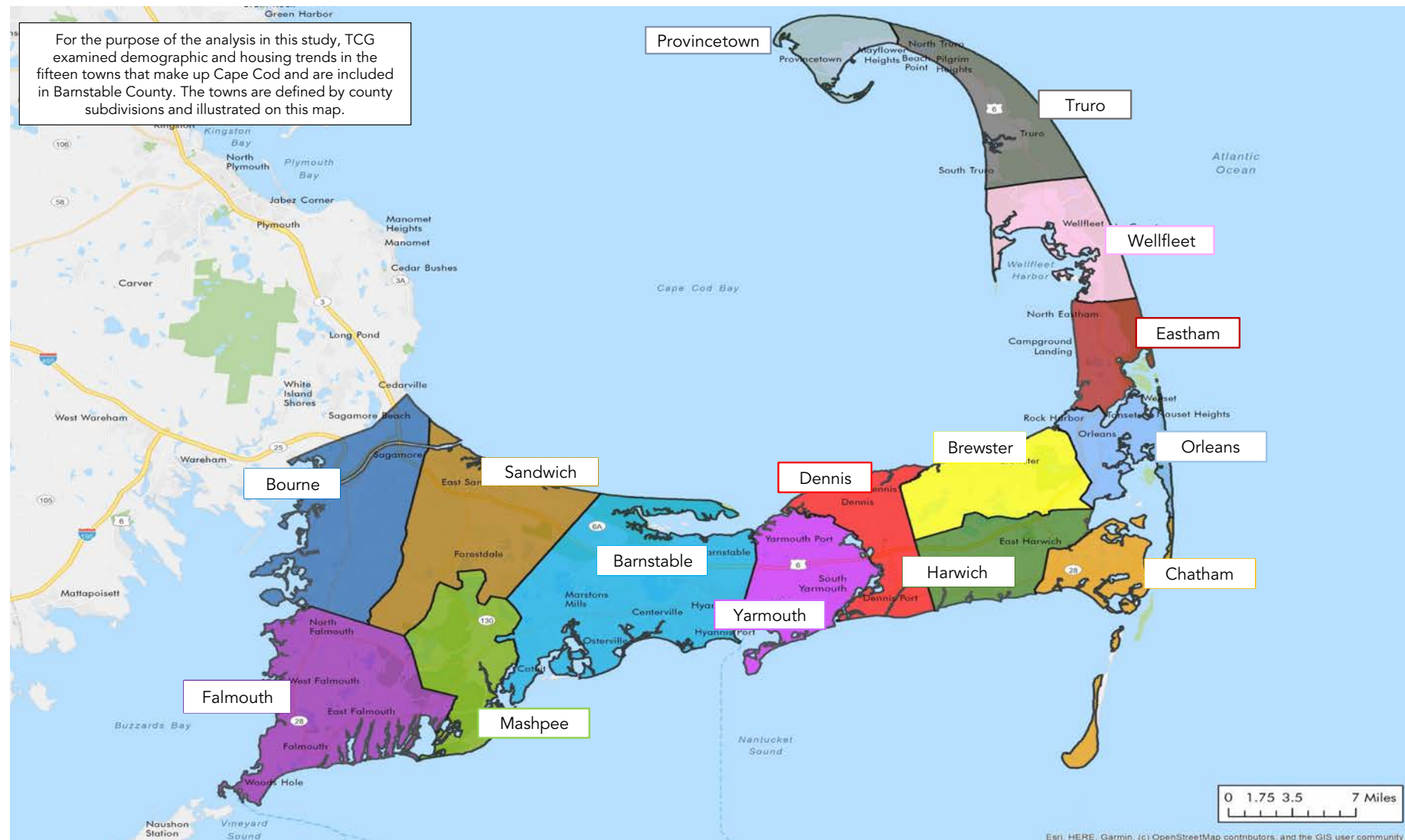
See Exhibit III-4B for explanation of scenarios and additional detail

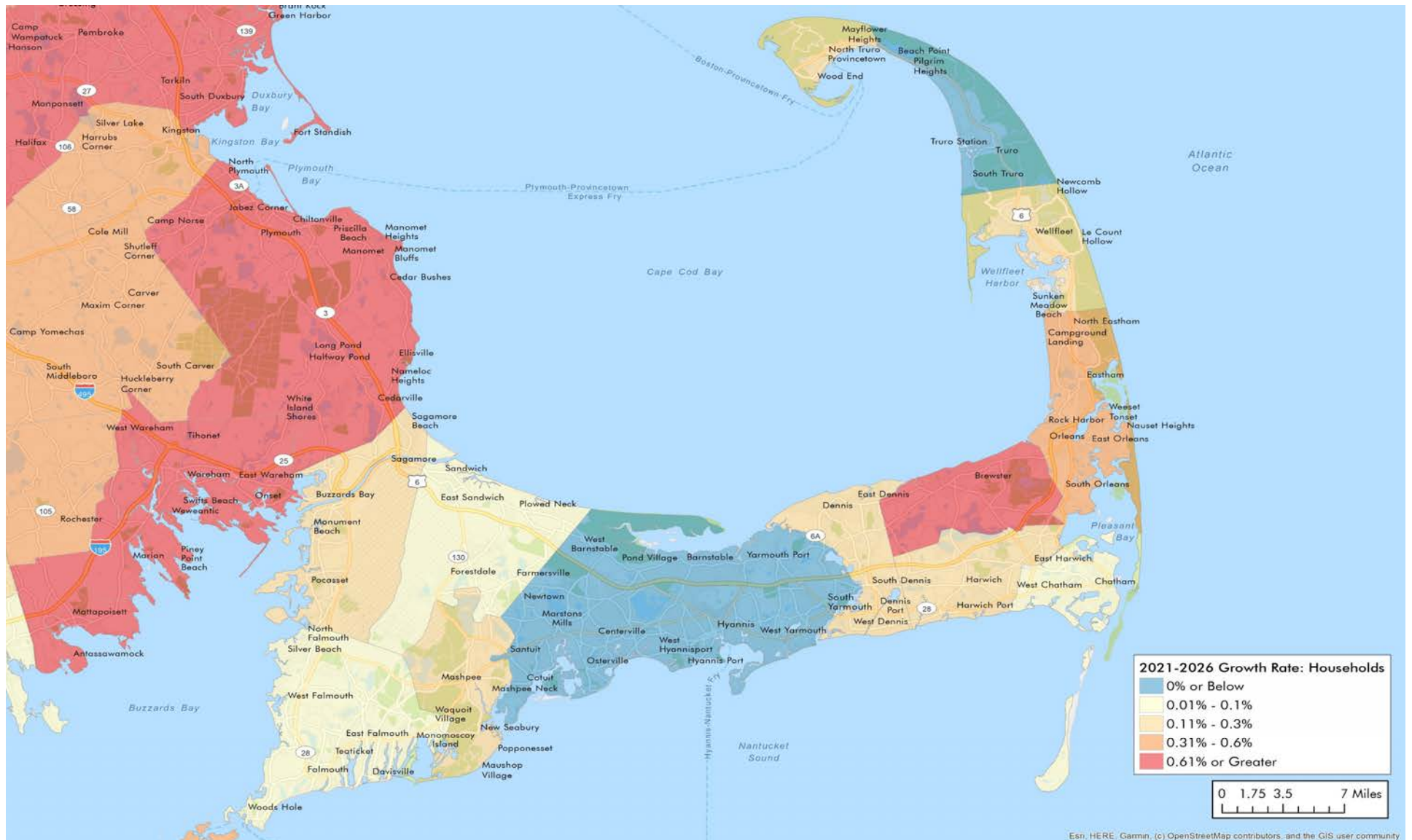
Executive Summary

COMMISSIONED BY

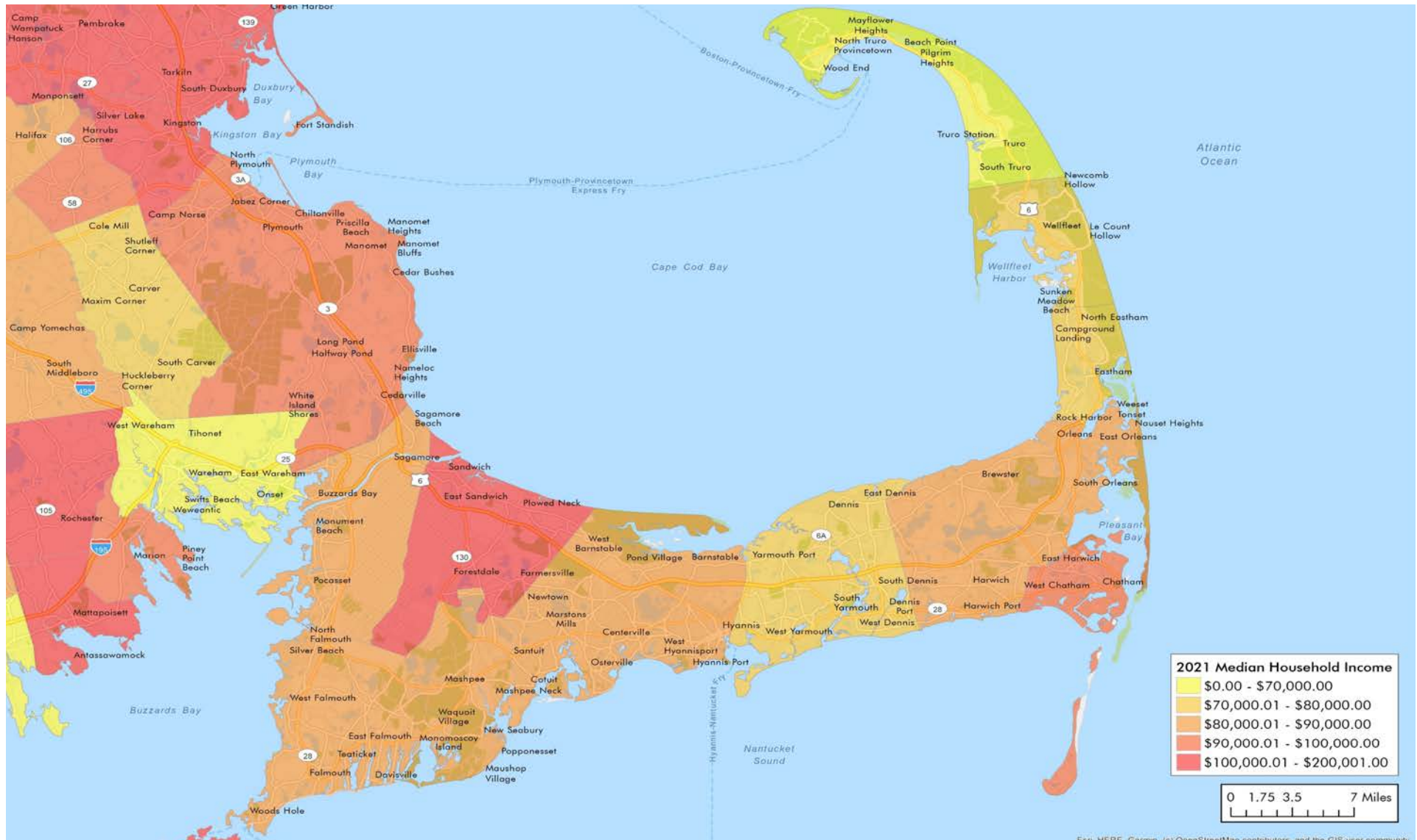


II. Cape Cod Housing Market Overview

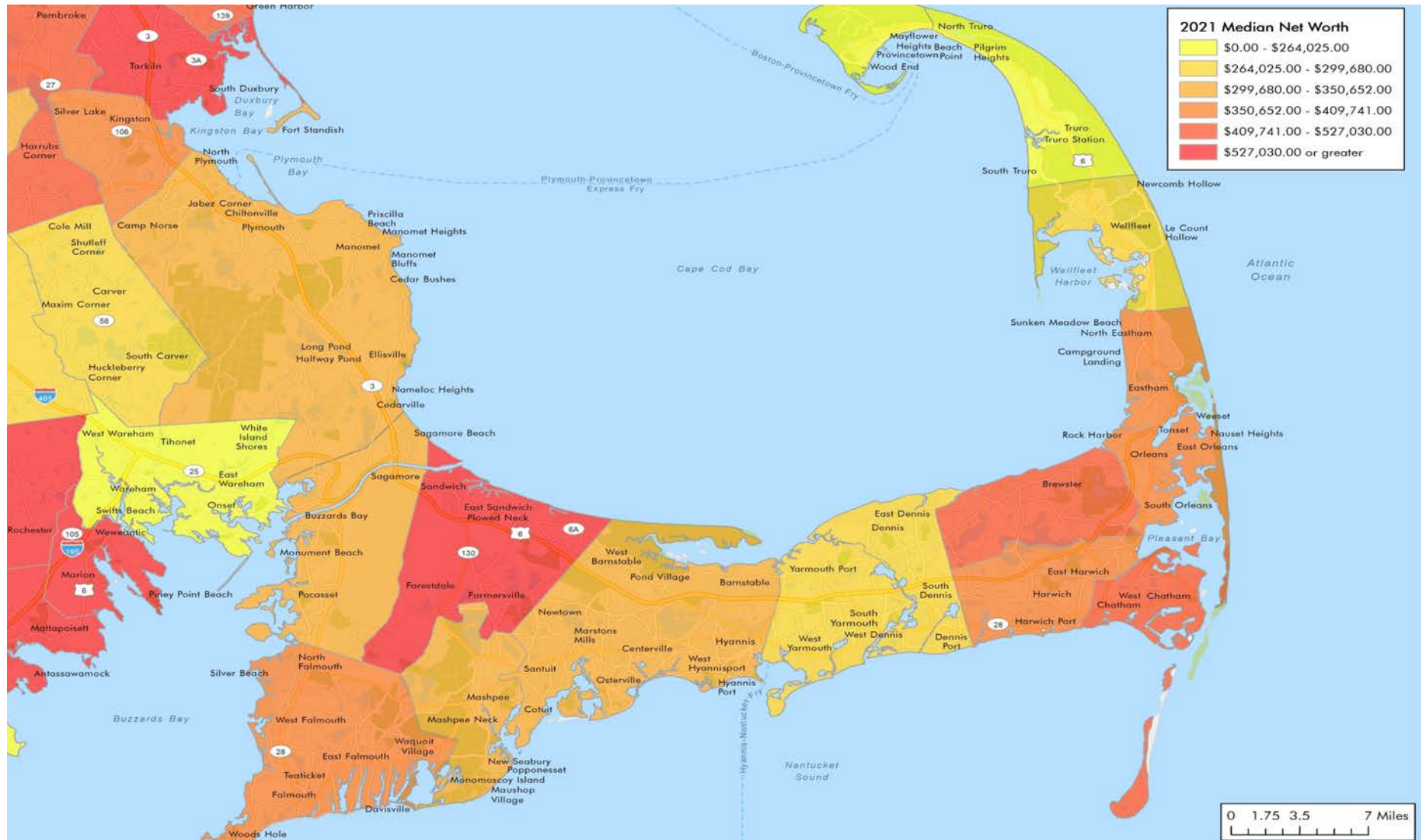




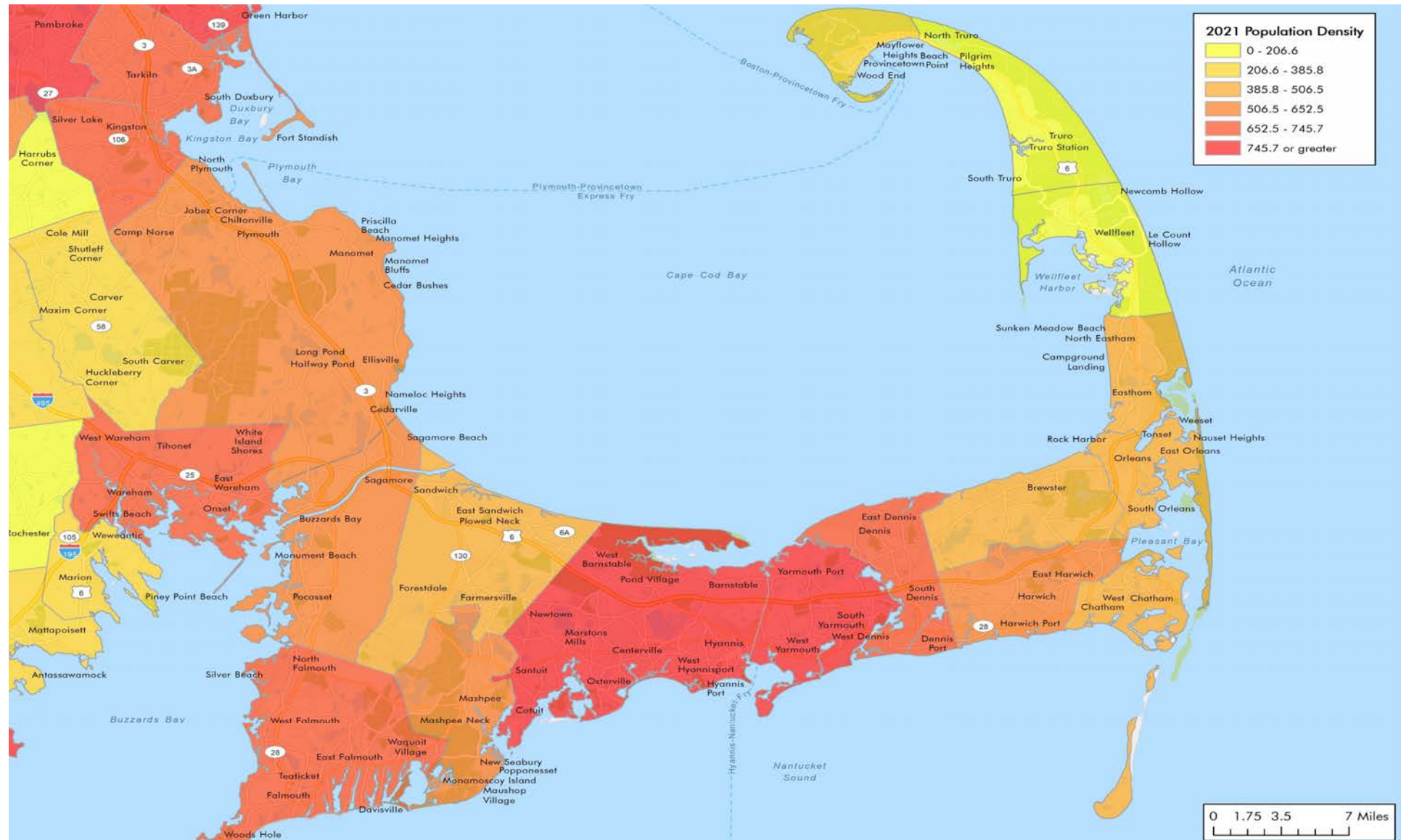
Source: ESRI. ESRI defines household growth rate as the annualized compound rate of change in total households between ESRI's 2021 estimate and five-year forecast



Source: ESRI. ESRI defines money income as income received on a regular basis (exclusive of capital gains) before payments for personal income taxes, social security, union dues, Medicare deductions, etc. If the median income falls in the upper interval of \$200,000+, it is represented by the value of \$200,001

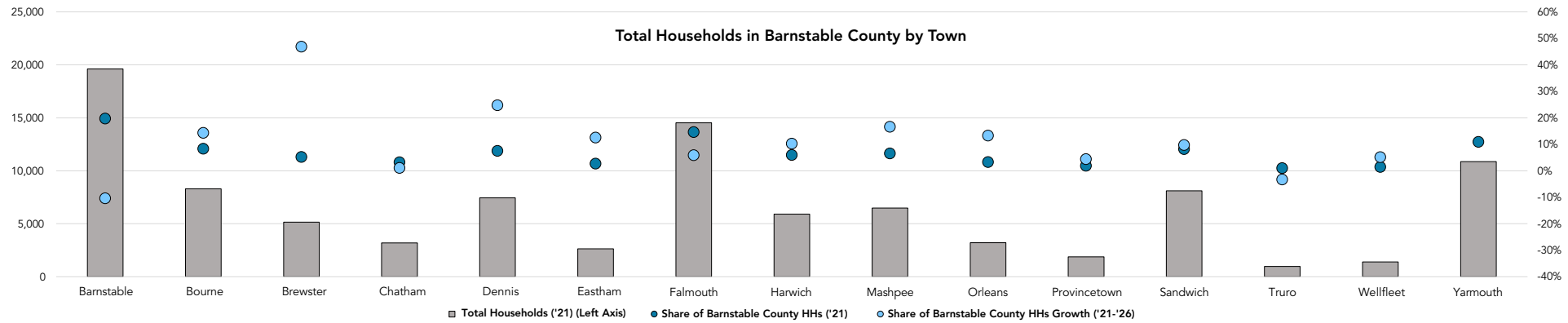


Source: ESRI. Estimate of median net worth and top-coded to \$500,001. Net Worth is defined as total household wealth minus debt, secured and unsecured. Net worth includes home equity, equity in pension plans, net equity in vehicles, IRAs and Keogh accounts, business equity, interest-earning assets and mutual fund shares, stocks, etc. Examples of secured debt include home mortgages and vehicle loans; examples of unsecured debt include credit card debt, certain bank loans, and other outstanding bills



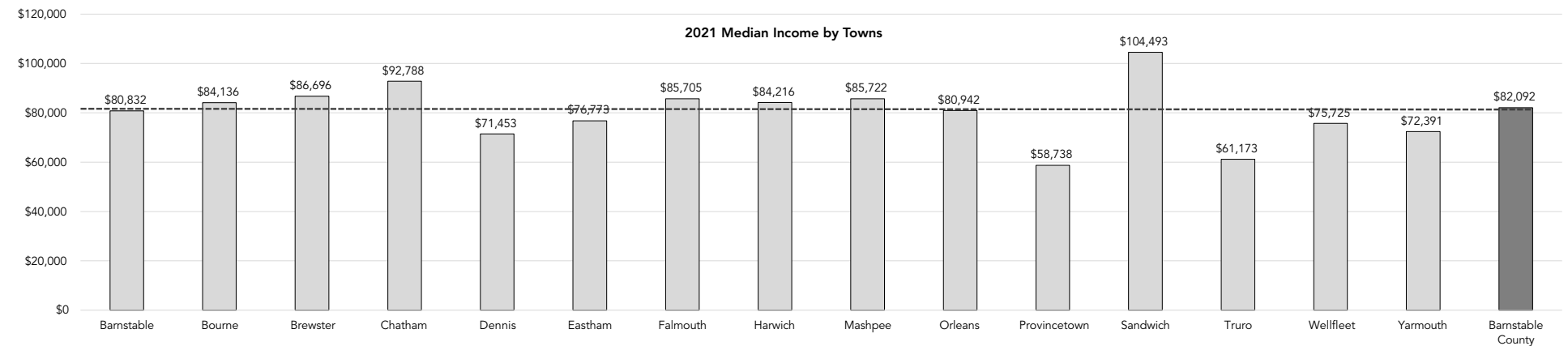
Source: ESRI. Population density represents total population per square mile

Geography:	Barnstable County Towns															Barnstable County	Massachusetts	USA
	Barnstable	Bourne	Brewster	Chatham	Dennis	Eastham	Falmouth	Harwich	Mashpee	Orleans	Provincetown	Sandwich	Truro	Wellfleet	Yarmouth			
Scale																		
Population ('21)	46,438	20,944	11,522	6,371	15,295	5,476	32,695	12,953	14,895	6,462	3,136	21,648	1,995	2,824	23,208	226,170	6,959,075	333,934,112
Households ('21)	19,605	8,298	5,146	3,189	7,446	2,631	14,537	5,920	6,489	3,217	1,874	8,109	977	1,402	10,860	99,848	2,699,633	126,470,675
% of Barnstable	20%	8%	5%	3%	7%	3%	15%	6%	6%	3%	2%	8%	1%	1%	11%	100%	---	---
County Gr/Yr (#, '21-'26)	(8)	11	37	1	19	10	5	8	13	10	3	8	(3)	4	(40)	79	13,551	915,338
% of Barnstable County	(10%)	14%	47%	1%	25%	12%	6%	10%	17%	13%	4%	10%	(3%)	5%	(51%)	100%	---	---
Over \$100K HH Growth	139	77	78	33	80	33	131	62	62	31	22	78	5	14	61	908	32,057	1,409,027
Under \$100K HH Growth	(147)	(66)	(41)	(32)	(60)	(23)	(127)	(54)	(49)	(21)	(19)	(70)	(7)	(10)	(101)	(829)	(18,506)	(493,689)
Gr/Yr (% , '21-'26)	(0.0%)	0.1%	0.7%	0.0%	0.3%	0.4%	0.0%	0.1%	0.2%	0.3%	0.2%	0.1%	(0.3%)	0.3%	(0.4%)	0.1%	0.5%	0.7%
Employment ('21)	41,711	9,714	3,891	5,057	7,144	1,719	20,954	5,712	6,877	5,283	4,797	8,126	882	2,250	12,213	136,414	3,780,817	150,287,786
% of Barnstable County	31%	7%	3%	4%	5%	1%	15%	4%	5%	4%	4%	6%	1%	2%	9%	100%	---	---
Household Size ('21)																		
Average HH Size	2.35	2.32	2.18	1.96	2.04	2.08	2.21	2.16	2.28	1.98	1.65	2.63	2.04	2.01	2.12	2.22	2.49	2.58
Age Breakdown ('21)																		
Median Age Under 20	50.8	46.6	57.3	62.5	59.6	60.2	55.1	56.4	51.3	64.2	55.4	48.2	57.8	57.6	55.1	54.0	40.6	38.8
20-24	18%	19%	16%	10%	13%	12%	17%	16%	18%	10%	7%	21%	12%	12%	16%	17%	22%	24%
25-34	4%	8%	3%	3%	3%	2%	3%	3%	4%	2%	2%	5%	3%	3%	4%	4%	7%	7%
35-44	10%	11%	8%	7%	8%	7%	9%	7%	10%	7%	8%	10%	7%	7%	9%	9%	14%	14%
45-54	11%	10%	11%	8%	10%	8%	12%	12%	12%	8%	20%	13%	15%	13%	11%	12%	13%	12%
55-64	17%	15%	19%	18%	19%	21%	17%	17%	17%	18%	24%	17%	24%	21%	16%	17%	14%	13%
65-74	15%	14%	19%	23%	21%	22%	18%	19%	16%	25%	15%	14%	21%	21%	17%	17%	10%	10%
75+	12%	10%	15%	22%	18%	16%	15%	16%	13%	23%	11%	10%	10%	13%	17%	14%	8%	7%



Source: 2021/2026 ESRI Demographics. ESRI Demographics data represents point estimates representing July 1 of the current and forecast years.

Geography:	Barnstable County Towns																Massachusetts	USA
	Barnstable	Bourne	Brewster	Chatham	Dennis	Eastham	Falmouth	Harwich	Mashpee	Orleans	Provincetown	Sandwich	Truro	Wellfleet	Yarmouth	Barnstable County		
Income Breakdown ('21)																		
Median Income	\$80,832	\$84,136	\$86,696	\$92,788	\$71,453	\$76,773	\$85,705	\$84,216	\$85,722	\$80,942	\$58,738	\$104,493	\$61,173	\$75,725	\$72,391	\$82,092	\$85,273	\$64,730
vs. Barnstable	(2%)	2%	6%	13%	(13%)	(6%)	4%	3%	4%	(1%)	(28%)	27%	(25%)	(8%)	(12%)	--	4%	(21%)
County Average Income	\$109,373	\$106,745	\$125,128	\$124,899	\$100,230	\$99,911	\$113,759	\$105,796	\$106,755	\$105,131	\$92,944	\$128,475	\$92,974	\$94,161	\$93,169	\$108,774	\$118,826	\$92,435
Under \$50K	27%	26%	24%	25%	36%	29%	29%	27%	26%	31%	42%	21%	31%	30%	32%	28%	30%	38%
\$50-\$75K	20%	18%	19%	15%	16%	19%	14%	15%	16%	15%	18%	13%	32%	19%	20%	17%	14%	17%
\$75-\$100K	13%	15%	13%	12%	15%	17%	15%	17%	15%	12%	11%	13%	6%	15%	14%	14%	12%	13%
\$100-\$150K	22%	23%	18%	23%	17%	17%	20%	22%	24%	24%	13%	25%	17%	23%	21%	21%	18%	16%
\$150-\$200K	8%	9%	10%	10%	7%	10%	10%	10%	9%	8%	5%	14%	5%	7%	8%	9%	11%	7%
Over \$200K	11%	10%	16%	14%	9%	8%	12%	9%	9%	9%	11%	15%	8%	7%	6%	11%	15%	9%
Net Worth Breakdown ('21)																		
Median Net Worth	\$329,922	\$325,838	\$479,595	\$510,476	\$284,621	\$356,747	\$379,007	\$361,963	\$349,193	\$399,184	\$128,774	\$529,648	\$264,025	\$298,235	\$291,911	\$348,606	\$194,076	\$143,016
vs. Barnstable County	(5%)	(7%)	38%	46%	(18%)	2%	9%	4%	0%	15%	(63%)	52%	(24%)	(14%)	(16%)	0%	56%	41%
Average Net Worth	\$1,741,513	\$1,519,624	\$2,570,219	\$2,396,568	\$1,554,876	\$1,698,032	\$1,924,383	\$1,651,753	\$1,546,298	\$1,866,437	\$820,272	\$2,257,361	\$1,317,727	\$1,381,869	\$1,227,451	\$1,744,775	\$1,337,420	\$894,397
Tenure ('21)																		
% Rent	21%	20%	14%	18%	21%	11%	20%	16%	14%	19%	38%	11%	18%	17%	20%	19%	38%	35%
Renter HHs	4,135	1,673	733	585	1,568	295	2,858	946	936	613	712	880	179	233	2,209	18,574	1,018,941	44,563,900
% of Barnstable County	22%	9%	4%	3%	8%	2%	15%	5%	5%	3%	4%	5%	1%	1%	12%	100%	---	---
% Own	79%	80%	86%	82%	79%	89%	80%	84%	86%	81%	62%	89%	82%	83%	80%	81%	62%	65%
Owner HHs	15,470	6,625	4,413	2,604	5,878	2,336	11,680	4,974	5,553	2,604	1,162	7,229	798	1,169	8,651	81,274	1,680,692	81,906,775

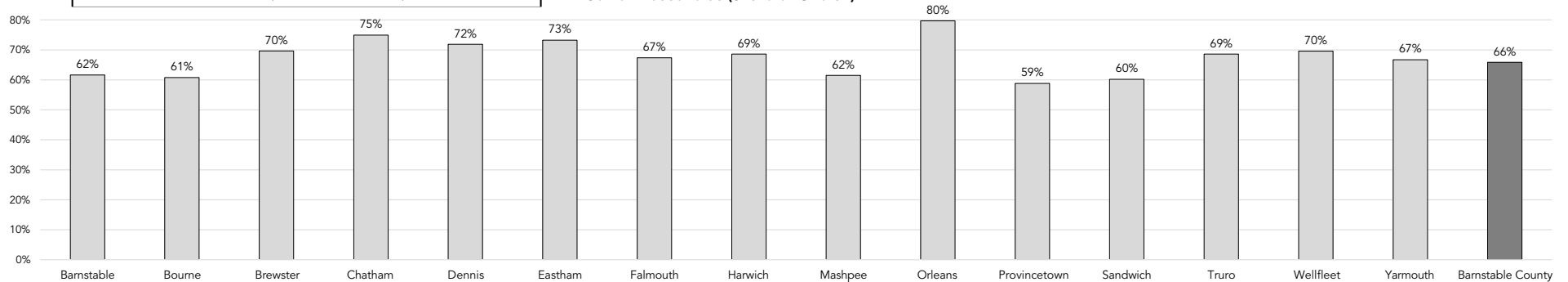


Source: 2021/2026 ESRI Demographics. ESRI Demographics data represents point estimates representing July 1 of the current and forecast years.

Geography:	Barnstable County Towns																Massachusetts	USA	
	Barnstable	Bourne	Brewster	Chatham	Dennis	Eastham	Falmouth	Harwich	Mashpee	Orleans	Provincetown	Sandwich	Truro	Wellfleet	Yarmouth	Barnstable County			
Senior Population (55+)																			
Population																			
2021	20,503	8,456	6,206	3,989	8,781	3,255	16,384	6,771	6,698	4,278	1,600	8,780	1,108	1,563	11,641	110,193	2,233,130	100,911,332	
Share of Overall	44%	40%	54%	63%	57%	59%	50%	52%	45%	66%	51%	41%	56%	55%	50%	49%	32%	30%	
2026	21,079	8,878	6,554	4,160	9,142	3,468	17,063	6,994	7,081	4,467	1,651	9,263	1,116	1,628	11,790	114,519	2,379,519	107,762,233	
Gr/Yr (#, '21-'26)	115	84	70	34	72	43	136	45	77	38	10	97	2	13	30	865	29,278	1,370,180	
Share of Overall	45%	42%	57%	65%	60%	63%	52%	54%	48%	69%	53%	43%	56%	58%	51%	51%	34%	32%	
Gr/Yr (%,'21-'26)	0.6%	1.0%	1.1%	0.8%	0.8%	1.3%	0.8%	0.7%	1.1%	0.9%	0.6%	1.1%	0.1%	0.8%	0.3%	0.8%	1.3%	1.3%	
Households																			
2021	12,086	5,044	3,585	2,389	5,349	1,927	9,796	4,060	3,991	2,564	1,102	4,879	670	976	7,247	65,766	1,319,156	59,350,196	
Share of Overall	62%	61%	70%	75%	72%	73%	67%	69%	62%	80%	59%	60%	69%	70%	67%	66%	49%	47%	
2026	12,304	5,201	3,755	2,452	5,528	2,024	10,077	4,151	4,173	2,645	1,135	5,021	670	1,010	7,242	67,488	1,382,279	62,680,994	
Gr/Yr (#, '21-'26)	44	31	34	13	36	19	56	18	36	16	7	28	0	7	(1)	344	12,625	666,160	
Share of Overall	63%	63%	73%	77%	74%	77%	69%	70%	64%	82%	61%	62%	69%	72%	67%	68%	51%	50%	
Gr/Yr(%)	0.4%	0.6%	0.9%	0.5%	0.7%	1.0%	0.6%	0.4%	0.9%	0.6%	0.6%	0.6%	0.0%	0.7%	(0.0%)	0.5%	0.9%	1.1%	
Median Income (55-64)	\$92,760	\$92,839	\$100,888	\$110,303	\$81,658	\$83,987	\$97,548	\$93,139	\$93,420	\$101,361	\$61,860	\$115,947	\$65,481	\$80,886	\$81,655	\$93,401	\$102,444	\$74,733	
Median Income (65-74)	\$74,669	\$78,524	\$84,932	\$91,455	\$68,921	\$75,104	\$83,666	\$79,502	\$85,031	\$78,249	\$53,013	\$91,359	\$58,759	\$72,598	\$72,633	\$78,684	\$74,177	\$57,228	
Median Income (75+)	\$55,302	\$49,268	\$50,122	\$63,507	\$45,934	\$56,886	\$50,307	\$55,918	\$50,566	\$58,377	\$36,204	\$53,458	\$49,585	\$50,267	\$46,846	\$51,557	\$43,686	\$37,626	
HH by Income ('21)																			
\$35K plus	9,723	4,092	3,022	1,936	3,960	1,521	7,818	3,186	3,212	1,947	716	4,226	521	754	5,789	52,511	982,147	41,009,337	
Share of	80%	81%	84%	81%	74%	79%	80%	78%	80%	76%	65%	87%	78%	77%	80%	80%	74%	69%	
HHs \$50K plus	8,471	3,510	2,584	1,710	3,225	1,313	6,561	2,774	2,741	1,700	571	3,667	437	643	4,526	44,510	853,000	33,292,557	
Share of HHs	70%	70%	72%	72%	60%	68%	67%	68%	69%	66%	52%	75%	65%	66%	62%	68%	65%	56%	

Key Takeaway:

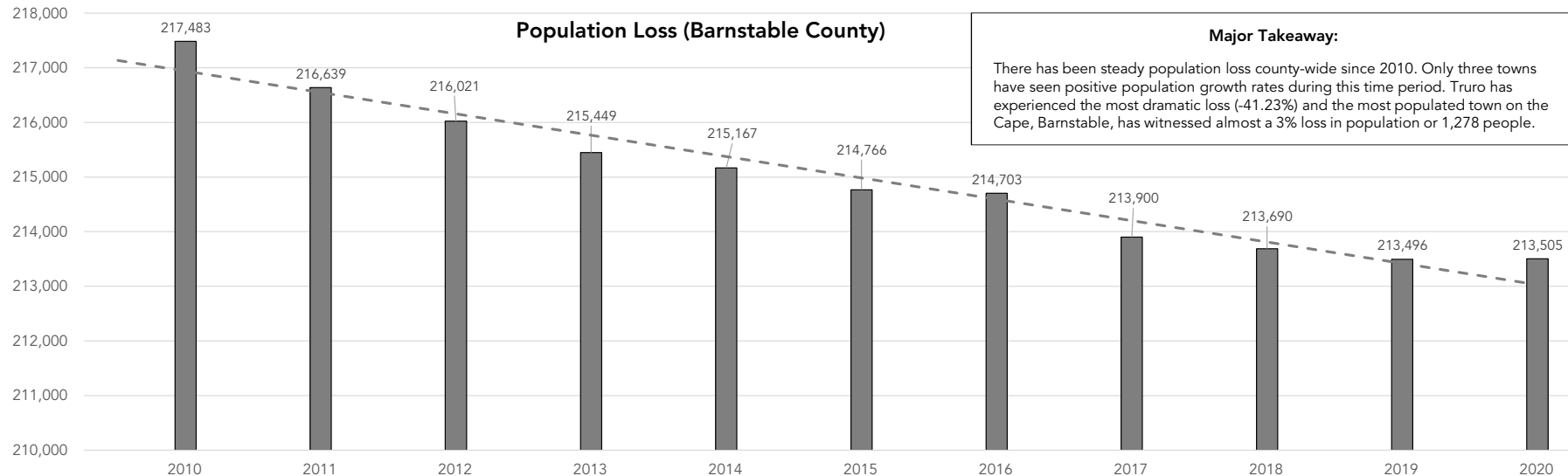
There is cause for concern that since the aging population is so large, many will be left without access to at home health services as many healthcare professionals (i.e. nurses) are priced out of the market.

Senior Households (Share of Overall)

Source: 2021/2026 ESRI Demographics. ESRI Demographics data represents point estimates representing July 1 of the current and forecast years.

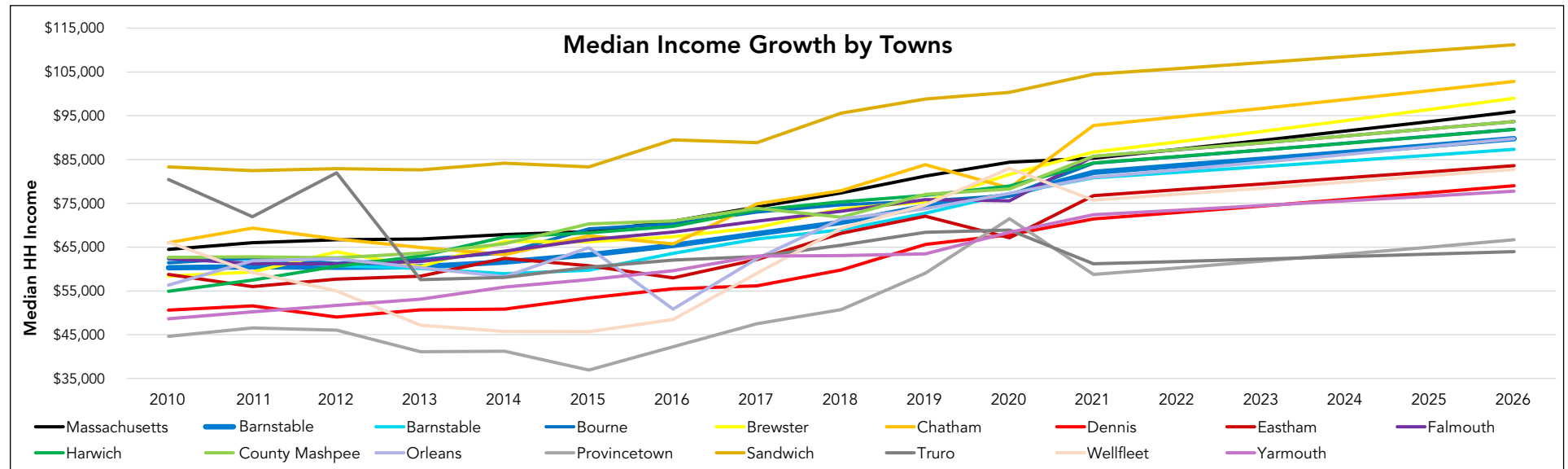
Population Growth

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Overall Growth/Loss
Barnstable	45,775	45,486	45,170	44,944	44,750	44,591	44,498	44,325	44,314	44,406	44,497	(2.79%)
Bourne	19,577	19,632	19,710	19,729	19,749	19,729	19,780	19,814	19,839	19,831	19,819	1.24%
Brewster	9,891	9,853	9,836	9,786	9,858	9,864	9,879	9,856	9,868	9,837	9,811	(0.81%)
Chatham	6,221	6,177	6,164	6,138	6,129	6,126	6,142	6,149	6,155	6,019	6,009	(3.41%)
Dennis	14,557	14,392	14,271	14,168	14,113	14,063	14,067	13,992	13,962	13,939	13,927	(4.33%)
Eastham	5,060	5,011	4,983	4,945	4,932	4,923	4,924	4,908	4,893	4,901	4,896	(3.24%)
Falmouth	31,796	31,674	31,589	31,591	31,576	31,550	31,544	31,254	31,177	31,124	31,104	(2.18%)
Harwich	12,291	12,259	12,253	12,223	12,205	12,197	12,167	12,143	12,142	12,147	12,168	(1.00%)
Mashpee	13,850	13,900	13,950	14,000	13,988	14,027	14,080	14,054	14,101	14,148	14,204	2.56%
Orleans	5,981	5,946	5,905	5,877	5,874	5,859	5,847	5,827	5,821	5,808	5,812	(2.83%)
Provincetown	3,039	2,994	2,974	2,964	2,959	2,962	2,962	2,952	2,960	2,973	2,972	(2.20%)
Sandwich	20,628	20,635	20,645	20,615	20,605	20,541	20,508	20,416	20,342	20,286	20,256	(1.80%)
Truro	1,831	1,903	1,653	1,731	1,738	1,644	1,589	1,580	1,254	1,122	1,076	(41.23%)
Wellfleet	2,946	2,858	3,098	3,012	3,011	3,109	3,168	3,171	3,481	3,617	3,662	24.30%
Yarmouth	24,040	23,919	23,820	23,726	23,680	23,581	23,548	23,459	23,381	23,338	23,292	(3.11%)
Total (Barnstable County)	217,483	216,639	216,021	215,449	215,167	214,766	214,703	213,900	213,690	213,496	213,505	(1.83%)
Massachusetts	6,477,096	6,512,227	6,560,595	6,605,058	6,657,291	6,705,586	6,742,143	6,789,319	6,830,193	6,850,553	6,873,003	6.11%
United States (000s)	303,965	306,604	309,139	311,537	314,107	316,515	318,558	321,004	322,903	324,698	326,569	7.44%

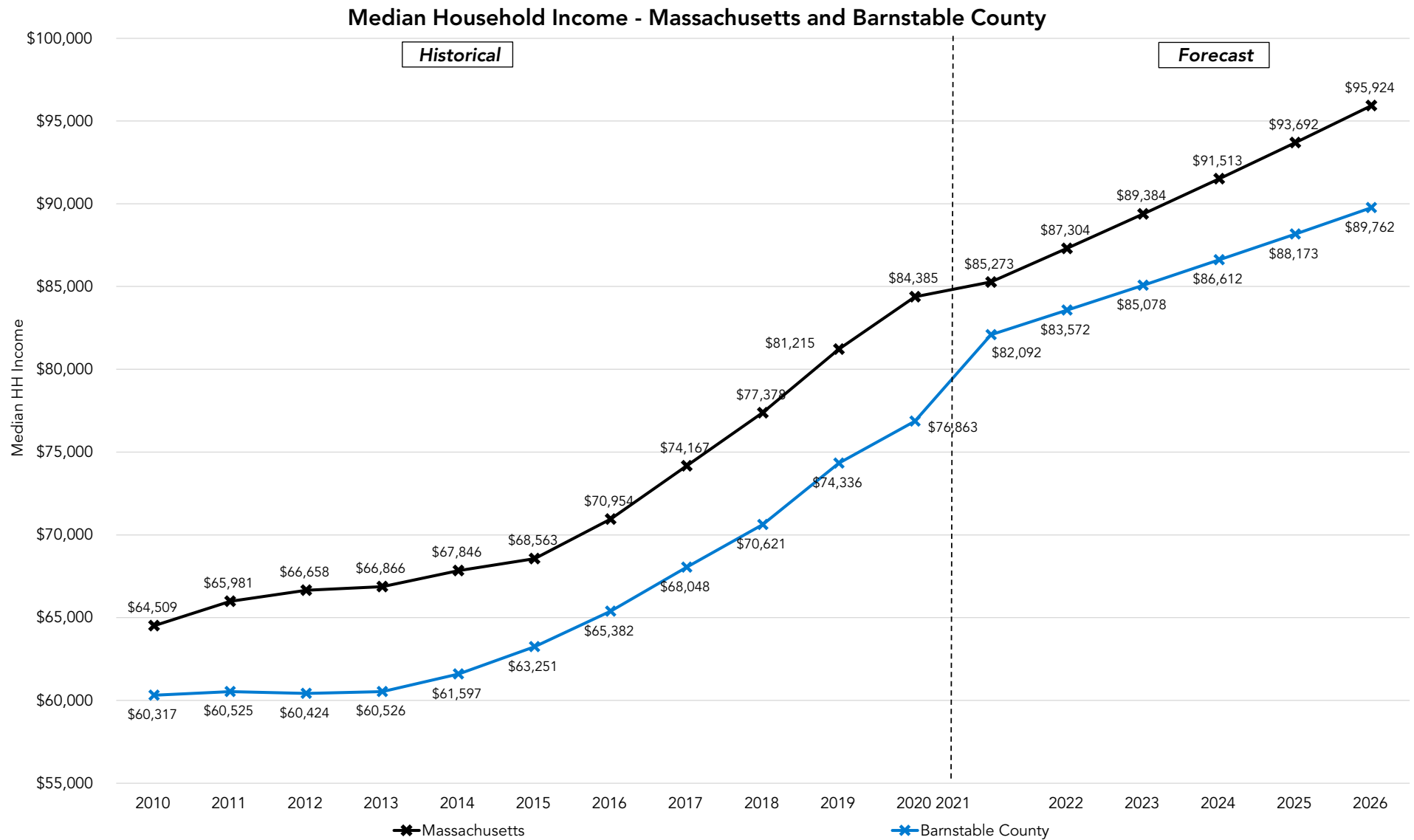


Source: U.S. Census Bureau

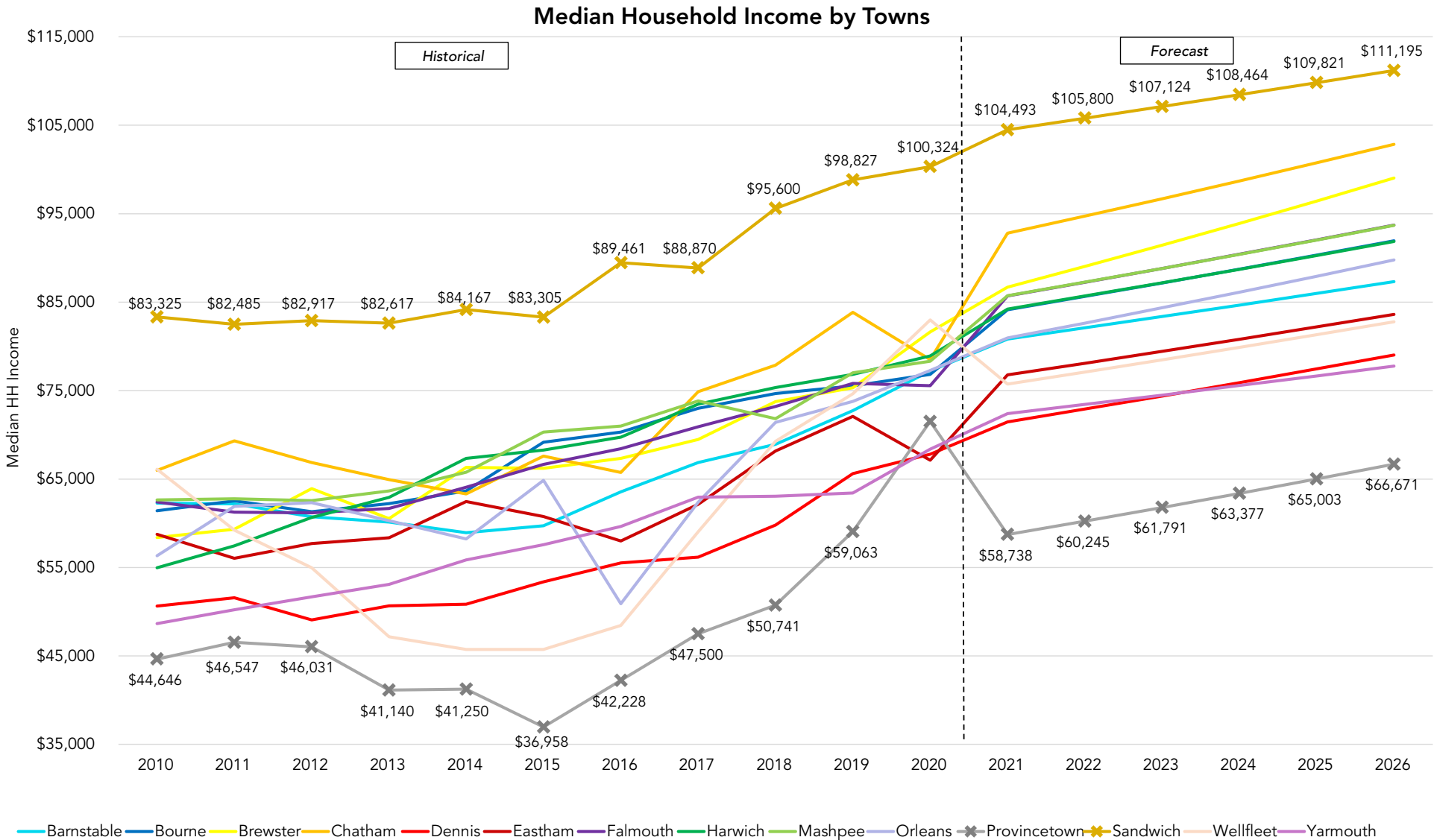
Geography	Historical						Forecast		
	2010	2015	5-Yr Change	2018	3-Yr Change	2020	2021	2026	5-Yr Change
	\$	\$		\$		\$	\$	\$	
Massachusetts	\$64,509	\$68,563	6%	\$77,378	13%	\$84,385	\$85,273	\$95,924	12%
Barnstable County	\$60,317	\$63,251	5%	\$70,621	12%	\$76,863	\$82,092	\$89,762	9%
Barnstable	\$62,264	\$59,711	-4%	\$68,919	15%	\$77,227	\$80,832	\$87,323	8%
Bourne	\$61,418	\$69,157	13%	\$74,668	8%	\$76,823	\$84,136	\$91,928	9%
Brewster	\$58,374	\$66,220	%	\$73,765	11%	\$81,625	\$86,696	\$99,027	14%
Chatham	\$65,990	\$67,587	13%	\$77,878	15%	\$78,491	\$92,788	\$102,850	11%
Dennis	\$50,642	\$53,381	%	\$59,805	12%	\$67,803	\$71,453	\$79,020	11%
Eastham	\$58,750	\$60,760	2%	\$68,161	12%	\$67,127	\$76,773	\$83,612	9%
Falmouth	\$62,392	\$66,670	5%	\$73,201	10%	\$75,548	\$85,705	\$93,693	9%
Harwich	\$54,958	\$68,267	3%	\$75,352	10%	\$78,932	\$84,216	\$91,846	9%
Mashpee	\$62,645	\$70,313	7%	\$71,810	2%	\$78,309	\$85,722	\$93,672	9%
Orleans	\$56,313	\$64,861	24%	\$71,418	10%	\$77,273	\$80,942	\$89,767	11%
Provincetown	\$44,646	\$36,958	-17%	\$50,741	37%	\$71,495	\$58,738	\$66,671	14%
Sandwich	\$83,325	\$83,305	0%	\$95,600	15%	\$100,324	\$104,493	\$111,195	6%
Truro	\$80,425	\$60,432	-25%	\$65,446	8%	\$68,914	\$61,173	\$63,991	5%
Wellfleet	\$66,109	\$45,735	-31%	\$69,267	51%	\$82,990	\$75,725	\$82,775	9%
Yarmouth	\$48,653	\$57,569	18%	\$63,061	10%	\$68,385	\$72,391	\$77,761	7%



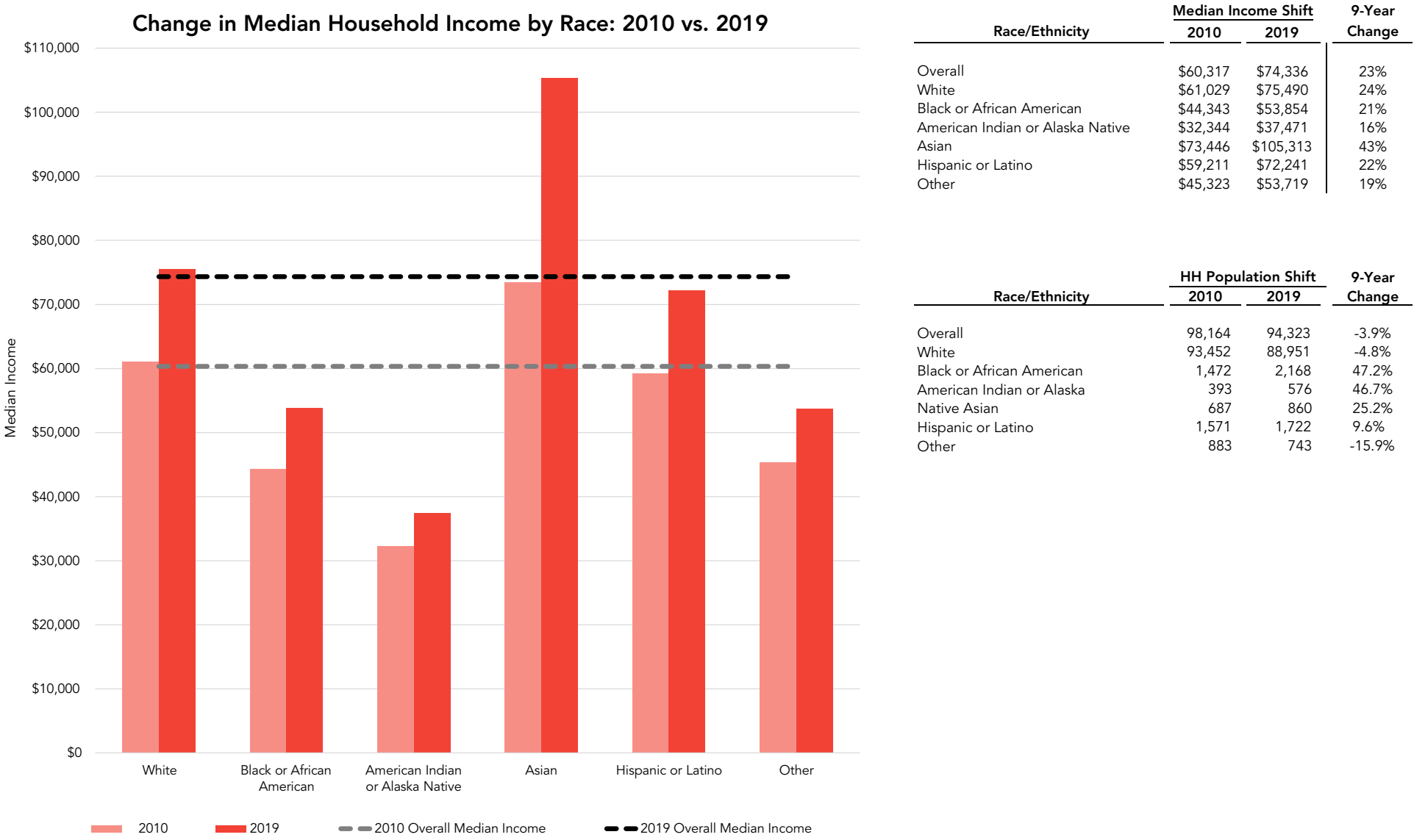
Source: ACS 5-Year Estimates (2010-2020), ESRI Demographics (2021-2026)



Source: ACS 5-Year Estimates (2010-2020), ESRI Demographics (2021-2026)

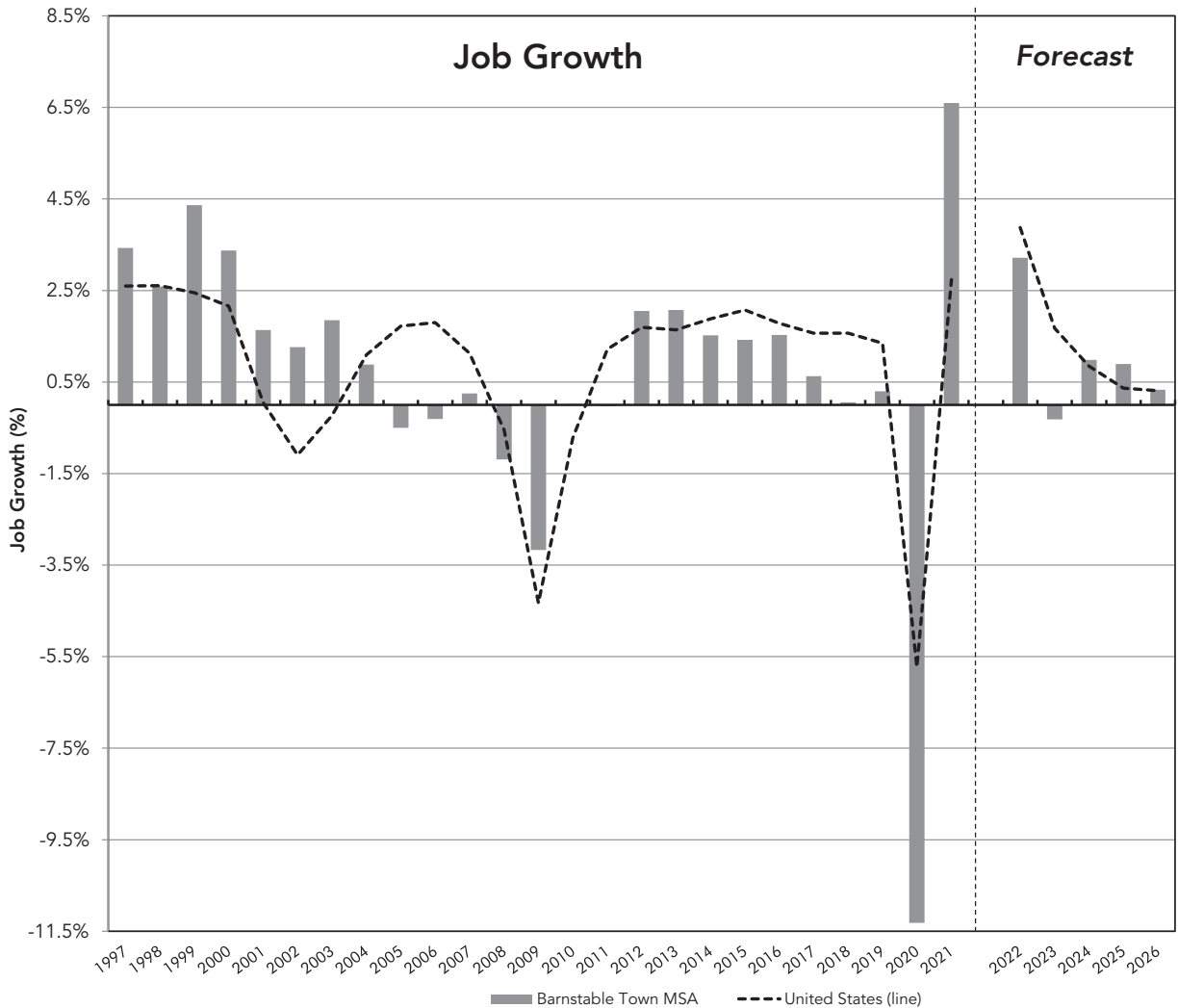


Source: ACS 5-Year Estimates (2010-2020), ESRI Demographics (2021-2026)



Source: U.S. Census Bureau

000s	United States			Barnstable Town MSA		
	Growth			Growth		
	Num.	Num.	Perc.	Num.	Num.	Perc.
Annual						
1999	129,226	3,090	2.4%	88	3.68	4.4%
2000	132,018	2,792	2.2%	91	2.97	3.4%
2001	132,080	62	0.0%	92	1.49	1.6%
2002	130,637	(1,443)	(1.1%)	94	1.17	1.3%
2003	130,328	(309)	(0.2%)	95	1.73	1.8%
2004	131,757	1,429	1.1%	96	.84	0.9%
2005	134,022	2,265	1.7%	96	(.48)	(0.5%)
2006	136,434	2,412	1.8%	95	(.29)	(0.3%)
2007	137,978	1,543	1.1%	96	.24	0.2%
2008	137,225	(753)	(0.5%)	94	(1.14)	(1.2%)
2009	131,289	(5,936)	(4.3%)	91	(3.00)	(3.2%)
2010	130,337	(952)	(0.7%)	92	.02	0.0%
2011	131,922	1,585	1.2%	91	(.03)	(0.0%)
2012	134,157	2,235	1.7%	93	1.88	2.1%
2013	136,356	2,199	1.6%	95	1.94	2.1%
2014	138,922	2,567	1.9%	97	1.45	1.5%
2015	141,804	2,882	2.1%	98	1.37	1.4%
2016	144,333	2,529	1.8%	100	1.50	1.5%
2017	146,595	2,262	1.6%	100	.62	0.6%
2018	148,893	2,298	1.6%	100	.06	0.1%
2019	150,900	2,007	1.3%	101	.30	0.3%
2020	142,252	(8,648)	(5.7%)	89	(11.38)	(11.3%)
2021	146,147	3,894	2.7%	95	5.88	6.6%
Forecast						
2022	151,810	5,663	3.9%	98	3.1	3.2%
2023	154,353	2,544	1.7%	98	(.3)	(0.3%)
2024	155,656	1,303	0.8%	99	1.0	1.0%
2025	156,224	568	0.4%	100	.9	0.9%
2026	156,710	486	0.3%	100	.3	0.3%
Historical Average						
5-Yr		363	0.3%		(.90)	(0.9%)
10-Yr		1,423	1.0%		.36	0.4%
2021 vs. 2011		14,225	10.8%		3.61	3.9%
2021 vs. 2016		1,814	1.3%		(4.52)	(4.5%)
2026 vs. 2021		10,564	7.2%		4.92	5.2%



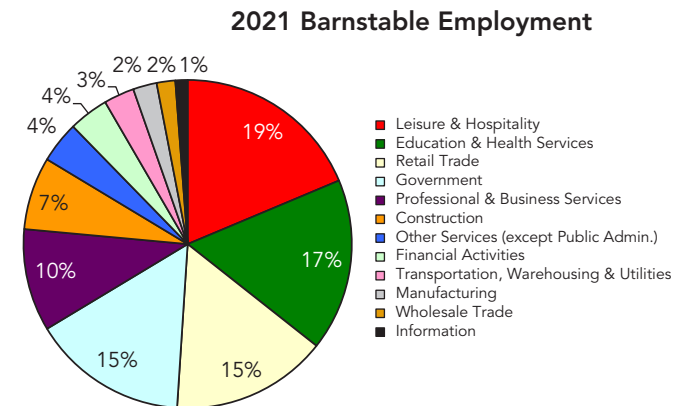
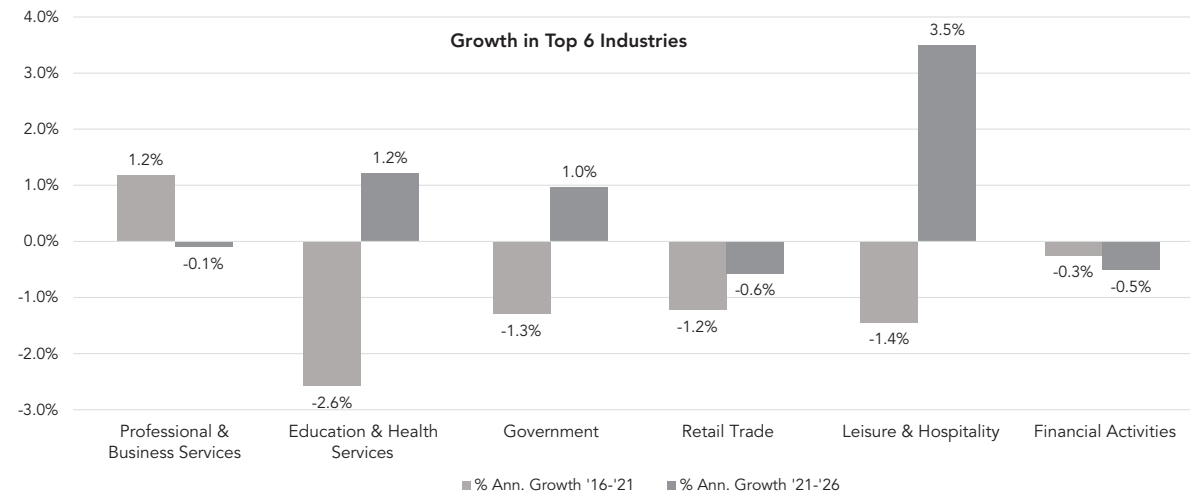
Note: All employment figures represent year end

Source: Bureau of Labor Statistics; Moody's (updated 10.11.2022)

Key Findings, Takeaways and Implications

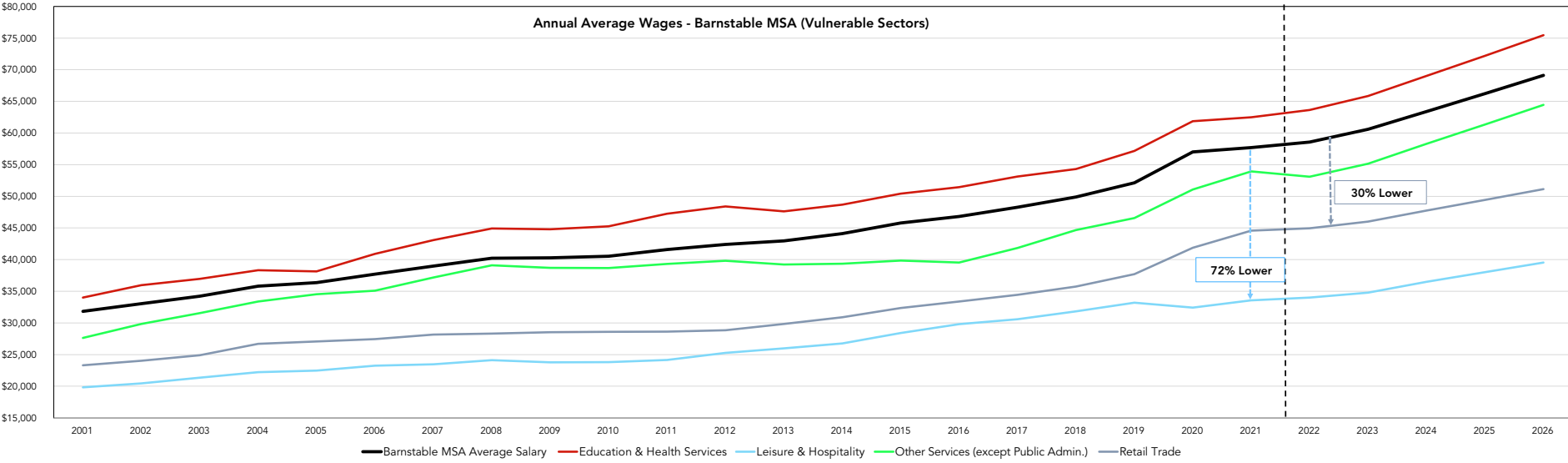
- Moody's is projecting, as of 10/11/2022, that Barnstable County will not regain its' 2019 pre-recession employment numbers until post-2026. Most high growth metros have already regained 2019 employment and many regained and surpassed these levels by
- The top three employment industries on the Cape are at severe risk of displacement considering current rental housing costs (Exhibit II-8A). The current supply of for-sale housing is unattainable (Exhibit IV-3A).

Employment Industry (000s)	Annual Employment (000s)													Forecast					Ann. Growth			% MSA Employment			
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	'16-'21	'21-'26		2021	2026	Shift Share	
																				%	#			Nom.	%
Leisure & Hospitality	16.9	17.0	17.6	17.7	18.1	18.4	18.6	19.1	19.5	19.5	19.4	14.3	17.7	19.6	20.0	20.5	20.9	21.1	-1.4%	3.5%	0.7	19%	21%	2.4%	12.9%
Education & Health Services	16.6	16.7	16.5	17.0	17.8	18.0	18.2	18.4	18.6	18.5	18.4	16.3	16.1	16.4	16.6	16.8	17.0	17.1	-2.6%	1.2%	0.2	17%	17%	0.2%	1.0%
Retail Trade	15.1	15.0	15.1	15.6	15.4	15.5	15.5	15.6	15.5	15.3	15.3	13.8	14.6	14.6	14.1	14.2	14.2	14.2	-1.2%	-0.6%	-0.1	15%	14%	-1.2%	-7.6%
Government	14.8	15.0	14.5	14.9	15.1	15.3	15.5	15.6	15.4	15.4	15.3	14.6	14.6	14.8	15.1	15.2	15.2	15.3	-1.3%	1.0%	0.1	15%	15%	0.0%	-0.2%
Professional & Business Services	8.0	8.1	8.1	8.3	8.4	8.5	8.8	9.0	8.9	9.1	9.3	8.9	9.6	9.7	9.2	9.2	9.4	9.5	1.2%	-0.1%	0.0	10%	10%	-0.5%	-5.4%
Construction	4.6	4.4	4.4	4.6	5.0	5.2	5.4	5.7	5.9	6.2	6.4	6.2	6.8	7.2	7.2	7.1	7.0	6.9	3.7%	0.1%	0.0	7%	7%	-0.3%	-4.2%
Other Services (except Public Admin.)	4.0	4.0	3.8	3.8	4.0	4.2	4.3	4.3	4.2	4.1	4.2	3.6	3.9	4.0	4.0	4.1	4.1	4.1	-2.0%	1.2%	0.0	4%	4%	0.0%	0.8%
Financial Activities	3.8	3.7	3.6	3.6	3.6	3.7	3.7	3.8	3.9	3.9	3.9	3.7	3.7	3.7	3.6	3.6	3.6	3.6	-0.3%	-0.5%	0.0	4%	4%	-0.3%	-7.3%
Transportation, Warehousing & Utilities	2.4	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.9	2.9	2.9	2.6	2.9	3.0	3.0	3.1	3.1	3.1	0.8%	2.0%	0.1	3%	3%	0.1%	4.8%
Manufacturing	2.0	1.9	1.9	2.0	1.9	2.1	2.2	2.3	2.3	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	-0.8%	-0.9%	0.0	2%	2%	-0.2%	-9.2%
Wholesale Trade	1.6	1.6	1.7	1.6	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	0.1%	-1.2%	0.0	2%	2%	-0.2%	-10.3%
Information	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.4	1.2	1.1	1.2	1.2	1.2	1.2	1.2	-4.5%	0.7%	0.0	1%	1%	0.0%	-1.8%
Natural Resources & Mining	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.8%	0.4%	0.0	0%	0%	0.0%	-2.9%
Total Non-Farm (000)	91.5	91.5	91.5	93.4	95.3	96.7	98.1	99.6	100.2	100.3	100.6	89.2	95.1	98.1	97.8	98.8	99.7	100.0	-1.9%	1.9%	2.2	100%	100%		
Y/Y Change (000)	-3.0	0.0	0.0	1.9	1.9	1.4	1.4	1.5	0.6	0.1	0.3	-11.4	5.9	3.1	-0.3	1.0	1.8	1.2							
% Change Cumulative	-3.2%	0.0%	0.0%	2.1%	2.1%	1.5%	1.4%	1.5%	0.6%	0.1%	0.3%	-11.3%	6.6%	3.2%	-0.3%	1.0%	0.9%	1.2%							
Gain/Loss:		-3.2%									9.9%							5.2%							
The beginning of a 9-year stretch of positive but relatively slow employment growth, after recession												Projected return to pre-recession employment post-2026						Projected 5 Year % Change ('21-'26)							

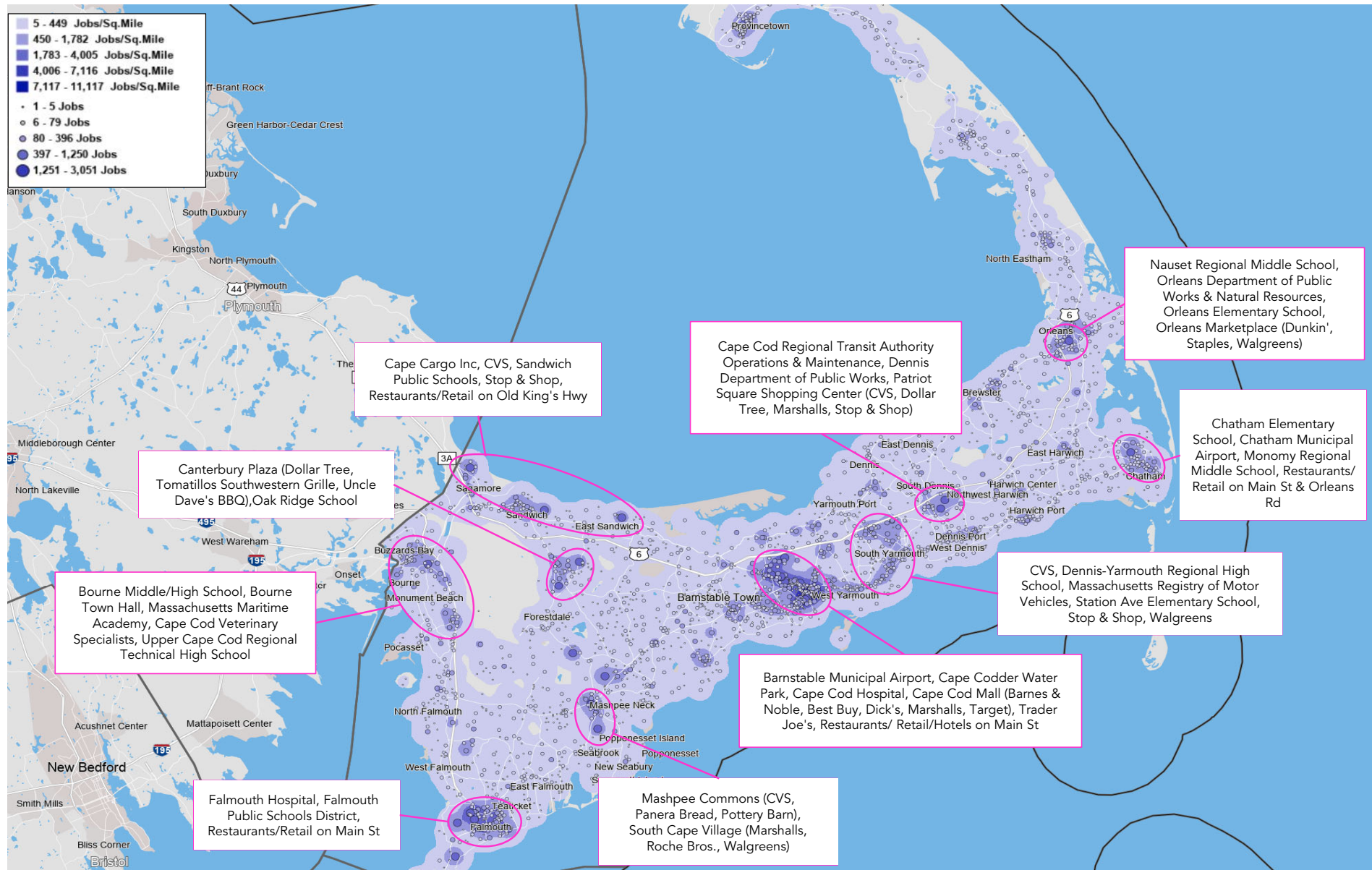


Note: All employment figures represent year end. Source: Bureau of Labor Statistics; Moody's (updated 10.11.2022)

Employment Industry (\$)	Annual																					Forecast					Ann. Growth		
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	'16-'21	%	#
Barnstable Town, MA Metropolitan Statistical Area																													
Professional & Business Services	38,503	38,854	40,703	43,593	43,981	46,113	47,526	48,353	48,210	47,984	50,337	50,948	52,874	54,671	56,938	57,460	59,877	61,743	64,929	71,492	72,688	77,400	82,393	87,476	92,183	96,998	4.8%	5.9%	4,862
Education & Health Services	34,030	35,953	36,957	38,322	38,149	40,903	43,083	44,912	44,806	45,260	47,235	48,396	47,609	48,679	50,423	51,438	53,140	54,318	57,172	61,878	62,489	63,626	65,849	69,013	72,187	75,469	4.0%	3.8%	2,596
Leisure & Hospitality	19,845	20,457	21,346	22,206	22,458	23,261	23,456	24,127	23,778	23,801	24,141	25,263	25,986	26,753	28,409	29,811	30,598	31,820	33,181	32,411	33,582	34,002	34,767	36,492	38,012	39,560	2.4%	3.3%	1,196
Construction	41,623	43,862	45,147	47,630	47,564	49,201	50,744	52,610	52,358	51,289	51,208	53,426	53,450	55,937	59,433	62,067	62,547	64,851	67,585	70,153	73,220	73,409	75,367	78,526	81,726	84,978	3.4%	3.0%	2,352
Government	37,836	39,586	41,402	42,871	44,141	45,370	47,018	48,915	50,044	50,176	52,297	52,677	53,394	54,499	55,481	55,970	58,235	59,888	61,871	69,007	70,001	72,575	75,830	79,386	83,287	87,082	4.6%	4.5%	3,416
Manufacturing	44,246	43,653	43,273	45,981	50,417	50,532	53,194	52,242	51,140	57,401	59,614	62,017	63,974	62,339	60,417	60,575	60,038	62,825	65,128	72,564	76,978	76,608	78,269	81,024	83,530	86,044	4.9%	2.3%	1,813
Financial Activities	41,076	41,436	43,559	45,458	43,368	47,059	51,804	54,688	55,586	56,628	58,998	60,987	62,470	64,338	67,095	69,722	71,940	73,553	76,934	85,249	85,092	87,625	91,581	96,622	101,905	107,989	4.1%	4.9%	4,579
Wholesale Trade	44,489	45,124	47,356	49,970	51,995	48,712	50,752	53,094	53,942	59,143	61,471	57,464	55,361	56,510	57,363	57,311	57,295	58,871	64,612	63,523	64,771	63,721	65,748	68,762	71,759	74,880	2.5%	2.9%	2,022
Retail Trade	23,311	24,034	24,908	26,703	27,057	27,439	28,169	28,322	28,542	28,598	28,621	28,839	29,843	30,884	32,369	33,377	34,425	35,753	37,720	41,885	44,591	44,946	46,013	47,736	49,418	51,136	6.0%	2.8%	1,309
Other Services (except Public Admin.)	27,647	29,841	31,544	33,376	34,521	35,100	37,186	39,096	38,687	38,677	39,324	39,823	39,222	39,365	39,863	39,527	41,835	44,669	46,551	51,089	53,941	53,099	55,134	58,277	61,350	64,459	6.4%	3.6%	2,104
Transportation, Warehousing & Utilities	36,444	37,439	38,781	38,853	41,617	40,305	40,498	42,855	46,208	45,551	47,202	45,926	46,148	47,361	47,912	49,486	50,253	50,786	51,727	55,979	59,315	60,040	61,763	64,395	66,961	69,604	3.7%	3.3%	2,058
Information	42,605	51,085	47,836	48,607	49,086	50,827	47,333	46,817	44,830	45,422	46,198	46,789	47,288	50,351	53,790	54,526	59,443	61,714	61,320	65,286	56,494	56,898	58,369	60,389	62,404	64,475	0.7%	2.7%	1,596
Average Non-Farm Salary	\$31,842	33,033	34,210	35,800	36,358	37,711	38,972	40,225	40,288	40,539	41,606	42,390	42,967	44,116	45,787	46,811	48,275	49,898	52,145	57,018	57,693	58,576	60,589	63,403	66,223	69,138	4.3%	3.7%	2,289
% Change	4.2%	3.7%	3.6%	4.6%	1.6%	3.7%	3.3%	3.2%	0.2%	0.6%	2.6%	1.9%	1.4%	2.7%	3.8%	2.2%	3.1%	3.4%	4.5%	9.3%	1.2%	1.5%	3.4%	4.6%	4.4%	4.4%			



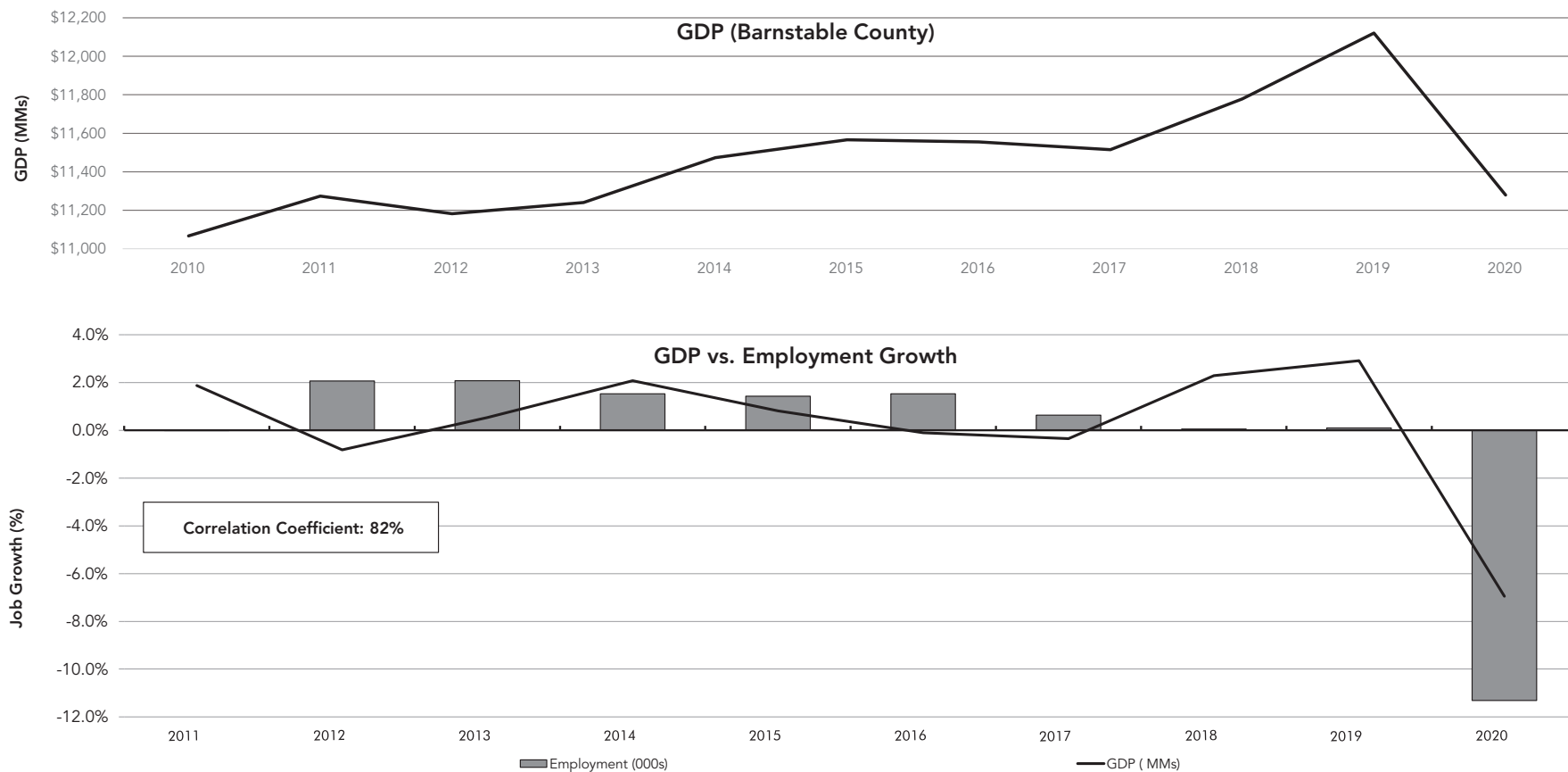
Source: Moody's Analytics



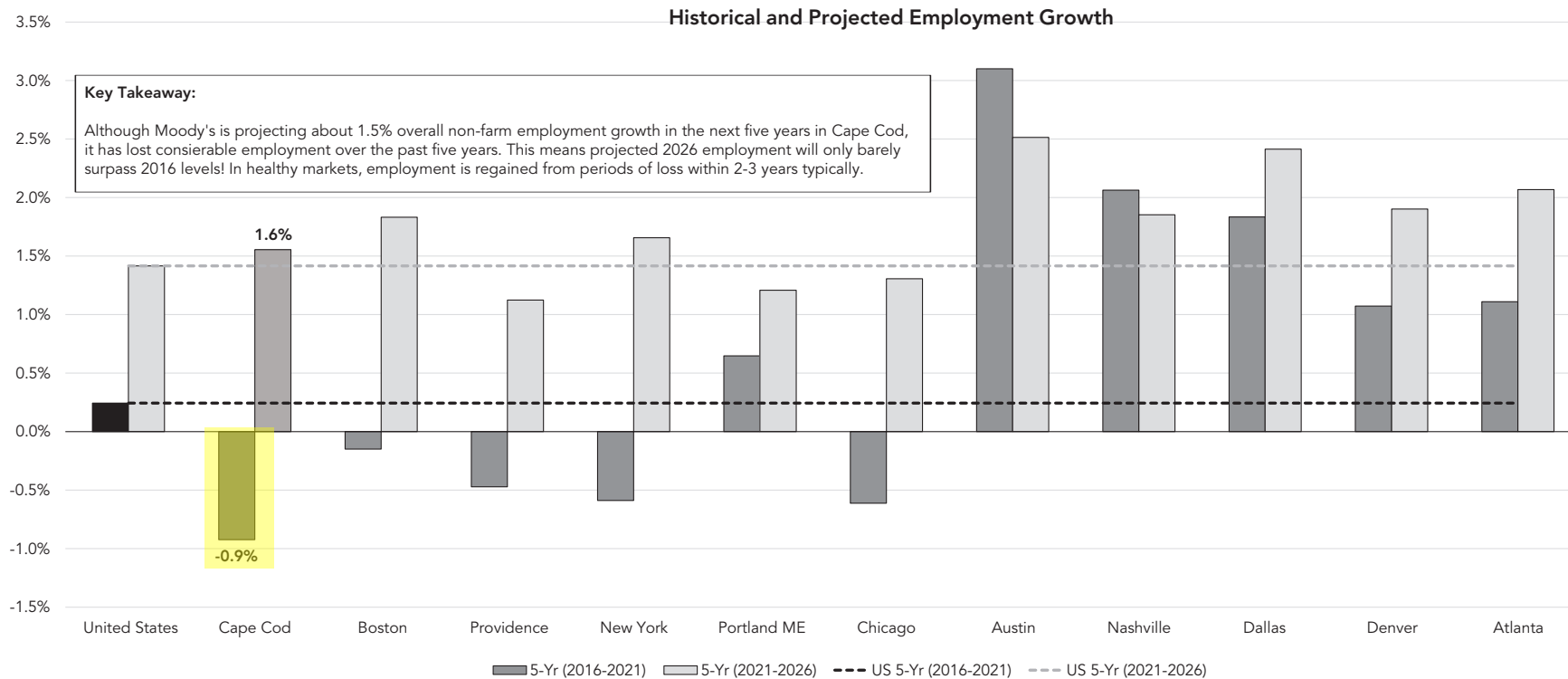
Key Findings, Takeaways and Implications

- The correlation between GDP and year-over-year employment growth is strong within Barnstable County. Thus, each indicator acts similarly - when one goes down, the other follows.
- Businesses that have remained have won out due to the loss that has occurred. They have a significant competitive advantage as the competition has dwindled.

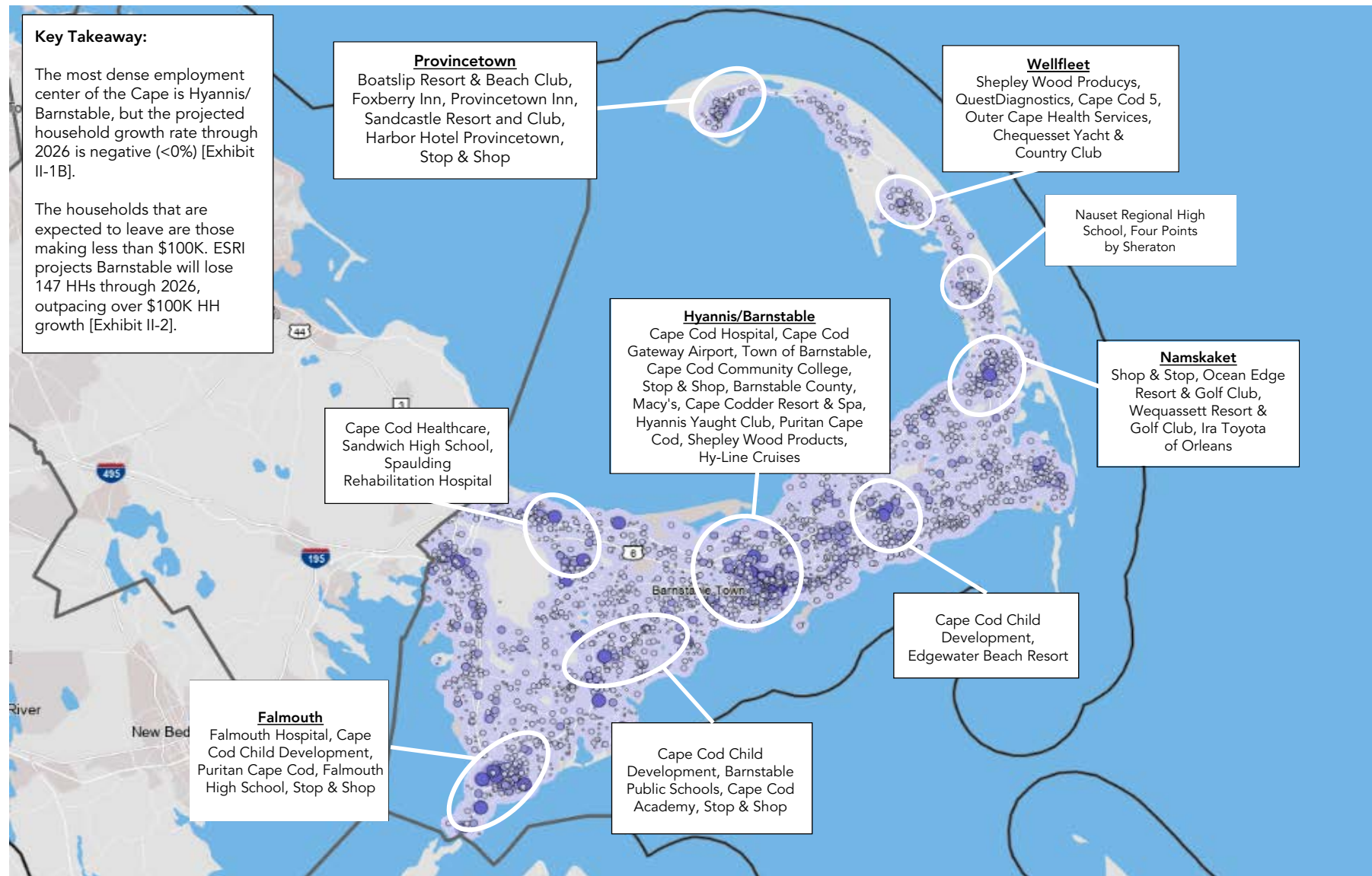
Barnstable County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
GDP (MMs)	\$11,066	\$11,273	\$11,181	\$11,240	\$11,473	\$11,567	\$11,555	\$11,515	\$11,778	\$12,121	\$11,278	\$11,459
YoY Change	---	1.9%	(0.8%)	0.5%	2.1%	0.8%	(0.1%)	(0.3%)	2.3%	2.9%	(6.9%)	0.2%
Employment (000s)	92	91	93	95	97	98	100	100	100	100	89	96
YoY Change	---	(0.0%)	2.1%	2.1%	1.5%	1.4%	1.5%	0.6%	0.1%	0.1%	(11.3%)	(0.2%)



					Competitive Metros										High-Growth Metros									
	United States		Cape Cod		Boston		Providence		New York		Portland ME		Chicago		Austin		Nashville		Dallas		Denver		Atlanta	
MSA:	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.	Num.	Perc.
Historical Employment (000s)																								
2005	134,022		96		2,395		721		8,662		262		4,455		705		769		2,823		1,190		2,345	
2011	131,922		91		2,446		681		8,722		260		4,299		812		787		3,006		1,214		2,312	
2016	144,333		100		2,696		725		9,559		276		4,655		1,001		951		3,508		1,434		2,665	
2021	146,102		95		2,676		708		9,281		285		4,515		1,166		1,053		3,842		1,513		2,816	
5-Yr Ann. Growth	353.8	0.2%	-0.9	(0.9%)	-4.0	(0.1%)	-3.4	(0.5%)	-55.6	(0.6%)	1.8	0.6%	-28.1	(0.6%)	33.0	3.1%	20.5	2.1%	66.7	1.8%	15.7	1.1%	30.2	1.1%
10-Yr Ann. Growth	1,418.0	1.0%	0.4	0.4%	23.0	0.9%	2.7	0.4%	55.9	0.6%	2.5	0.9%	21.6	0.5%	35.4	3.7%	26.6	3.0%	83.5	2.5%	29.8	2.2%	50.4	2.0%
Employment Forecast (000s)																								
2026	156,745		103		2,930		749		10,076		303		4,818		1,320		1,155		4,328		1,662		3,120	
5-Yr Ann. Growth	2,128.6	1.4%	1.5	1.6%	50.9	1.8%	8.1	1.1%	159.0	1.7%	3.5	1.2%	60.6	1.3%	30.8	2.5%	20.3	1.9%	97.3	2.4%	29.9	1.9%	60.7	2.1%



Source: Moody's (updated 7/20/2022)



Source: Longitudinal Employer-Household Dynamics, U.S. Census Bureau

Key Findings, Takeaways and Implications

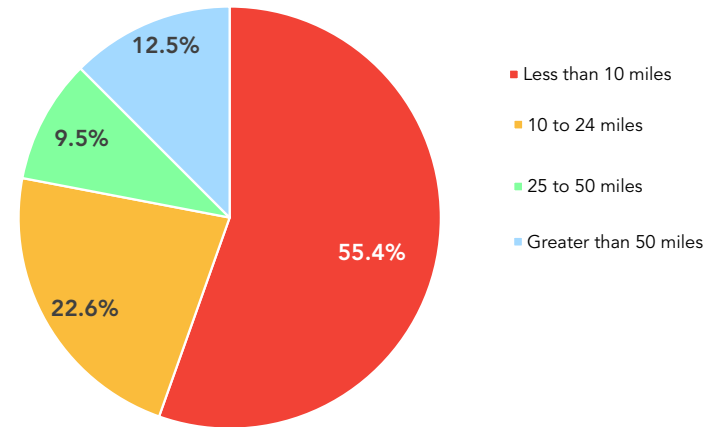
- More than 20% of Barnstable County workers live more than 25 miles away from their work places, the majority of which are commuting more than 50 miles each way.
- Looking at historical data, the share of workers who live more than 50 miles away from their work places in Barnstable County is showing the highest growth compared to other groups. This suggests that more and more workers have to live outside of the County. Increasing access to affordable housing units in the county will help bring workers closer and reduce the economic and environmental cost of commuting.

	2011		2019		Change	
	#	%	#	%	#	%
Total All Jobs	78,180		87,856		9,676	12.4%
Total Employed Residents	88,585		97,081		8,496	9.6%
Jobs to Labor	0.9		0.9			

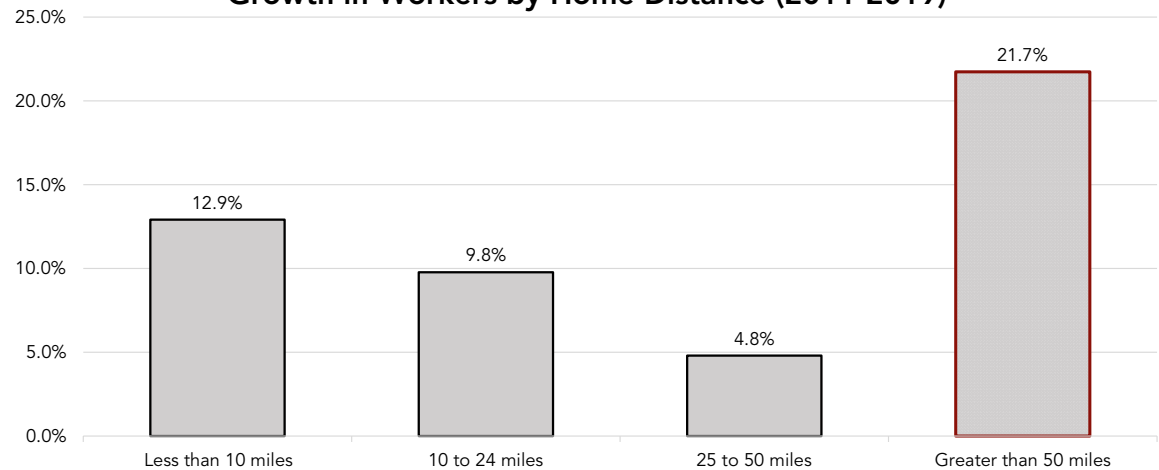
** Workers in Barnstable County by Distance to Home**

Commuter Distance						
Less than 10 miles	43,131	55.2%	48,698	55.4%	5,567	12.9%
10 to 24 miles	18,067	23.1%	19,833	22.6%	1,766	9.8%
25 to 50 miles	7,959	10.2%	8,341	9.5%	382	4.8%
Greater than 50 miles	9,023	11.5%	10,984	12.5%	1,961	21.7%
Total	78,180	100%	87,856	100%	9,676	12.4%

Home Distance for Barnstable County Workers (2019)



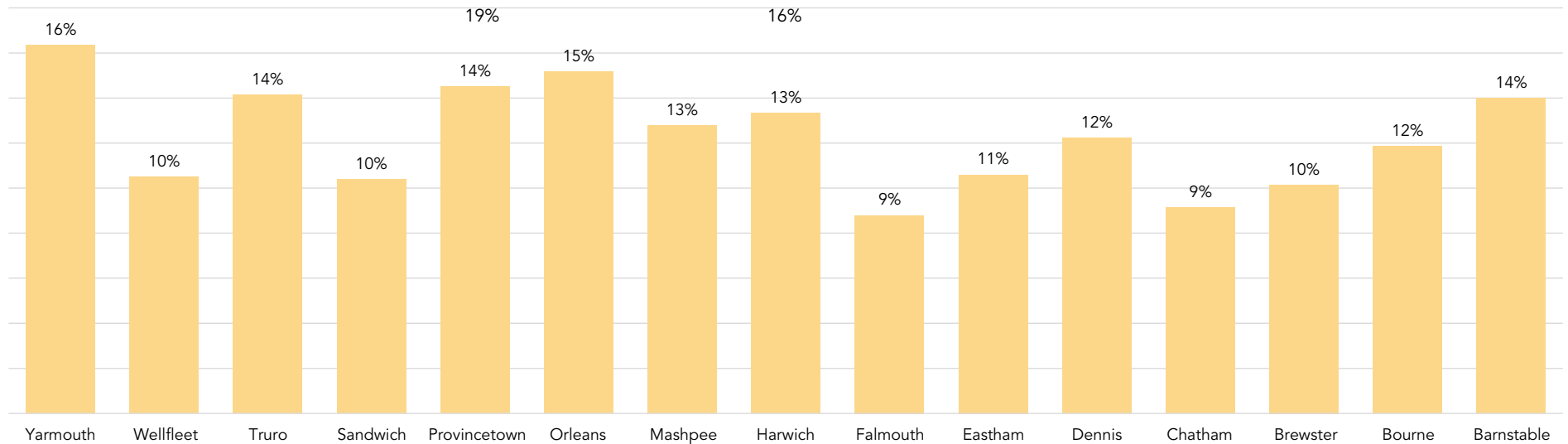
Growth in Workers by Home Distance (2011-2019)



Source: OnTheMap

Town	Workers by Work to Home Distance									2011-2019 % Change				
	Less than 10 Miles		10 - 25 Miles		25 - 50 Miles		50+ Miles		Total	Less than 10 Miles	10-25 Miles	25-50 Miles	50+ Miles	Total
	#	%	#	%	#	%	#	%						
Barnstable	14,677	56%	5,732	22%	2,194	8%	3,676	14%	26,279	19.1%	10.5%	-9.5%	17.1%	14.6%
Bourne	3,220	44%	2,046	28%	1,146	16%	862	12%	7,274	11.1%	4.1%	19.9%	9.2%	-0.5%
Brewster	1,610	65%	449	18%	155	6%	250	10%	2,464	3.9%	4.2%	9.0%	34.0%	7.3%
Chatham	1,958	62%	714	22%	220	7%	291	9%	3,183	18.6%	14.1%	17.7%	37.5%	19.3%
Dennis	2,831	63%	792	18%	301	7%	546	12%	4,470	12.2%	-2.5%	15.0%	14.1%	10.0%
Eastham	543	50%	318	30%	101	9%	114	11%	1,076	14.0%	8.2%	29.7%	35.1%	16.0%
Falmouth	7,252	54%	3,530	26%	1,396	10%	1,174	9%	13,352	0.1%	6.1%	0.5%	0.7%	1.8%
Harwich	2,346	62%	638	17%	274	7%	501	13%	3,759	7.2%	-3.9%	13.1%	10.8%	6.3%
Mashpee	2,777	57%	1,013	21%	472	10%	624	13%	4,886	10.3%	25.3%	8.7%	22.1%	14.8%
Orleans	1,963	55%	725	20%	337	9%	541	15%	3,566	-1.0%	-2.8%	15.1%	22.6%	3.7%
Provincetown	1,050	54%	282	14%	331	17%	282	14%	1,945	6.0%	16.3%	15.7%	33.0%	13.1%
Sandwich	3,294	54%	1,607	26%	563	9%	633	10%	6,097	13.3%	21.5%	-4.6%	29.2%	15.5%
Truro	247	45%	152	28%	69	13%	77	14%	545	-4.9%	26.3%	43.5%	62.3%	19.4%
Wellfleet	393	44%	319	36%	81	9%	93	10%	886	16.0%	19.4%	-16.0%	5.4%	13.2%
Yarmouth	4,537	56%	1,516	19%	701	9%	1,320	16%	8,074	12.4%	2.4%	8.1%	21.9%	11.7%

2019 Share of Workers Living 50+ Miles from Work



Source: OnTheMap

Key Findings, Takeaways and Implications

- East Harwich has seen the most growth of inbound workers from Barnstable County, increasing by 4.5% annually from 2011 to 2019.
- The amount of workers with jobs in Boston (1.4%) has increased almost identically to the job growth rate in Barnstable County (1.2%) from 2011-19.

Top 20 Destinations of Barnstable Residents	Annual									Ann. Gr. '11 - '19
	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Barnstable Town	16,440	16,752	16,741	16,938	17,286	19,180	19,323	19,251	19,462	2.1%
Boston	4,156	4,302	4,561	4,627	4,279	4,547	4,584	4,602	4,643	1.4%
Falmouth	3,007	2,979	2,928	2,944	2,928	2,919	2,933	2,937	3,199	0.8%
South Yarmouth	1,811	1,815	1,885	1,933	2,088	2,057	2,014	1,965	2,035	1.5%
Orleans	1,815	1,885	1,884	1,846	2,004	2,005	1,871	1,855	1,781	-0.2%
South Dennis	1,330	1,370	1,374	1,356	1,481	1,599	1,540	1,630	1,578	2.2%
Provincetown	1,336	1,356	1,313	1,353	1,348	1,481	1,378	1,505	1,478	1.3%
Sandwich	1,295	1,201	1,207	1,175	1,344	1,152	1,242	1,315	1,323	0.3%
West Yarmouth	1,176	1,256	1,255	1,199	1,194	1,210	1,282	1,257	1,301	1.3%
Chatham	1,176	1,226	1,078	1,134	1,037	1,149	1,124	1,143	1,230	0.6%
Woods Hole	1,693	1,603	1,516	1,662	1,646	1,600	1,599	1,623	1,230	-3.9%
Brewster	1,008	1,029	1,045	1,075	1,057	1,103	1,033	1,032	1,015	0.1%
Northwest Harwich	837	827	858	893	897	940	978	975	1,009	2.4%
East Harwich	689	704	714	760	824	1,025	938	940	981	4.5%
Yarmouth Port	691	689	650	657	699	654	678	657	798	1.8%
Brockton	671	733	704	782	713	734	753	752	695	0.4%
New Bedford	856	800	810	896	835	769	751	759	695	-2.6%
Dennis Port	577	587	560	596	607	659	708	639	690	2.3%
Harwich Port	594	665	663	663	665	683	624	610	672	1.6%
North Falmouth	589	599	651	651	589	589	575	636	672	1.7%
All Other Locations	24,416	24,206	25,300	26,045	26,242	27,118	27,641	27,463	27,494	1.5%
Total Jobs:	88,585	89,153	90,764	91,612	91,498	95,461	96,258	96,339	97,081	1.2%
Change	---	568	1,611	848	(114)	3,963	797	81	742	
% Change	---	0.6%	1.8%	0.9%	(0.1%)	4.3%	0.8%	0.1%	0.8%	



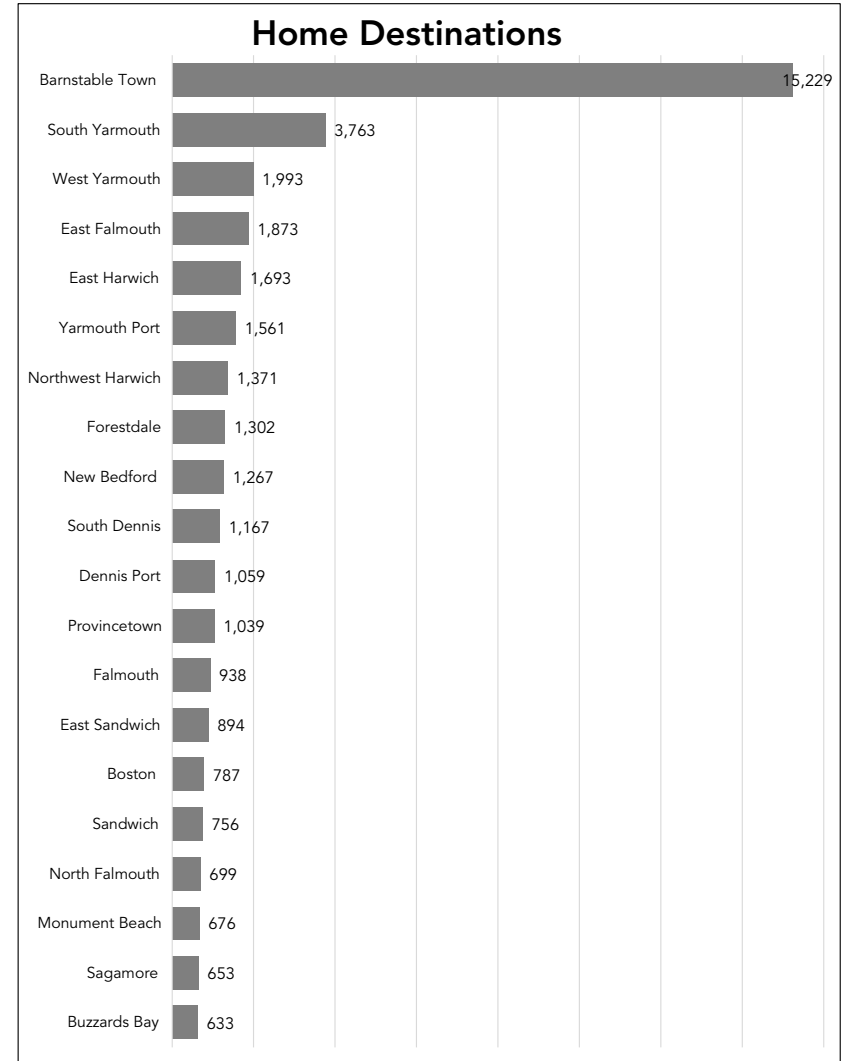
Note: These figures represent the places where residents of Barnstable County work

Source: OnTheMap

Key Findings, Takeaways and Implications

- New Bedford, a city outside of Barnstable County, has seen the largest resident growth of those who work in Barnstable County, from 2011 - 2019.
- Compared to the previous exhibit, Barnstable County is experiencing an outflow of labor (0.905 jobs/labor ratio).

Top 20 Home Destinations Barnstable Employed Labor	2011	2012	2013	2014	Annual 2015	2016	2017	2018	2019	Ann. Gr. '11-'19
Barnstable Town	12,189	12,511	12,585	12,964	13,544	14,863	14,706	14,861	15,229	2.8%
South Yarmouth	3,243	3,334	3,310	3,297	3,497	3,728	3,719	3,583	3,763	1.9%
West Yarmouth	1,785	1,761	1,806	1,838	1,970	1,889	1,988	2,015	1,993	1.4%
East Falmouth	1,755	1,687	1,682	1,746	1,805	1,911	1,826	1,906	1,873	0.8%
East Harwich	1,568	1,579	1,469	1,575	1,632	1,674	1,740	1,719	1,693	1.0%
Yarmouth Port	1,428	1,443	1,531	1,482	1,480	1,580	1,515	1,509	1,561	1.1%
Northwest Harwich	1,244	1,219	1,265	1,247	1,359	1,484	1,397	1,340	1,371	1.2%
Forestdale	1,127	1,155	1,138	1,234	1,266	1,330	1,316	1,254	1,302	1.8%
New Bedford	993	1,066	1,103	1,119	1,145	1,210	1,269	1,304	1,267	3.1%
South Dennis	1,026	1,084	1,066	1,085	1,067	1,167	1,171	1,258	1,167	1.6%
Dennis Port	907	918	897	867	1,004	1,081	1,144	1,056	1,059	2.0%
Provincetown	1,001	1,032	997	1,033	1,036	1,036	1,013	1,007	1,039	0.5%
Falmouth	911	860	897	932	925	1,028	969	1,013	938	0.4%
East Sandwich	824	817	762	814	937	906	935	893	894	1.0%
Boston	688	685	732	774	780	763	885	796	787	1.7%
Sandwich	608	663	649	689	699	716	665	713	756	2.8%
North Falmouth	686	645	655	655	695	691	703	704	699	0.2%
Monument Beach	585	548	581	616	646	588	598	569	676	1.8%
Sagamore	486	493	574	623	625	680	696	664	653	3.8%
Buzzards Bay	587	603	587	639	616	597	637	658	633	0.9%
All Other Locations	28,075	28,532	29,237	29,065	28,417	29,580	29,636	29,969	29,339	0.6%
Total Jobs:	78,149	79,440	80,822	81,559	82,597	86,548	87,021	87,450	87,856	1.5%
Change	---	1,291	1,382	737	1,038	3,951	473	429	406	
% Change	---	1.7%	1.7%	0.9%	1.3%	4.8%	0.5%	0.5%	0.5%	



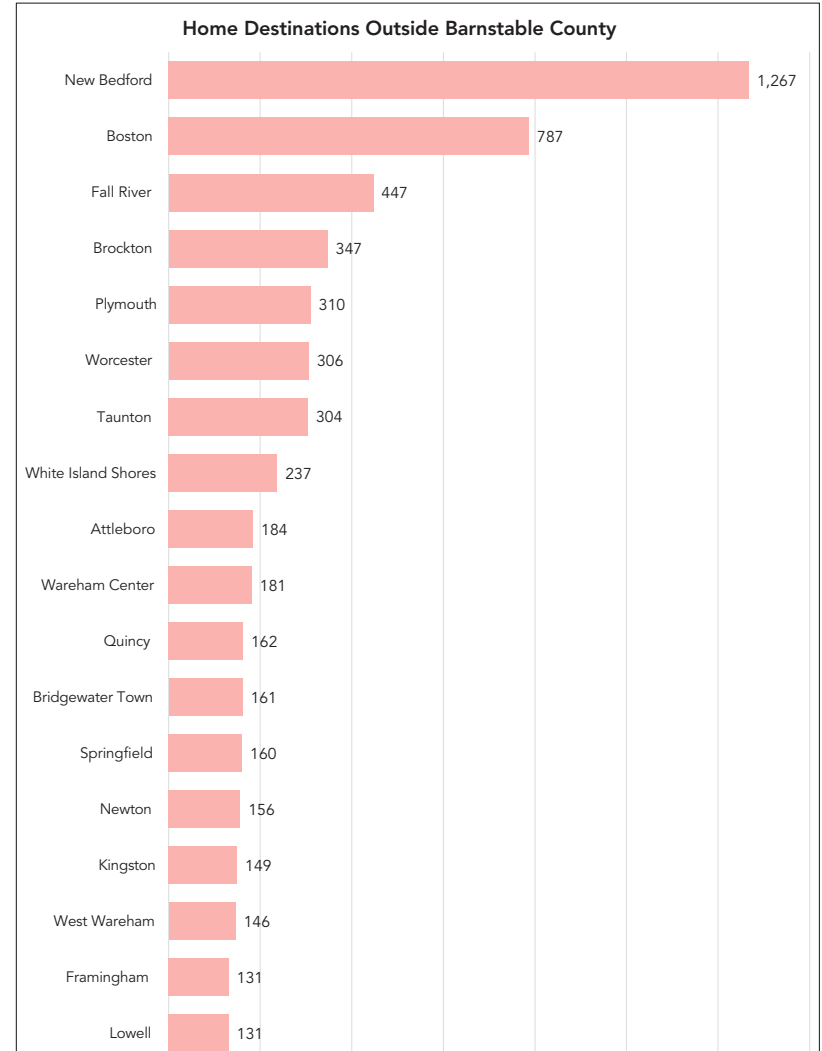
Note: These figures represent the places where workers live who are employed within Barnstable County

Source: OnTheMap

Key Findings, Takeaways and Implications

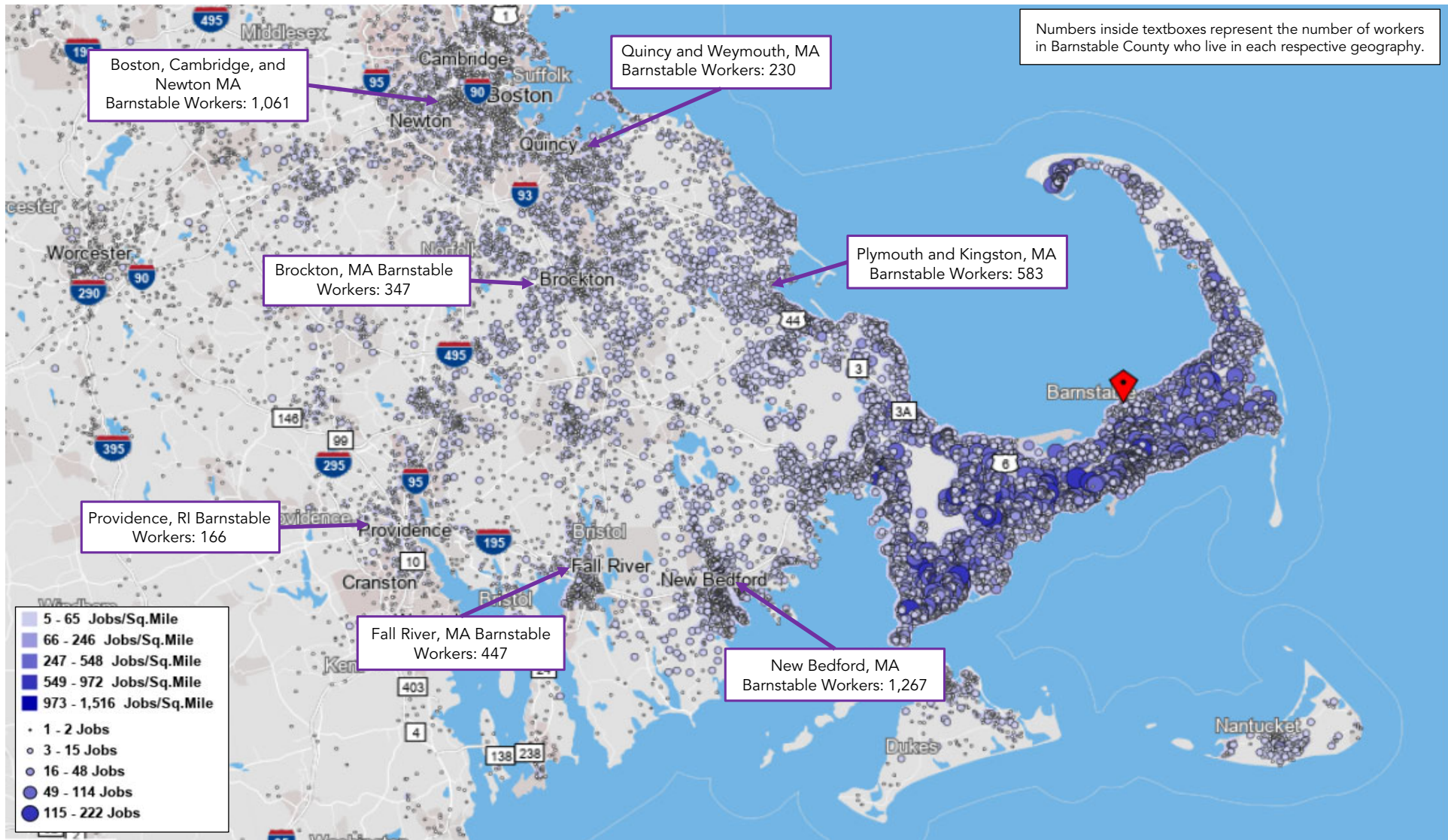
- Out of the 87,856 employed labor in Barnstable County, over 42,000 people live outside the county. The top 18 destinations outside the county make up about 6.3% of the total employed labor force in Barnstable County. Nevertheless, there is an additional ~18,000 workers living outside the County and not in one of these towns/cities.

Within Barnstable County Home Destinations	2011	2012	2013	2014	Annual 2015	2016	2017	2018	2019	Ann. Gr. '11 - '19
Barnstable Town	12,189	12,511	12,585	12,964	13,544	14,863	14,706	14,861	15,229	2.8%
South Yarmouth	3,243	3,334	3,310	3,297	3,497	3,728	3,719	3,583	3,763	1.9%
West Yarmouth	1,785	1,761	1,806	1,838	1,970	1,889	1,988	2,015	1,993	1.4%
East Falmouth	1,755	1,687	1,682	1,746	1,805	1,911	1,826	1,906	1,873	0.8%
East Harwich	1,568	1,579	1,469	1,575	1,632	1,674	1,740	1,719	1,693	1.0%
Yarmouth Port	1,428	1,443	1,531	1,482	1,480	1,580	1,515	1,509	1,561	1.1%
Northwest Harwich	1,244	1,219	1,265	1,247	1,359	1,484	1,397	1,340	1,371	1.2%
South Dennis	1,026	1,084	1,066	1,085	1,067	1,167	1,171	1,258	1,167	1.6%
Forestdale	1,127	1,155	1,138	1,234	1,266	1,330	1,316	1,254	1,302	1.8%
Dennis Port	907	918	897	867	1,004	1,081	1,144	1,056	1,059	2.0%
Provincetown	1,001	1,032	997	1,033	1,036	1,036	1,013	1,007	1,039	0.5%
Falmouth	911	860	897	932	925	1,028	969	1,013	938	0.4%
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Monument Beach	585	548	581	616	646	588	598	569	676	1.8%
Sagamore	486	493	574	623	625	680	696	664	653	3.8%
Buzzards Bay	587	603	587	639	616	597	637	658	633	0.9%
Outside Barnstable County Home Destinations	2011	2012	2013	2014	Annual 2015	2016	2017	2018	2019	Ann. Gr. '11 - '19
New Bedford	993	1,066	1,103	1,119	1,145	1,210	1,269	1,304	1,267	3.1%
Boston	688	685	732	774	780	763	885	796	787	1.7%
Fall River	377	417	378	353	423	432	467	414	447	2.2%
Brockton	402	395	433	364	352	345	376	360	347	-1.8%
Plymouth	204	219	252	235	263	294	283	279	310	5.4%
Worcester	280	280	288	292	276	270	267	295	306	1.1%
Taunton	246	229	268	219	272	299	315	288	304	2.7%
White Island Shores	145	167	164	186	236	189	212	171	237	6.3%
Attleboro	113	132	148	166	159	183	153	173	184	6.3%
Wareham Center	132	139	158	152	153	199	193	179	181	4.0%
Quincy	175	187	199	142	155	122	145	147	162	-1.0%
Bridgewater Town	229	217	204	150	160	169	162	175	161	-4.3%
Springfield	130	149	128	146	133	169	166	142	160	2.6%
Newton	203	229	234	150	143	131	150	172	156	-3.2%
Kingston	121	127	131	113	149	151	150	141	149	2.6%
West Wareham	103	112	124	119	129	123	110	157	146	4.5%
Framingham	151	177	164	132	115	140	103	133	131	-1.8%
Lowell	91	96	128	101	107	119	133	102	131	4.7%
All other locations	33,512	34,156	35,168	35,394	34,672	36,024	36,413	36,952	36,660	1.1%
Total Jobs: (outside B.C.)	38,295	39,179	40,404	40,307	39,822	41,332	41,952	42,380	42,226	
Change %	---	884	1,225	(97)	(485)	1,510	620	428	(154)	
Change	---	2.3%	3.1%	(0.2%)	(1.2%)	3.8%	1.5%	1.0%	(0.4%)	

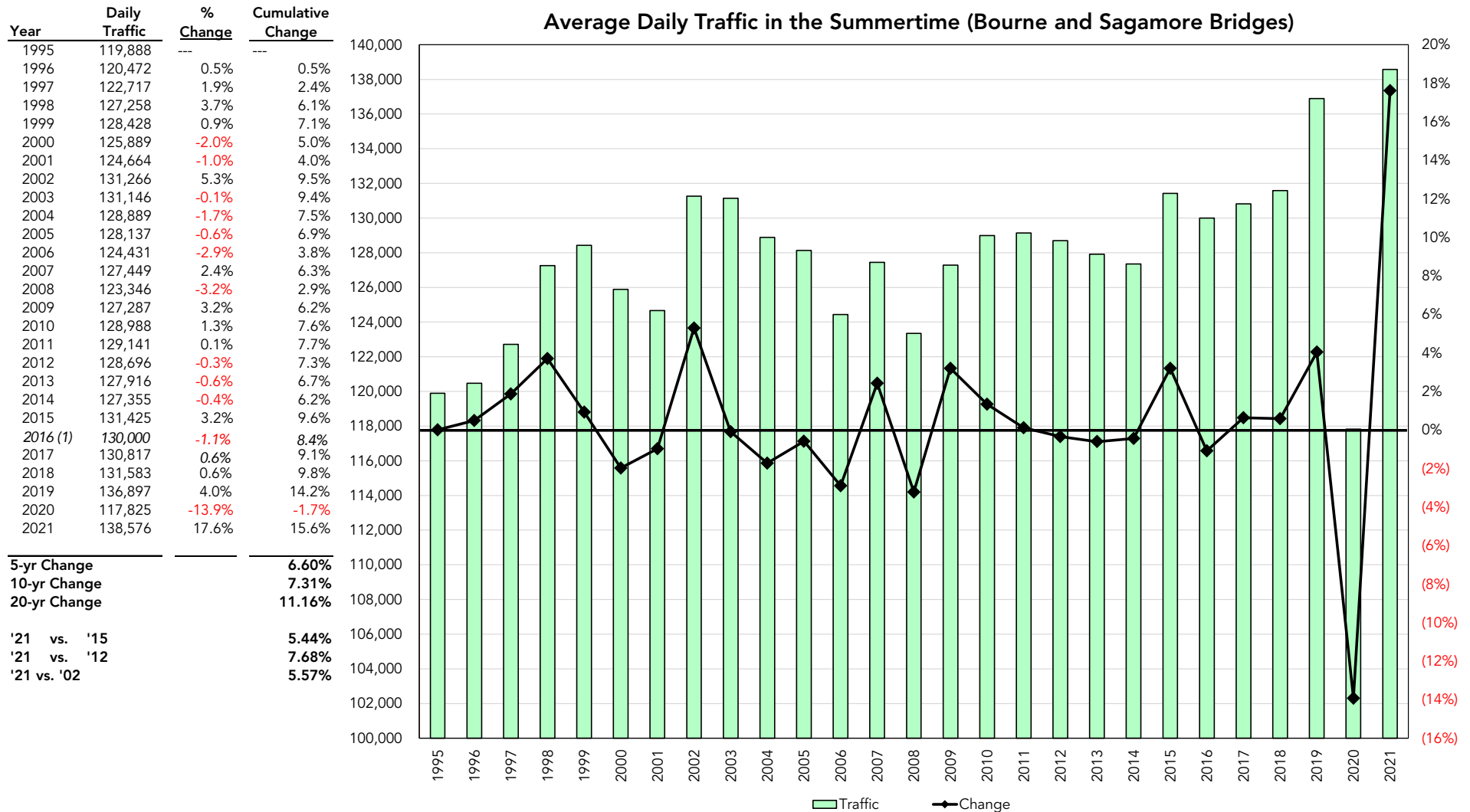


Note: These figures represent the places where workers live who are employed within Barnstable County. Source: OnTheMap

Employed Labor Working in Barnstable County - Location of Home



Source: OnTheMap

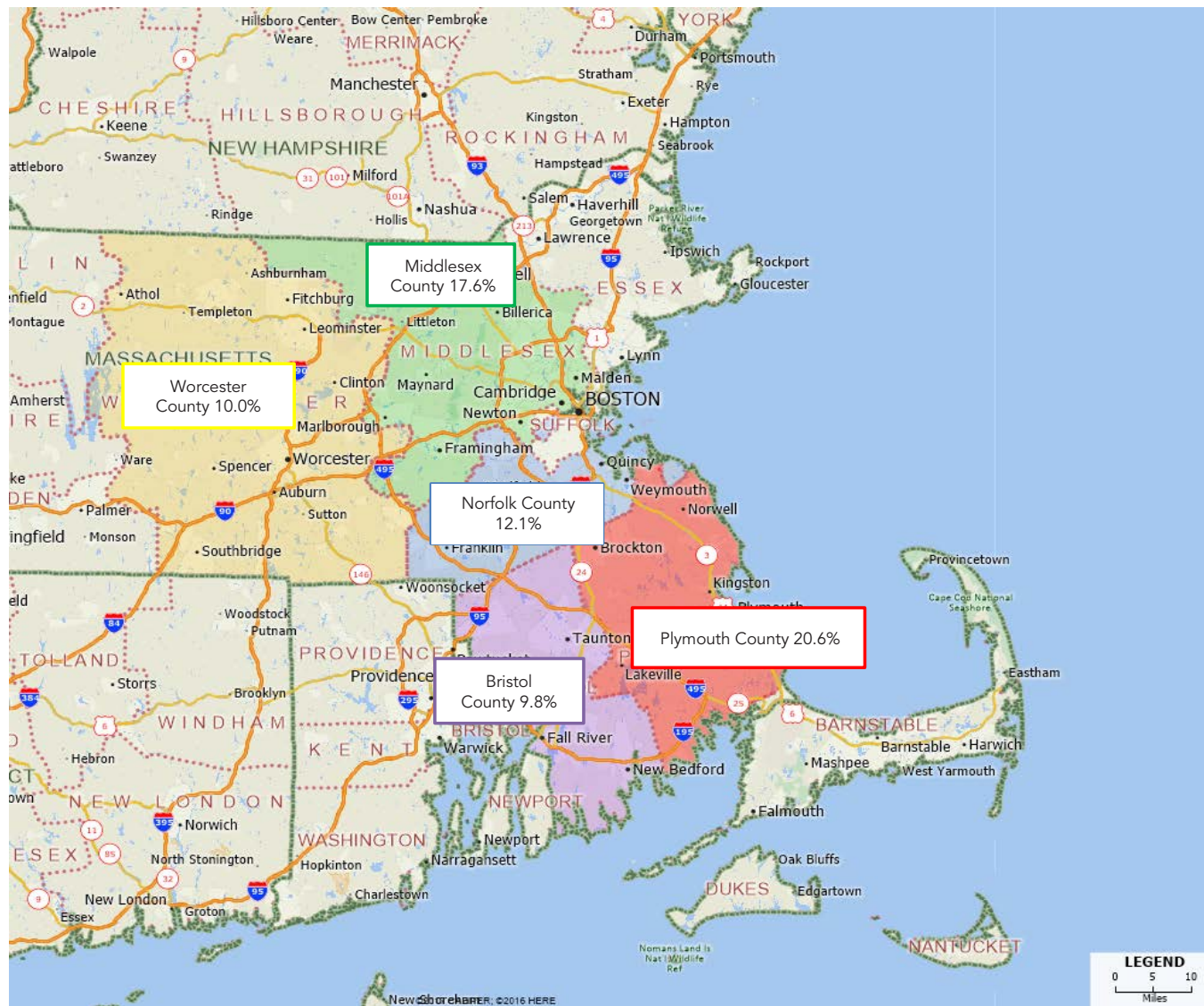


Note: For 2019 and 2020 data, the month of August was used for the daily traffic figure.

Note: Summertime data was more complete than data for the rest of the year, which is why that season was selected for this analysis. Typically, traffic seems to increase about 35-45% during the months of May-August.

(1) 2016 traffic data was estimated. The commission did not have any data for this year, both for year around traffic volume and summertime traffic volume.

Source: Cape Cod Commission; Cape Cod Times



Total 2015 - 2019 Inbound Migration to Barnstable County

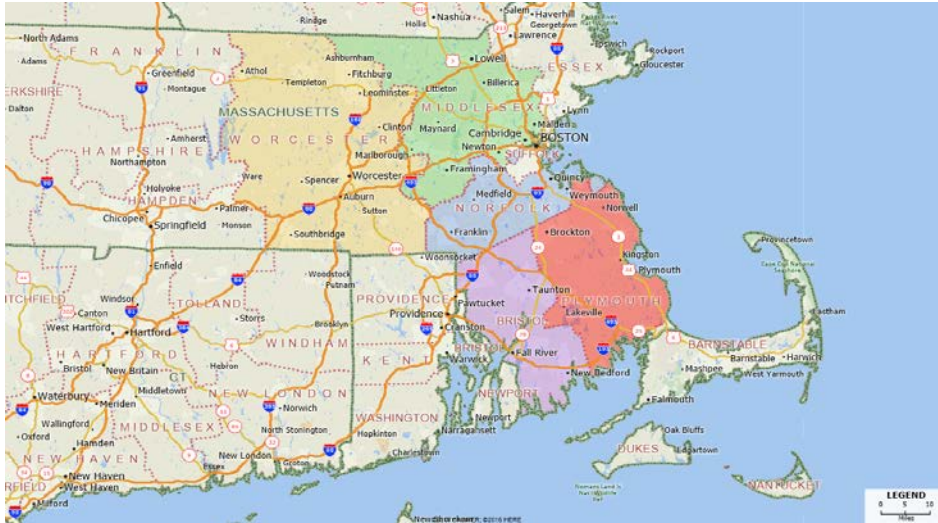
Within State			
Migrate from:	Number	% of MA	% of US
Plymouth County	946	20.6%	11.5%
Middlesex County	808	17.6%	9.8%
Norfolk County	555	12.1%	6.7%
Worcester County	460	10.0%	5.6%
Bristol County	450	9.8%	5.5%
Other Counties	1,365	29.8%	16.6%
In-State Total:	4,584	100%	55.6%
Outside of State			
Migrate from:	Number	% of MA	% of US
Florida New	467	--	5.7%
York	417	--	5.1%
Connecticut	353	--	4.3%
Rhode	309	--	3.7%
Island	203	--	2.5%
Illinois Other States	1,913	--	23.2%
Outside State	3,662	--	44.4%
Total: Total:	8,246	--	100%

Total 2015 - 2019 Outbound Migration from Barnstable County

Within State			
Migrate to:	Number	% of MA	% of US
Bristol County	1,153	21.4%	11.1%
Plymouth County	970	18.0%	9.4%
Middlesex	761	14.1%	7.3%
County Suffolk	676	12.6%	6.5%
County Norfolk	446	8.3%	4.3%
County Other	1,378	25.6%	13.3%
Counties			
In-State Total:	5,384	100%	51.9%
Outside of State			
Migrate to:	Number	% of MA	% of US
Florida	813	--	7.8%
California	444	--	4.3%
Texas	359	--	3.5%
Connecticut	317	--	3.1%
New York	265	--	2.6%
Other	2,785	--	26.9%
States			
Outside State	4,983	--	48.1%
Total: Total:	10,367	--	100%

Source: U.S. Census Bureau, 2015-2019 5-year American Community Survey

I. New Market Migrant Origins



Total 2015-2019 Inbound Migration to Barnstable County

Within State		
Migrate from	Number	% of US
Plymouth County	946	11%
Middlesex County	808	10%
Norfolk County	555	7%
Worcester County	460	6%
Bristol County	450	5%
Other Counties	1,365	17%
Total:	4,584	56%
% of Barnstable County total		2.0%

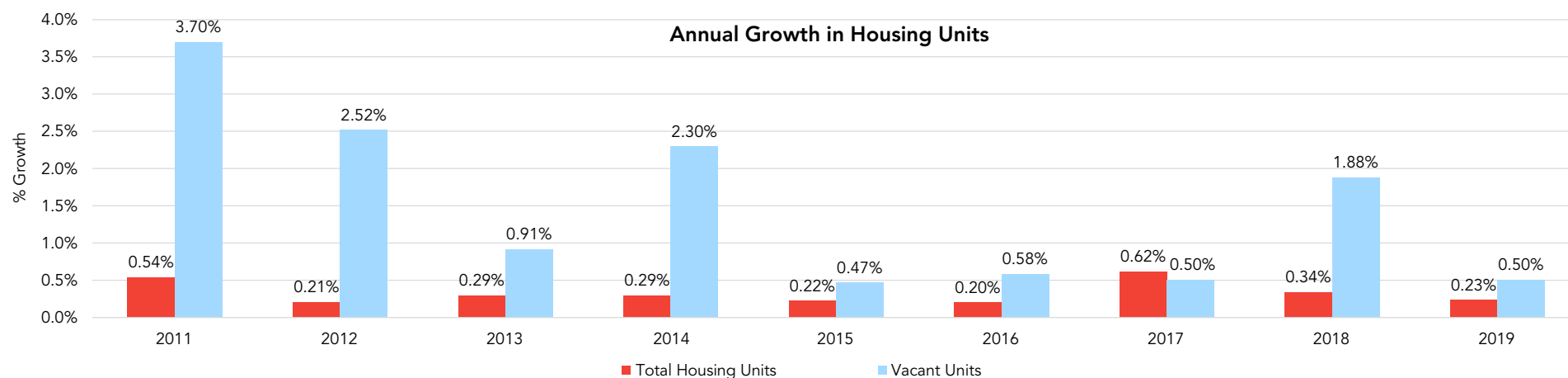
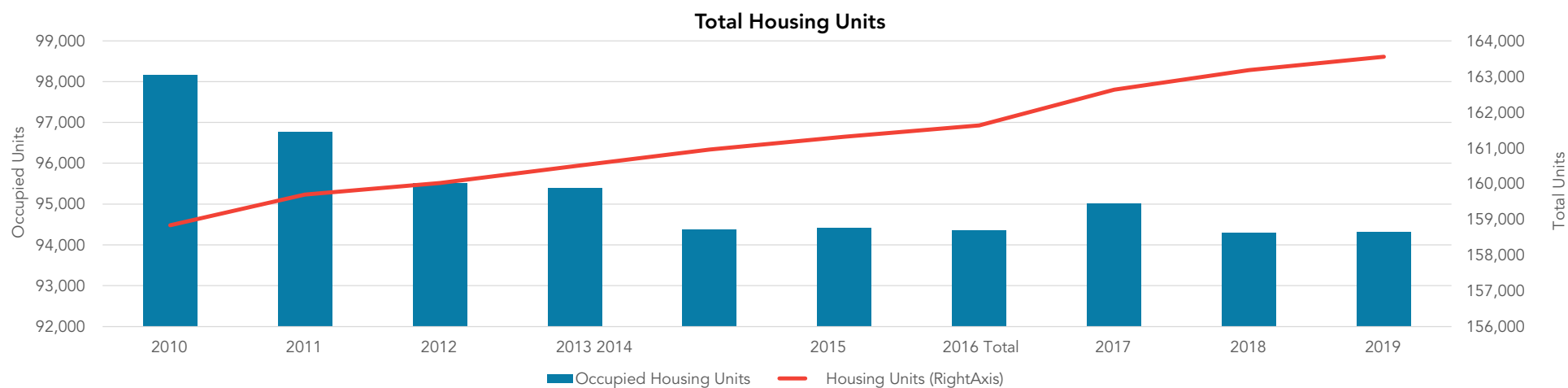
II. Migrant Characteristics

Total 2020 Inbound Migration from out of County and State to Barnstable County, MA

Age Range of New Migrants to: Barnstable County			Income Range of New Migrants to: Barnstable County		
Age Range:	Number	%	Income Range:	Number	%
Under 18	826	9%	Under \$50K	4,678	61%
18-24	1,471	17%	\$50-\$65K	749	10%
25-34	1,306	15%	\$65-\$75K	336	4%
35-44	690	8%	\$75K+	1,882	25%
45-54	757	8%			
55-64	1,534	17%		7,645	100%
65-74	1,656	19%			
75+	675	8%			
	8,915	100%			
% of population: 3.9%			Tenure of New Migrants to:		
Type:	Number	%			
Renter	2,825	33%			
Owner	5,651	67%			
	8,476	100%			

Source: U.S. Census Bureau, 2015-2020 5-year American Community Survey

- Although the total number of housing units has increased over time, the occupancy rate of these housing units has declined, leading us to believe that a greater proportion of houses are used temporarily. Based on data from Census, between 2010 and 2019, growth in vacant housing units consistently outpaced growth in total housing units.
- Between 2010 and 2019, total housing units in Barnstable County increased by over 4,700 units. However, the number of year-round occupied housing units declined by over 3,800. Almost all of the new housing units added in the county were vacant or unavailable for year-round residents.
- This is evidence to support the growing number of part time residents in Cape Cod, supporting the notion that Barnstable County has a plethora of second-home owners.

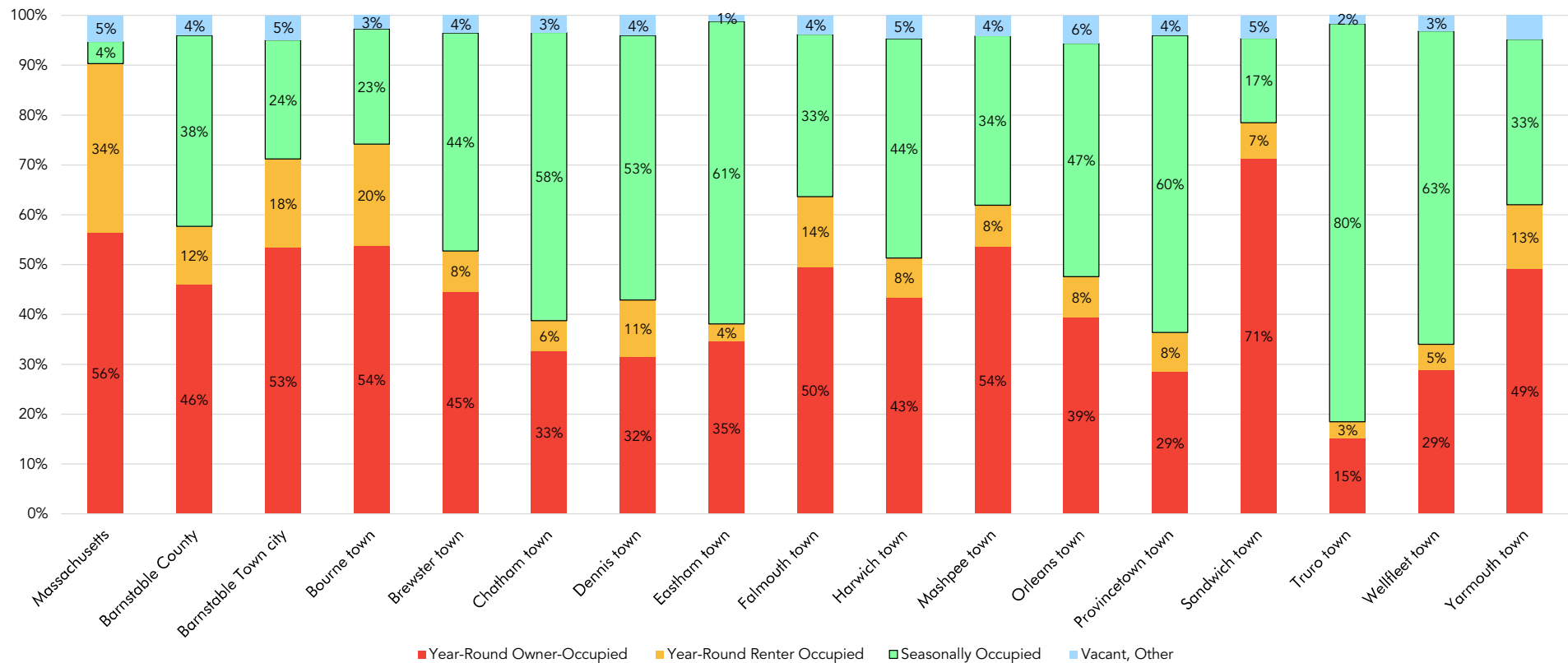


Source: US Census, 2010-2019 ACS 5-Year Estimates, Table DP04

- As of 2019, around 39% of housing units in Barnstable County are only used seasonally. This is much higher compared to Massachusetts, with only 4% of the total housing units used seasonally. Greater than 50% of total housing units in 6 county subdivisions are occupied only seasonally. In Truro Town, around 80% of the total housing units are seasonally occupied.
- Greater than 50% of total housing units in 6 county subdivisions are occupied only seasonally. In Truro Town, around 80% of the total housing units are seasonally occupied.
- Between 2010 and 2019, the year-round housing to job ratio in Barnstable County declined from 1.07 to 0.94. Assuming trends in housing and job growth remain the same, the housing to job ratio in Barnstable will keep falling, reaching 0.88 in 2029.

Housing Type	Barnstable County				
	Historical		% Change	Forecast (1)	
	2010	2019		2029	%
Year-Round Owner-Occupied	78,880	75,287	(4.6%)	71,397	(5.2%)
Year-Round Renter Occupied	19,284	19,036	(1.3%)	18,762	(1.4%)
Total Year-Round Housing	98,164	94,323	(3.9%)	90,632	
Total Jobs	91,512	100,443	9.8%	103,251	
Housing to Job Ratio	1.07	0.94		0.88	

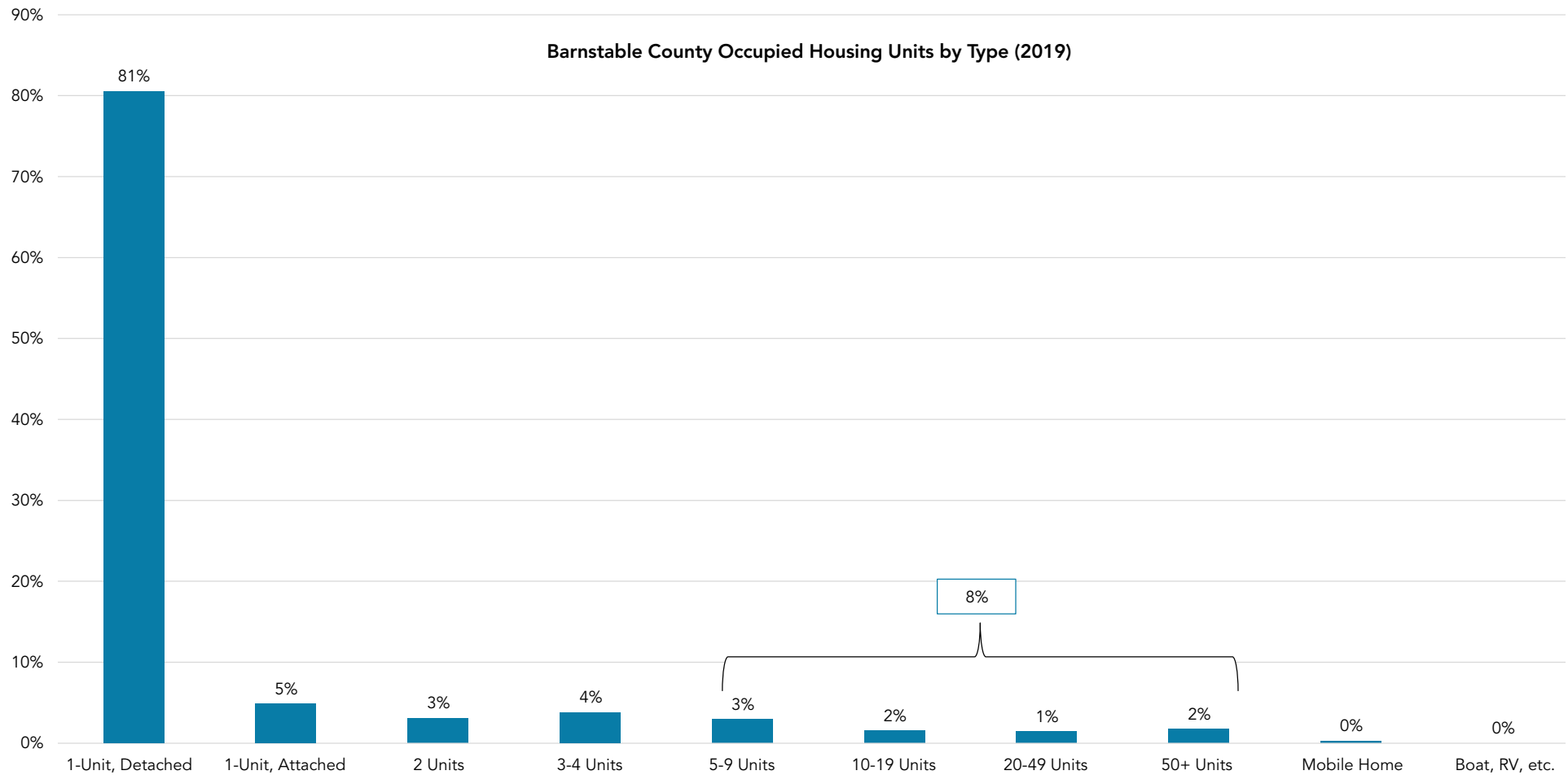
Tenancy by Geography (2019)



(1)2029 projected total housing units assumed the same annual percent change as the historical annual percent change in the last 10 years (2010-2019). 2029 total jobs are from Moody's.

Source: US Census, 2010 & 2019 ACS 5-Year Estimates, Table DP04, B25004, B25032

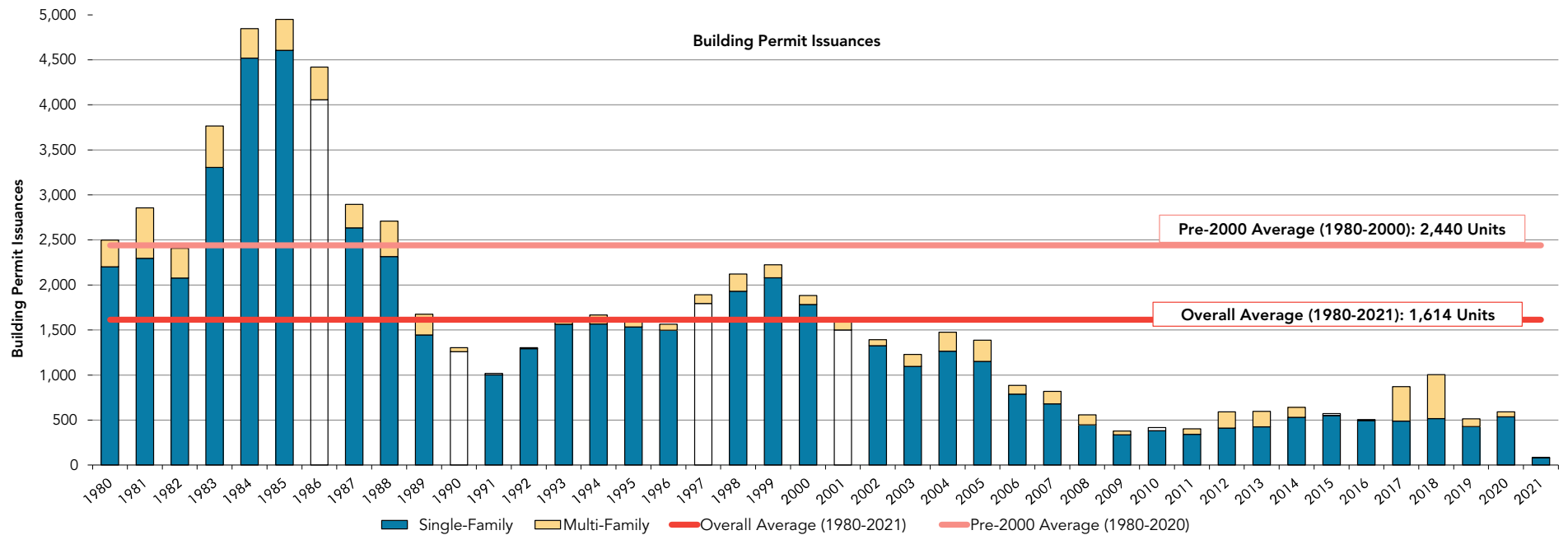
- In addition to the lack of year-round housing units, the housing stock in Barnstable County is very uniform, consisting of over 80% single-family detached homes.
- To support the needs of Barnstable County workers and residents, Barnstable County needs to provide more and higher density housing options such as multi-family apartments, condos, and attached townhomes.
- More housing choices will help reduce housing burden on empty nesters and young professionals who are looking for smaller, more affordable housing types than single-family homes.



Source: US Census, 2019 ACS 5-Year Estimates, Table B25032

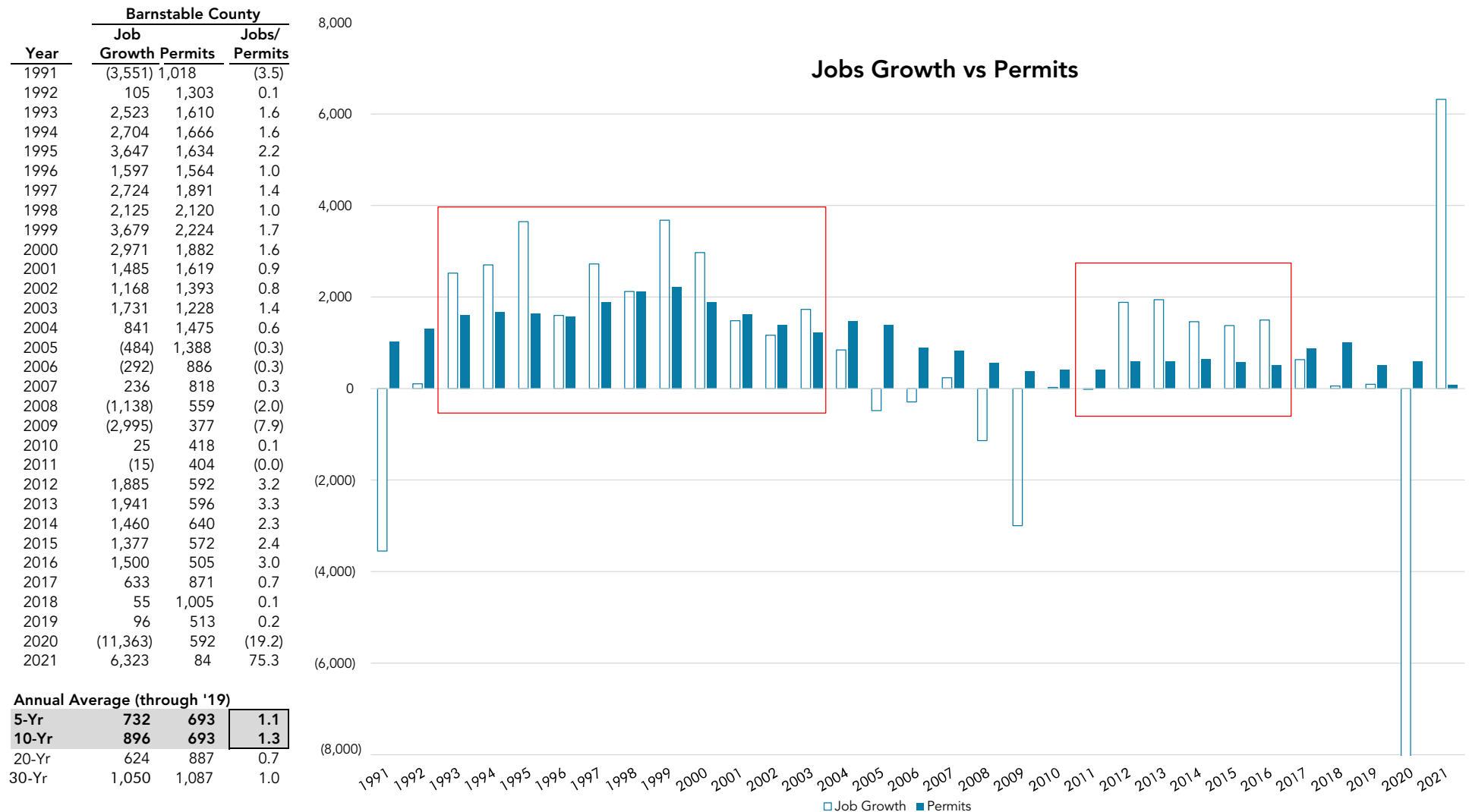
- Permit issuances, both for single-family and multifamily product types, have slowed down tremendously since 20th century highs. The annual average of building permits issued between 1980 and 2020, which includes the period of underbuilding immediately after the great recession, is 1,614 units. This is almost 800 units lower compared to the pre-2000 annual average.
- The number of permits issued for single-family units has greatly exceeded the number of permits issued for multifamily units. The only exception was in 2017, when permits for multi-family surpassed 300 units for the first time since 2005. Even then, the number of multifamily permits was still lower compared to single-family permits (518 units).

Geography	Annual																	YTD (1)	Ann. Avg.	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		10-Yr	15-Yr
All Multi-Family Building Permit Issuances																				
Barnstable County	236	98	139	112	40	37	62	182	171	110	22	10	382	487	86	56	2		137	139
5+ Change (#)	26	-138	41	-27	-72	-3	25	120	-11	-61	-88	-12	372	105	-401	-30	-54			
5+ Change (%)	12%	(58%)	42%	(19%)	(64%)	(8%)	68%	194%	(6%)	(36%)	(80%)	(55%)	3,720%	27%	(82%)	(35%)	(96%)			
Single-Family Building Permit Issuances																				
Barnstable County	1,152	788	679	447	337	381	342	410	425	530	550	495	489	518	427	536	82		453	532
Single-Family Change (#)	-113	-364	-109	-232	-110	44	-39	68	15	105	20	-55	-6	29	-91	109	-454			
Single-Family Change (%)	(9%)	(32%)	(14%)	(34%)	(25%)	13%	(10%)	20%	4%	25%	4%	(10%)	(1%)	6%	(18%)	26%	(85%)			



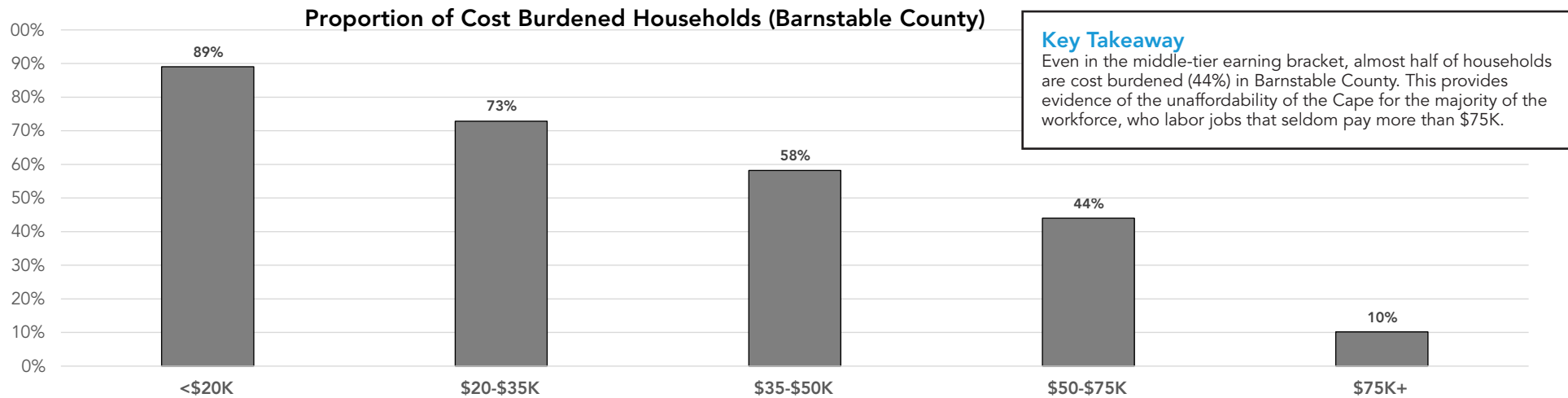
Source: U.S. Department of Housing and Urban Development (1) 2021 YTD data is through November 2021

- Historically, job growth and permit growth have been positively correlated with each other. For several years between 1990 - 2000, job growth in Barnstable County greatly outpaced housing growth.
- The 20-yr jobs to permits ratio in Barnstable County is 0.7, much lower than the 10-Yr average of 1.3. This suggests that more jobs were added in recent years relative to the number of new housing units.



Source: Moody's and HUD

Geography	% Cost Burdened Households by Income Tranche					Total Cost Burdened Households					Total Households				
	<\$20K	\$20-\$35K	\$35-\$50K	\$50-\$75K	\$75K+	<\$20K	\$20-\$35K	\$35-\$50K	\$50-\$75K	\$75K+	<\$20K	\$20-\$35K	\$35-\$50K	\$50-\$75K	\$75K+
Barnstable County	89%	73%	58%	44%	10%	7,457	7,519	5,882	7,051	4,966	8,371	10,318	10,100	16,037	48,885
Barnstable	85%	73%	66%	48%	12%	1,456	1,359	1,093	1,733	1,131	1,716	1,856	1,658	3,630	9,761
Bourne	90%	70%	69%	41%	9%	530	707	527	620	405	591	1,010	767	1,494	4,397
Brewster	97%	86%	54%	30%	11%	449	393	211	206	274	464	456	389	696	2,445
Chatham	80%	73%	35%	46%	20%	225	177	129	238	300	280	244	364	516	1,535
Dennis	94%	72%	49%	35%	7%	630	694	433	396	208	670	963	890	1,143	3,057
Eastham	100%	59%	48%	32%	14%	221	174	162	122	153	221	295	337	383	1,099
Falmouth	92%	57%	59%	45%	10%	1,238	822	1,017	1,004	696	1,342	1,450	1,729	2,229	7,022
Harwich	87%	82%	62%	45%	10%	352	497	334	393	293	406	609	537	865	2,859
Mashpee	86%	81%	75%	51%	11%	602	610	523	496	374	696	749	695	968	3,333
Orleans	78%	81%	46%	14%	9%	245	262	90	69	131	314	322	194	494	1,444
Provincetown	97%	80%	34%	55%	15%	223	177	56	169	121	230	222	164	307	786
Sandwich	94%	83%	74%	49%	8%	351	551	536	530	435	373	663	721	1,089	5,127
Truro	71%	53%	67%	18%	17%	56	49	46	17	51	79	92	69	92	305
Wellfleet	88%	69%	39%	20%	14%	72	81	67	56	109	82	118	174	276	786
Yarmouth	89%	76%	47%	54%	6%	807	966	658	1,002	285	907	1,269	1,412	1,855	4,929

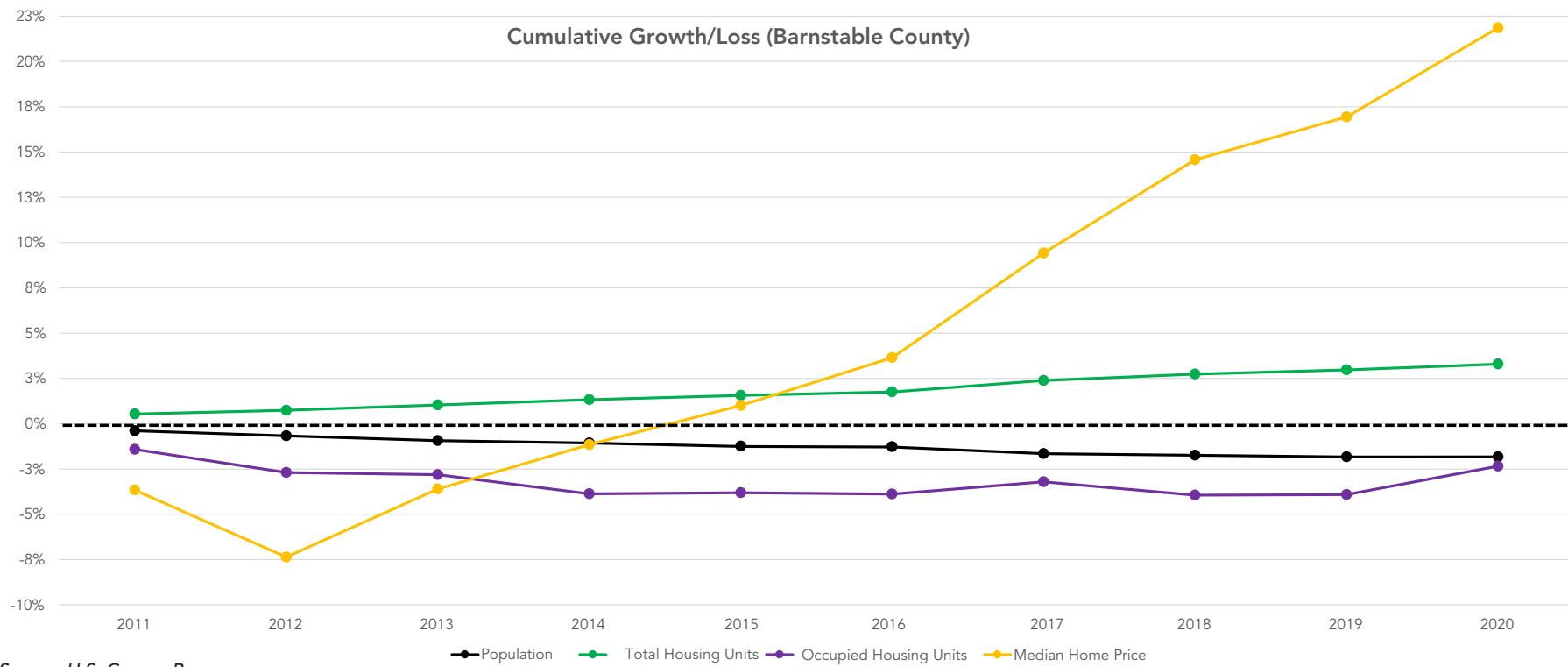


Note: Cost burdened households are defined by having to spend 30% or more of their yearly income on housing

Source: U.S. Census Bureau

- Although there has been a steady population decline since 2010, the total number of housing units has increased, suggesting that second home owners have continued to flood the market.
- Even though more housing units have been added to Barnstable County, median home prices have risen faster. This implies that the majority of newly built homes are expensive to buy, and thus unattainable for the general workforce.
- Occupied housing units represented ~58% of total housing units in 2020. This provides further evidence of a sizeable second home owner population in Barnstable, and one that is continuing to grow.

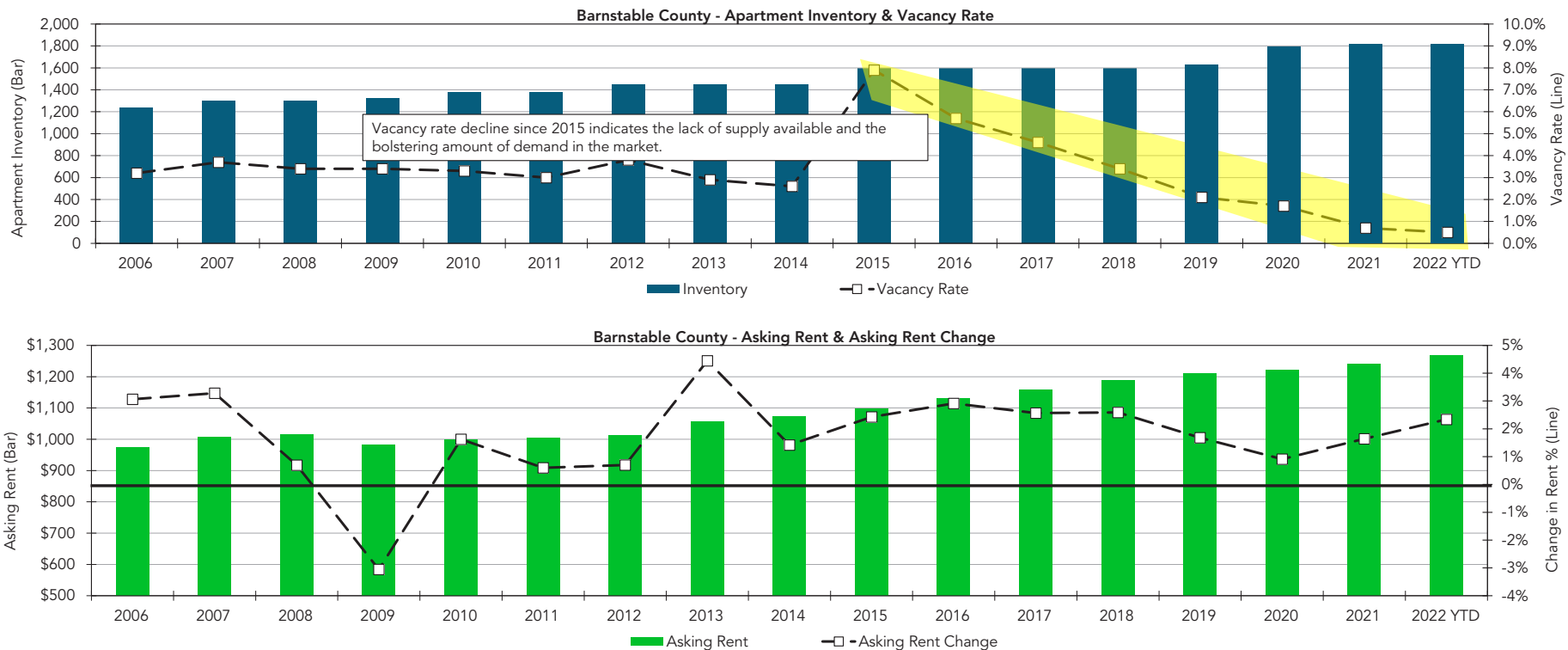
Barnstable County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth/Loss
Population	217,483	216,639	216,021	215,449	215,167	214,766	214,703	213,900	213,690	213,496	213,505	(1.83%)
Cum. Change	---	(0.39%)	(0.67%)	(0.94%)	(1.06%)	(1.25%)	(1.28%)	(1.65%)	(1.74%)	(1.83%)	(1.83%)	
Total Housing Units	158,838	159,691	160,020	160,486	160,953	161,311	161,632	162,629	163,181	163,557	164,064	3.29%
Cum. Change	---	0.54%	0.74%	1.04%	1.33%	1.56%	1.76%	2.39%	2.73%	2.97%	3.29%	
Occupied Housing Units	98,164	96,775	95,520	95,398	94,371	94,417	94,351	95,011	94,292	94,323	95,859	(2.35%)
Cum. Change	---	(1.41%)	(2.69%)	(2.82%)	(3.86%)	(3.82%)	(3.88%)	(3.21%)	(3.94%)	(3.91%)	(2.35%)	
Median Home Price	\$376,813	\$363,024	\$349,071	\$363,242	\$372,449	\$380,605	\$390,581	\$412,317	\$431,709	\$440,638	\$459,183	21.86%
Cum. Change	---	(3.66%)	(7.36%)	(3.60%)	(1.16%)	1.01%	3.65%	9.42%	14.57%	16.94%	21.86%	



Source: U.S. Census Bureau

- There have only been 580 market/affordable or affordable units created since 2006, although close to 3,000 jobs have been added (see Exhibit II-5A) to Barnstable County since then.
- Vacancy rates have remained below 5% for 15 out of the 17 years shown below. This indicates there is a sizeable demand for affordable units in Barnstable County.
- Required income for average asking rents would mean that most health care service workers would be able to afford monthly costs (Exhibit II-8A), some leisure and hospitality workers, and some retail trade workers.

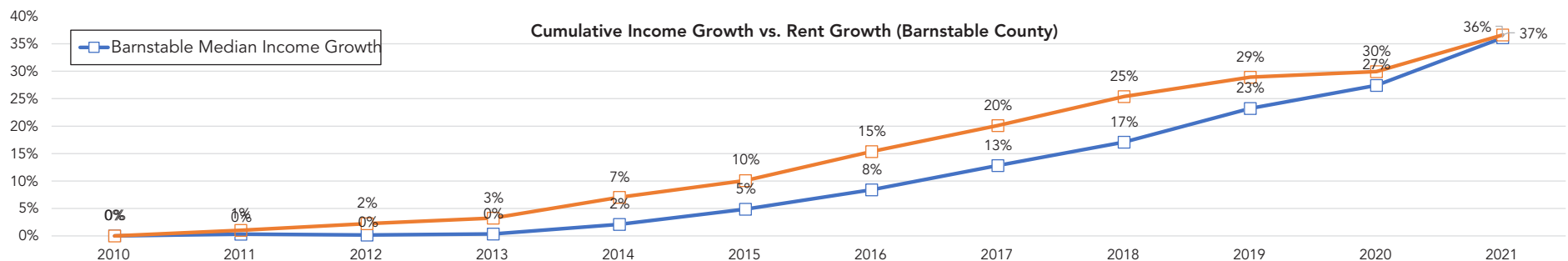
Geography	Annual																	5-Yr Avg.	
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD	17-'21	16-'20
Barnstable County																			
Inventory	1,239	1,295	1,295	1,323	1,373	1,373	1,446	1,446	1,446	1,593	1,593	1,593	1,593	1,625	1,789	1,819	1,819	1,684	1,639
Net Completion	28	56	0	28	50	0	73	0	0	147	0	0	0	32	164	30	0	45	39
Net Absorption	31	48	4	27	50	4	59	13	4	59	35	18	19	52	168	48	4	61	58
Vacancy Rate	3.2%	3.7%	3.4%	3.4%	3.3%	3.0%	3.8%	2.9%	2.6%	7.9%	5.7%	4.6%	3.4%	2.1%	1.7%	0.7%	0.5%	2.5%	3.5%
Asking Rent	\$975	\$1,007	\$1,014	\$983	\$999	\$1,005	\$1,012	\$1,057	\$1,072	\$1,098	\$1,130	\$1,159	\$1,189	\$1,209	\$1,220	\$1,240	\$1,269	\$1,203	\$1,181
% Change	3.1%	3.3%	0.7%	-3.1%	1.6%	0.6%	0.7%	4.4%	1.4%	2.4%	2.9%	2.6%	2.6%	1.7%	0.9%	1.6%	2.3%	1.9%	2.1%
Required Income	\$39,000	\$40,280	\$40,560	\$39,320	\$39,960	\$40,200	\$40,480	\$42,280	\$42,880	\$43,920	\$45,200	\$46,360	\$47,560	\$48,360	\$48,800	\$49,600	\$50,760	\$48,136	\$47,256



Note: 2022 YTD is through mid-October 2022. Source: CoStar

- Growth in average asking rent in Barnstable County had greatly outpaced growth in median household income. Between 2010 and 2020, average asking rent grew by 37%, while median household income grew by 36%. A large part of median HH income growth has been due to wealthier households moving to the Cape, not the fact that wages have gone up.
- Workers in low paying industries, such as Retail Trade and Leisure and Hospitality, already have to spend 40% to 53% of their incomes on housing. The significant increase in average asking rents, especially relative to median household income, will continue to put pressure on lower income workers and put them at a higher risk of being severely cost-burdened.

Median HH Income	Annual												Ann. Growth		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	'16-'21	'10-'18	'10-'21
Barnstable County	\$60,317	\$60,525	\$60,424	\$60,526	\$61,597	\$63,251	\$65,382	\$68,048	\$70,621	\$74,336	\$76,863	\$82,092	4.7%	2.0%	2.8%
% vs. 2010	---	0.3%	0.2%	0.3%	2.1%	4.9%	8.4%	12.8%	17.1%	23.2%	27.4%	36.1%			
Average Asking Rent															
Barnstable County	\$1,079	\$1,090	\$1,103	\$1,114	\$1,155	\$1,188	\$1,245	\$1,296	\$1,353	\$1,391	\$1,402	\$1,474	3.4%	2.9%	2.9%
% vs. 2010	---	1.0%	2.2%	3.2%	7.0%	10.1%	15.4%	20.1%	25.4%	28.9%	29.9%	36.6%			
Yearly Rent Expense (Avg. Asking Rent x 12)	\$12,948	\$13,080	\$13,236	\$13,368	\$13,860	\$14,256	\$14,940	\$15,552	\$16,236	\$16,692	\$16,824	\$17,688	3.4%	2.9%	2.9%
Implied Required Income (Assuming 30% housing to income ratio)	\$43,160	\$43,600	\$44,120	\$44,560	\$46,200	\$47,520	\$49,800	\$51,840	\$54,120	\$55,640	\$56,080	\$58,960			
Average Wage by Select Vulnerable Industry															
Education And Health Services	\$45,260	\$47,235	\$48,396	\$47,609	\$48,679	\$50,423	\$51,438	\$53,140	\$54,318	\$57,172	\$61,878	\$62,489			
% Housing Cost to Income	29%	28%	27%	28%	28%	28%	29%	29%	30%	29%	27%	28%			
Leisure and Hospitality	\$23,801	\$24,141	\$25,263	\$25,986	\$26,753	\$28,409	\$29,811	\$30,598	\$31,820	\$33,181	\$32,411	\$33,582			
% Housing Cost to Income	54%	54%	52%	51%	52%	50%	50%	51%	51%	50%	52%	53%			
Other Services	\$38,677	\$39,324	\$39,823	\$39,222	\$39,365	\$39,863	\$39,527	\$41,835	\$44,669	\$46,551	\$51,089	\$53,941			
% Housing Cost to Income	33%	33%	33%	34%	35%	36%	38%	37%	36%	36%	33%	33%			
Retail Trade	\$28,598	\$28,621	\$28,839	\$29,843	\$30,884	\$32,369	\$33,377	\$34,425	\$35,753	\$37,720	\$41,885	\$44,591			
% Housing Cost to Income	45%	46%	46%	45%	45%	44%	45%	45%	45%	44%	40%	40%			

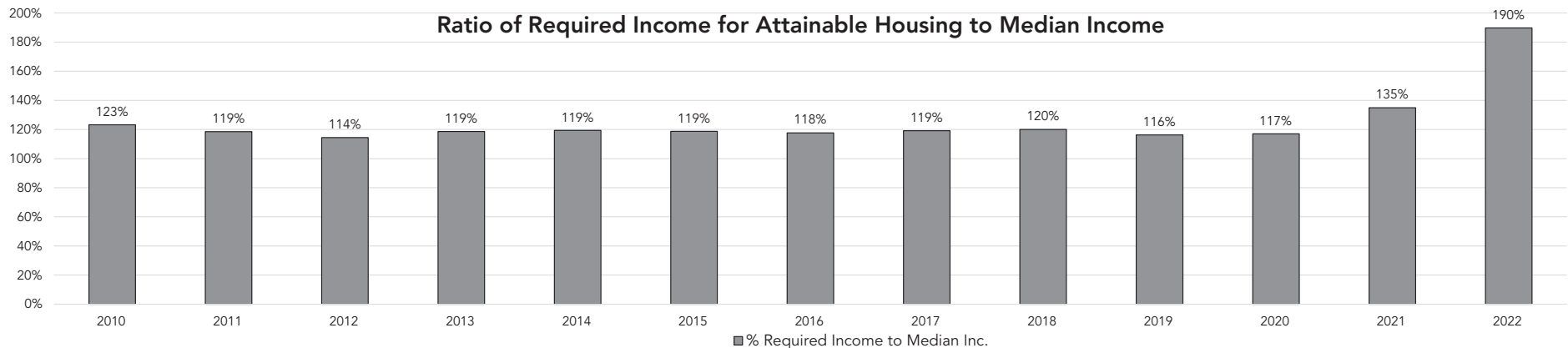


Note: Income qualification does not take into account other costs of renting, such as renter's insurance, amenity fees, pet deposits and rent, parking fees, and more.

Source: 2010-2020 Median households income (ACS 5-Year Estimates), 2021 median Income (ESRI Demographics), average wage by industry (Moody's)

- Similar to rental cost, growth in monthly housing cost for owners had also greatly outpaced growth in median household income. In the past, median household income grew at a slightly higher rate compared to median home price in the County. However, this trend changed in 2021, where median home price increased significantly, outpacing the growth in median household income.
- As of 2021, the minimum annual income needed to afford a home in Barnstable County (without spending more than 30% of income on housing) is 35% higher compared to the actual median household income. The significant increase in home prices combined with higher projected mortgage interest rates will significantly increase the estimated monthly owner cost in Barnstable County. Not only does this create higher barrier to homeownership, but it will also increase competition for rental housing as middle income households who would otherwise purchase a home will have to remain in the rental market.

Median HH Income	Annual												YTD	Ann. Growth		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 (3)	'16-'21	'10-'18	'10-'21
Barnstable County	\$60,317	\$60,525	\$60,424	\$60,526	\$61,597	\$63,251	\$65,382	\$68,048	\$70,621	\$74,336	\$76,863	\$82,092	\$87,677	4.7%	2.0%	2.8%
% vs. 2010	---	0.3%	0.2%	0.3%	2.1%	4.9%	8.4%	12.8%	17.1%	23.2%	27.4%	36.1%				
Median Home Price																
Barnstable County	\$377,829	\$364,003	\$350,013	\$364,222	\$373,454	\$381,632	\$391,634	\$413,429	\$432,874	\$441,826	\$460,422	\$571,116	\$672,585	7.8%	1.7%	3.8%
% vs. 2010	---	-3.7%	-7.4%	-3.6%	-1.2%	1.0%	3.7%	9.4%	14.6%	16.9%	21.9%	51.2%	78.0%			
Monthly Payment (1)	\$1,527	\$1,471	\$1,415	\$1,472	\$1,509	\$1,542	\$1,583	\$1,671	\$1,749	\$1,786	\$1,861	\$2,308	\$3,629			
Property Tax + Insurance (2)	\$332	\$323	\$313	\$323	\$329	\$334	\$341	\$356	\$369	\$375	\$387	\$461	\$528			
Total Monthly Housing Cost	\$1,859	\$1,794	\$1,728	\$1,795	\$1,838	\$1,877	\$1,924	\$2,026	\$2,118	\$2,160	\$2,248	\$2,769	\$4,158			
Yearly Housing Expense	\$22,306	\$21,525	\$20,735	\$21,537	\$22,059	\$22,521	\$23,086	\$24,317	\$25,416	\$25,922	\$26,972	\$33,226	\$49,892			
(Monthly housing cost x 12)																
Implied Required Income	\$74,354	\$71,750	\$69,115	\$71,791	\$73,530	\$75,070	\$76,954	\$81,058	\$84,720	\$86,406	\$89,908	\$110,754	\$166,305	7.6%	1.6%	3.7%
(Assuming 30% housing to income ratio)																
% Required Income to Median Inc.	123%	119%	114%	119%	119%	119%	118%	119%	120%	116%	117%	135%	190%			



(1) Monthly payments assume 3.5% interest rate (6% for 2022), 10% down payment, and 30 year mortgage term

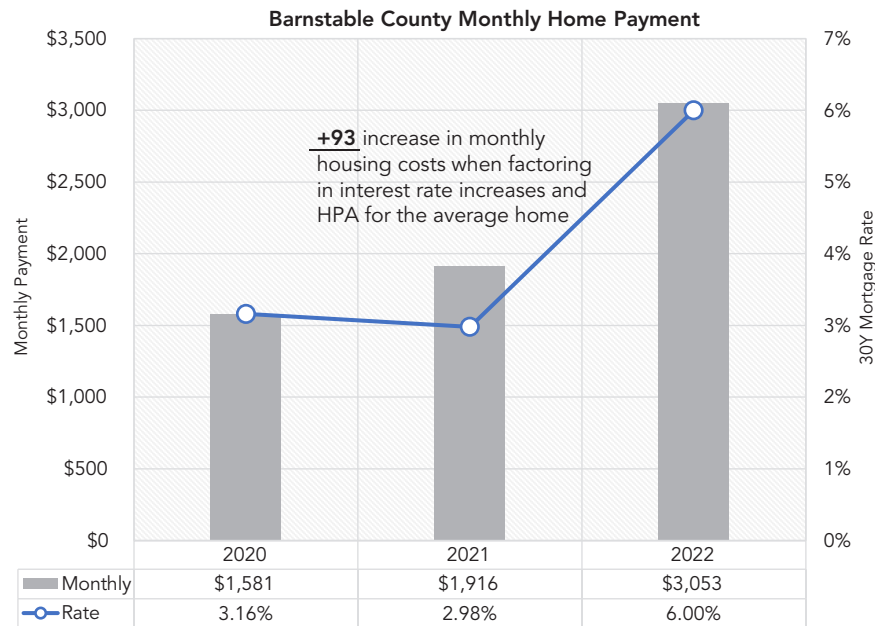
(2) 0.80% annual property tax and \$80 monthly insurance premium

(3) 2022 Median household income assumed the same income growth as in 2021. Median home price is as of October 2022 and represents the weighted average sales price for single-family and condominium units

Source: 2010-2020 Median households income (ACS 5-Year Estimates), 2021 median Income (ESRI Demographics)

Barnstable County Monthly Home Payment Increase:

The average home price in Barnstable County increased by 38% from 2020 to 2022. When factoring in home price appreciation and increasing interest rates, the average monthly housing payment in Barnstable County increased by 93% from 2020 to 2022, pricing out many households.

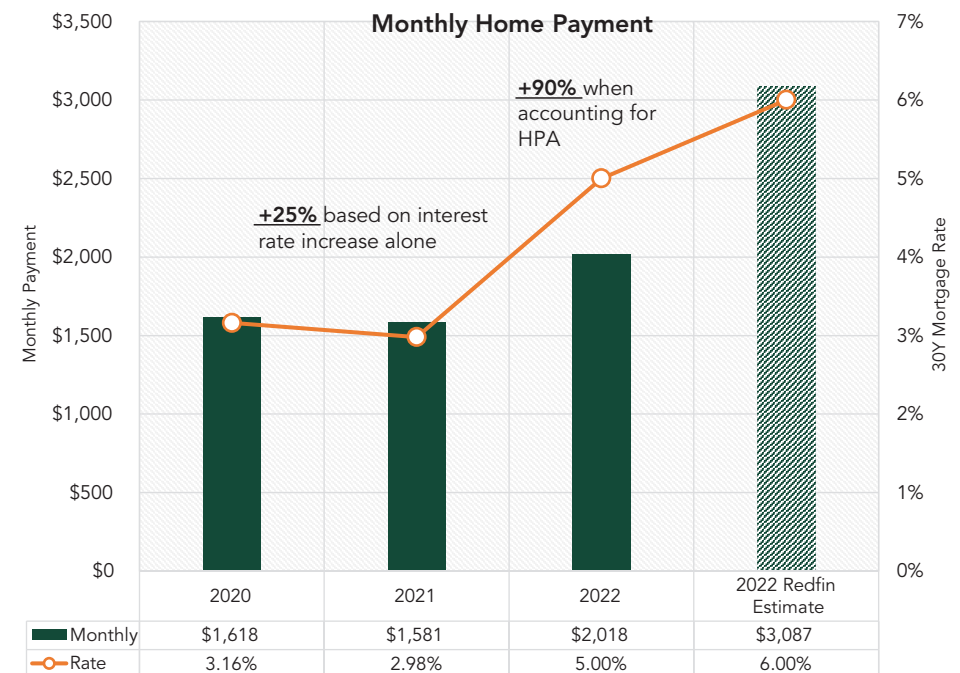
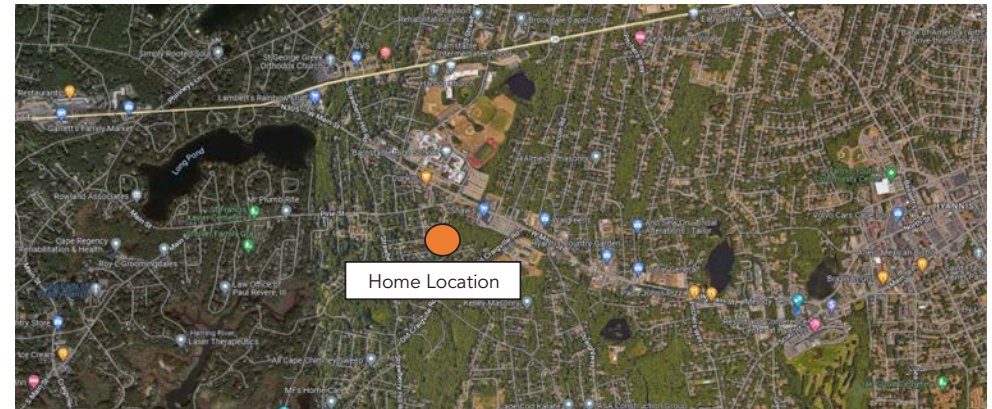


Case Study: 73 Lillian Drive, Barnstable, MA 02601

A three bedroom, 1,879 square foot home shown to the right last sold in Barnstable for \$470,000 in November 2020. Redfin estimates that its home value in 2022 is close to \$650,000, which equates to a 37% increase in home value in less than two years.

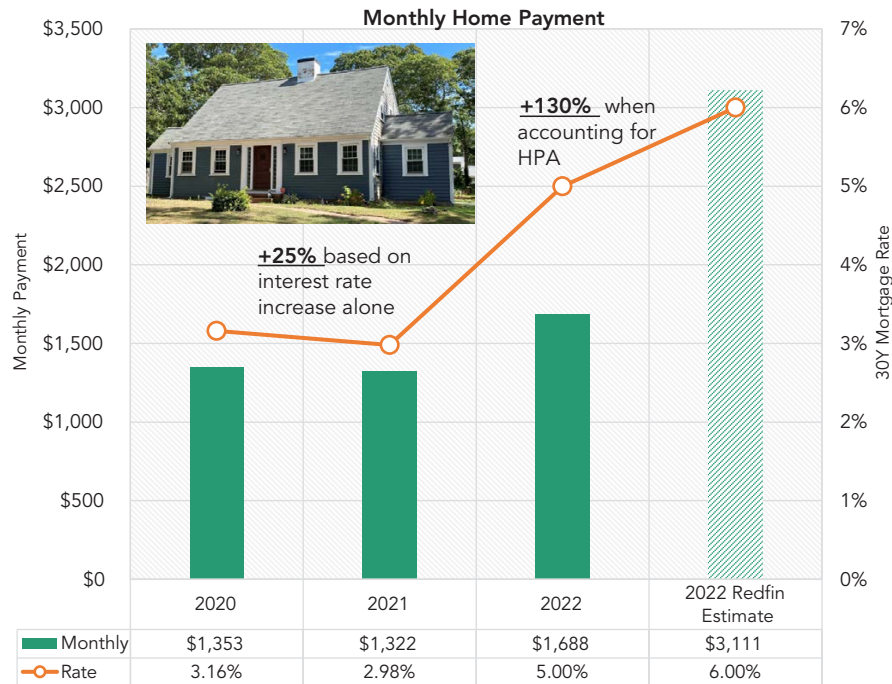
When factoring in the rapid increase in mortgage interest rates alone, the monthly owner cost would be 25% greater than the ownership cost in 2020 (\$1,618 vs \$2,018) if this home sold at its 2020 sale price. When factoring in both home value appreciation and higher interest rates, the monthly mortgage payment would increase by 90% (from \$1,618 to \$3,087), putting this home further out of reach for more and more local households.

Case Study: 73 Lillian Drive, Barnstable, MA 02601



Note: Monthly home payments assume 20% down. Property taxes, insurance and maintenance costs were not factored into this analysis

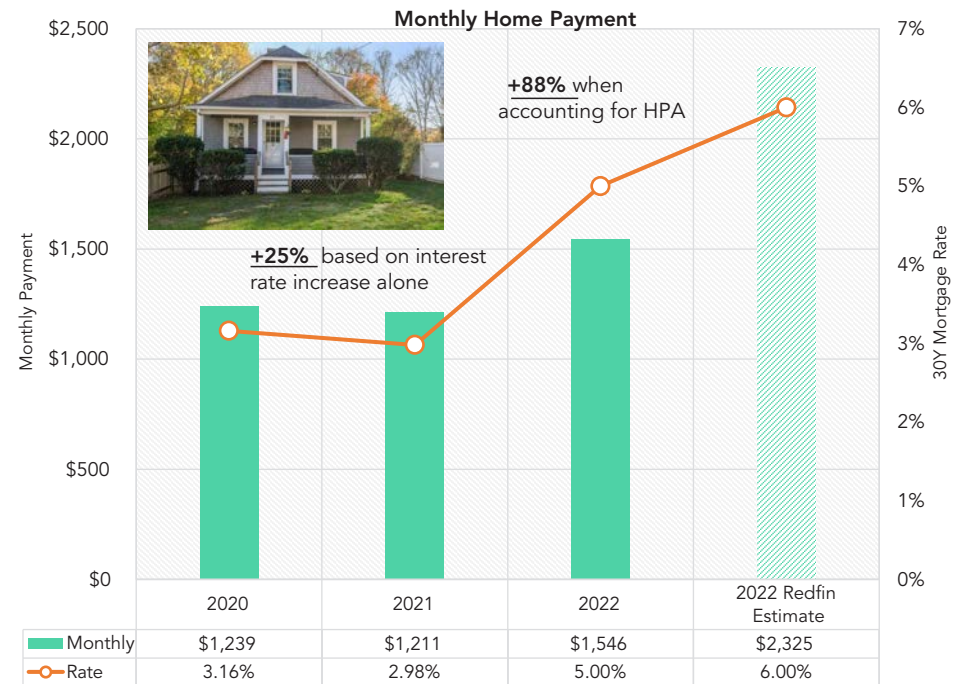
Case Study 2: 333 Scudder Ave, Hyannis, MA 02601



A four bedroom, 1,670 square foot home shown above last sold in Hyannis for \$393,000 in October 2020. Redfin estimates that its home value in 2022 is close to \$750,000, which equates to a 90% increase in home value in about two years.

When factoring in the rapid increase in mortgage interest rates alone, the monthly owner cost would be 25% greater than the ownership cost in 2020 (\$1,353 vs \$1,688) if this home sold at its 2020 sale price. When factoring in both home value appreciation and higher interest rates, the monthly mortgage payment would increase by 130% (from \$1,353 to \$3,111), putting this home further out of reach for more and more local households.

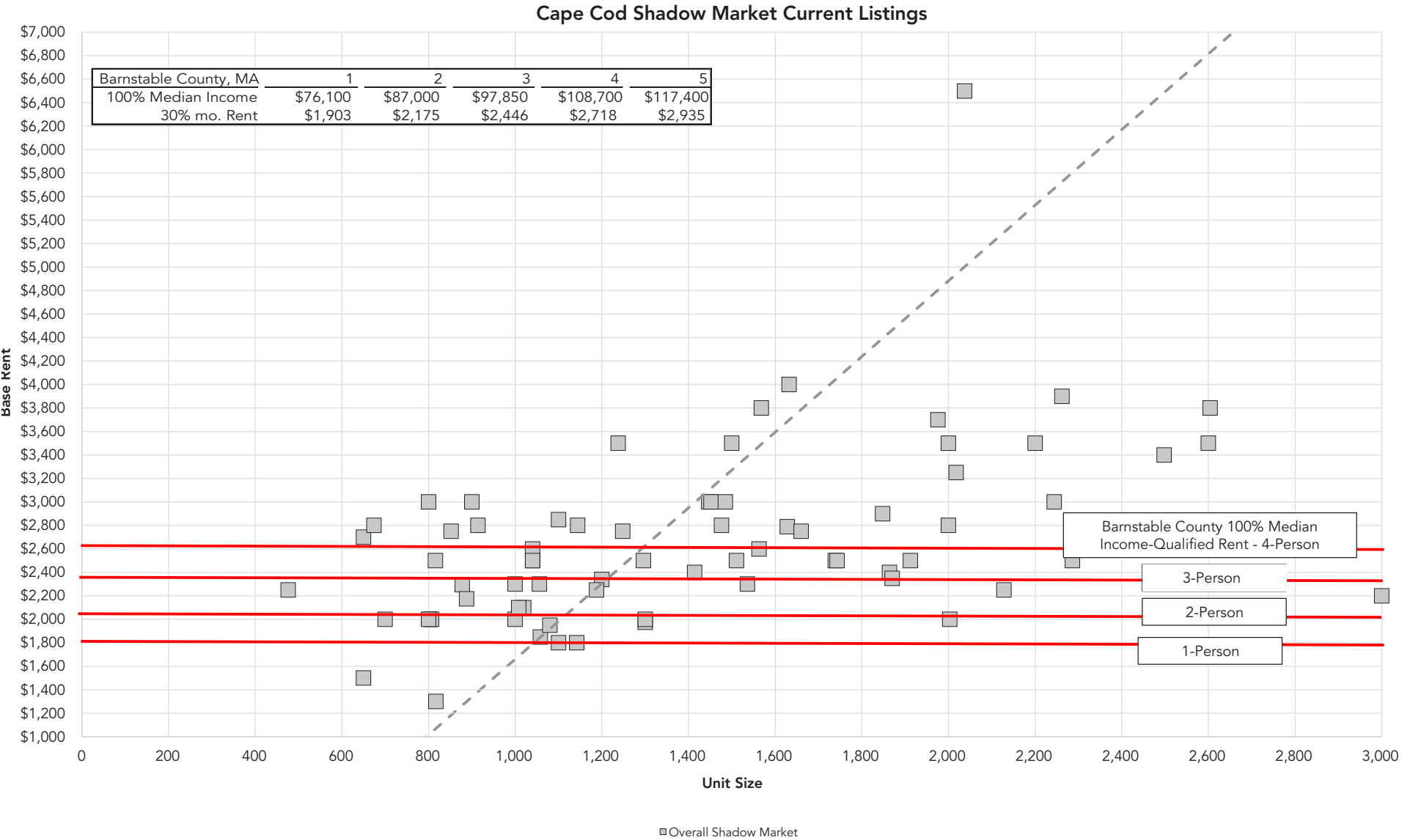
Case Study 3: 23 Woodbury Ave, Barnstable, MA 02601

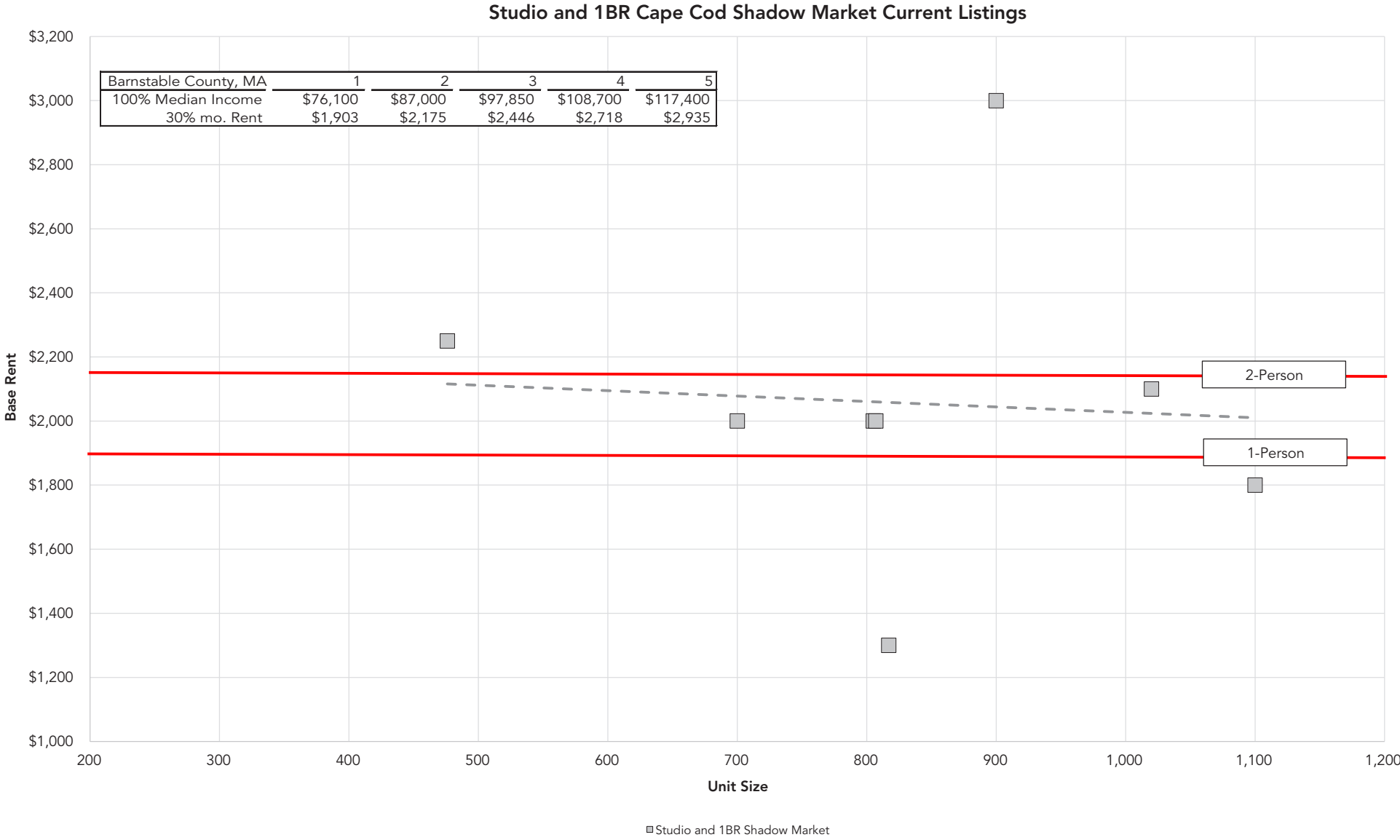


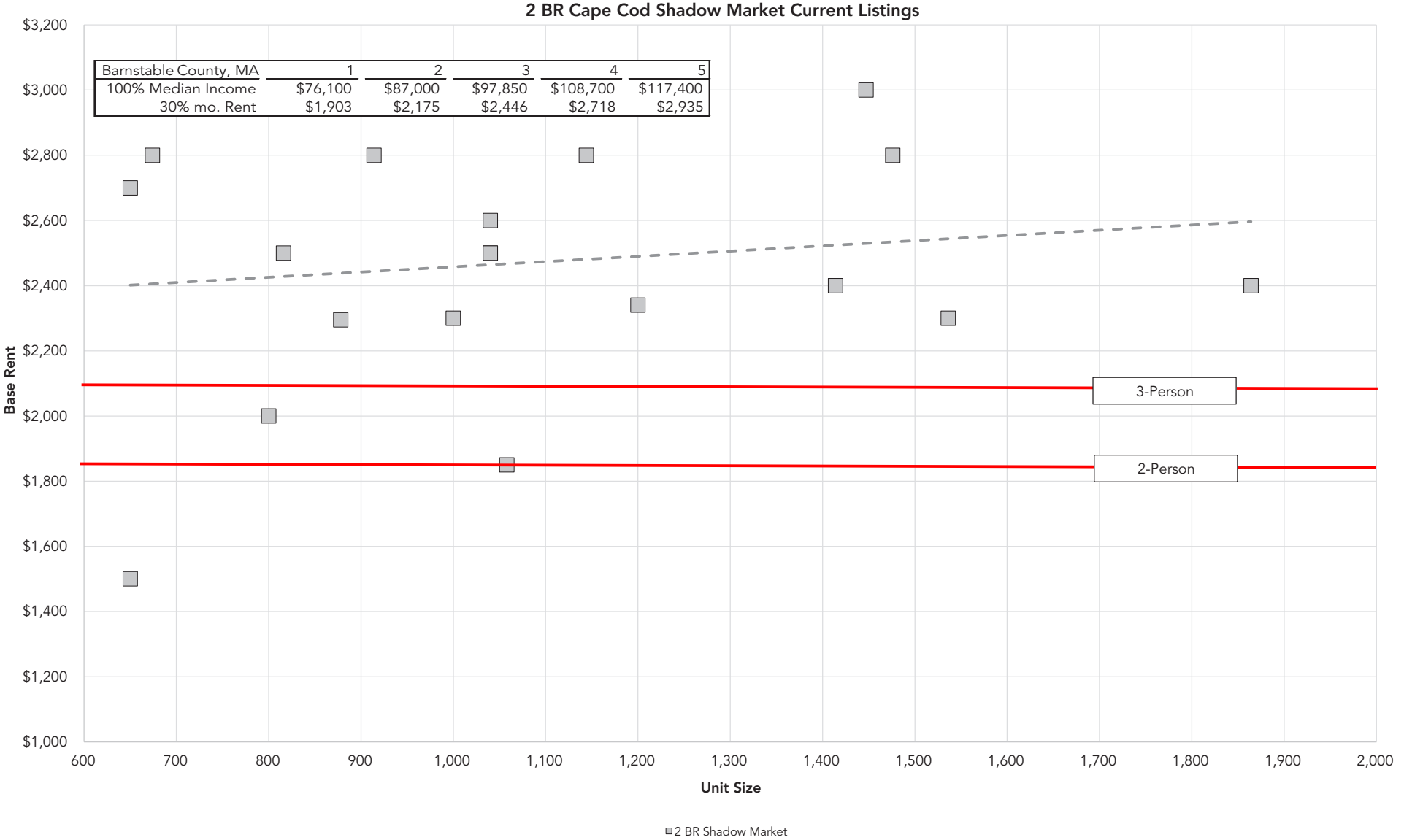
A four bedroom, 1,210 square foot home shown above last sold in Barnstable for \$360,000 in October 2020. Redfin estimates that its home value in 2022 is close to \$485,000, which equates to a 35% increase in home value in about two years.

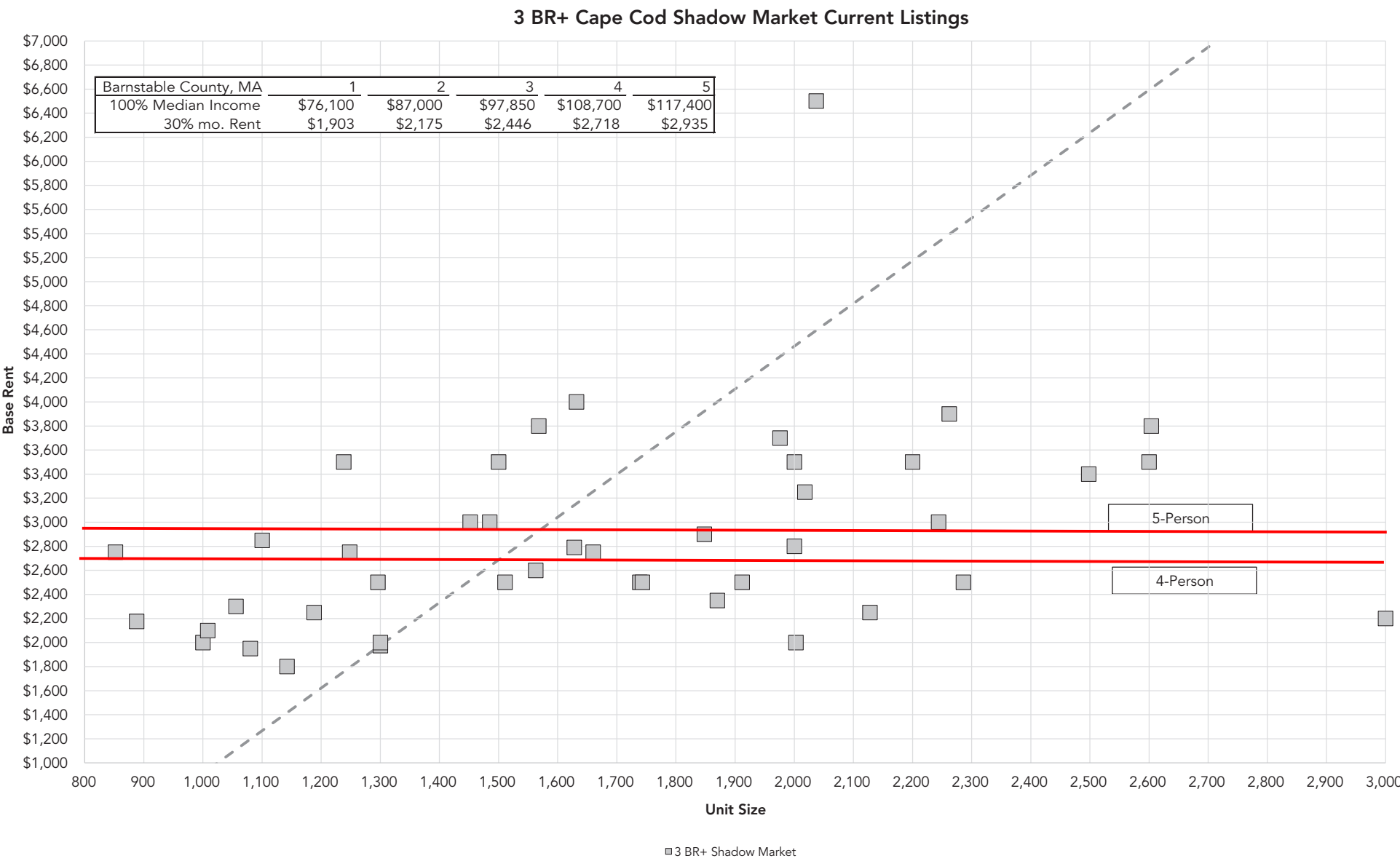
When factoring in the rapid increase in mortgage interest rates alone, the monthly owner cost would be 25% greater than the ownership cost in 2020 (\$1,239 vs \$1,546) if this home sold at its 2020 sale price. When factoring in both home value appreciation and higher interest rates, the monthly mortgage payment would increase by 87.6% (from \$1,239 to \$2,325), putting this home further out of reach for more and more local households.

Note: Monthly home payments assume 20% down. Property taxes, insurance and maintenance costs were not factored into this analysis





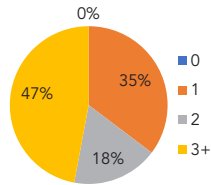




Barnstable County

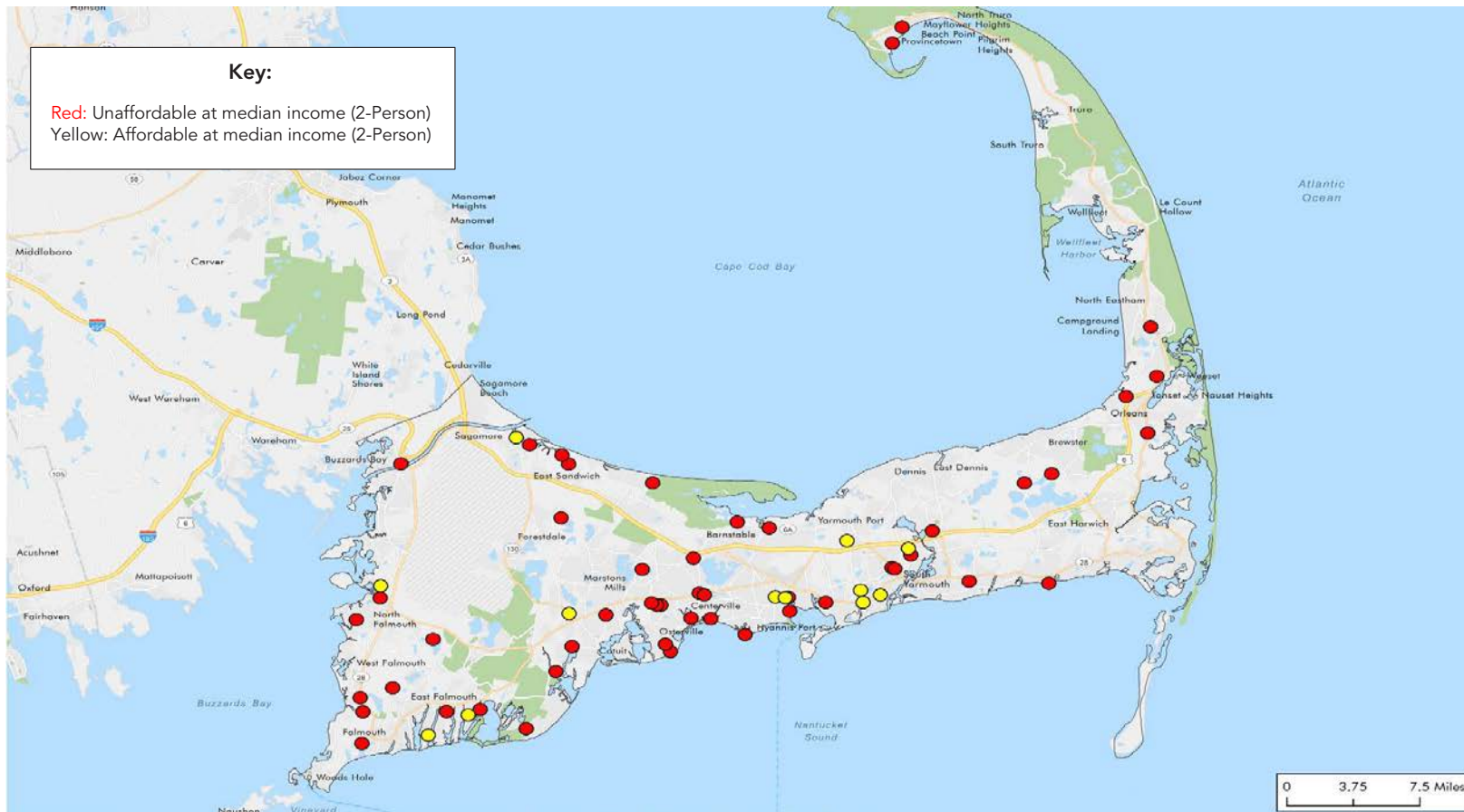
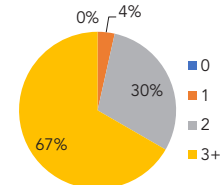
Below 2-Person Median Income (30% mo. rent)

Beds	Num.	%	Unit Size	Monthly Rent \$	Monthly Rent \$/sf
0	0	0%	---	---	---
1	6	35%	875	\$1,867	\$2.13
2	3	18%	836	\$1,783	\$2.13
3+	8	47%	1,215	\$2,000	\$1.65
Total / Wtd Avg:	17	100%	1,028	\$1,915	\$1.86

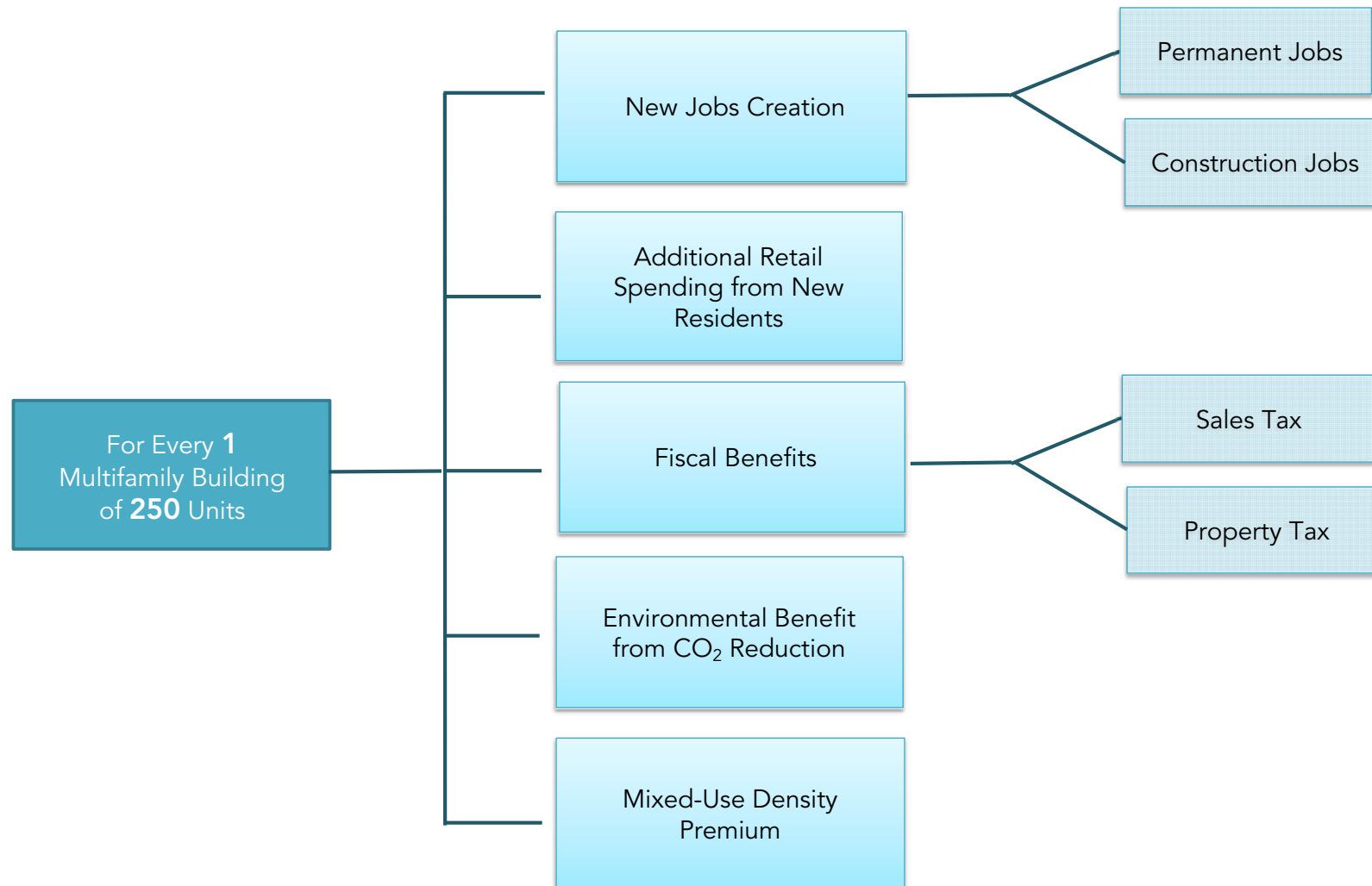


Above 2-Person Median Income (30% mo. rent)

Beds	Num.	%	Unit Size	Monthly Rent \$	Monthly Rent \$/sf
0	0	0%	---	---	---
1	2	4%	688	\$2,625	\$3.82
2	17	30%	1,114	\$2,590	\$2.33
3+	38	67%	2,178	\$5,026	\$2.31
Total / Wtd Avg:	57	100%	1,808	\$4,215	\$2.33



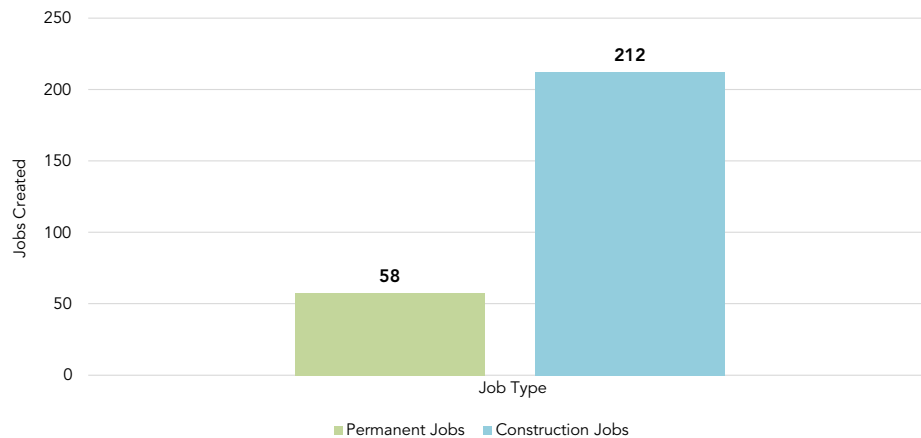
III. Benefits of Housing Development



Permanent Jobs**Permanent Jobs Created by Adding 250 Units**

		<u>Source</u>
250 Unit Multifamily Project	250	TCG Assumption
x Permanent Local Jobs/Unit	0.15	10-yr 5+ Permits to Jobs Ratio
= Total Permanent Jobs Created by Residential Component	38	
Additional Retail Development Component (GF Retail)	10,000	TCG Recommendation
x SF per Employee	500	
= Total Permanent Jobs Created by Retail Component	20	
= Total Permanent Jobs Created/ Retained	58	

Note: The retail component could include dining options, shopping, fitness studios, or other niche stores that could be placed directly below apartment building and rented out to business tenants.

**Construction Jobs****Jobs Created During Construction of 250 Units**

		<u>Source</u>
Total Residential Planned Units	250	TCG Assumption
Projected Market Rents per Square Foot Per Month	\$1.75	Avg. PSF 2022 QTD
x Average Unit Size	950	TCG Assumption
= Projected Market Rent per Unit per Month	\$1,663	
x Months/Year	12	
= Total Projected Annual Residential Revenue (\$MM)	\$4.99	
x NOI %	70%	Industry Standard
= Project NOI (\$MM)	\$3.5	
Total Planned Retail Space (Approx.)	10,000	
x Projected Market Rent (NNN)	\$30.00	
= Total Projected Revenue (\$MM)	\$0.30	
x NOI %	95%	Assumes NNN rents
= Project NOI (\$MM)	\$0.29	
Total Project NOI	\$3.78	
Projected Capitalization Rate	5.0%	TCG Assumption
Total Project Capitalized Value (\$MM) <i>Value per Door</i>	\$75.53 \$302,100	
x Share of Total Value Allocated to Project	57%	TCG Assumption
Costs = Project Cost (\$MM)	\$43.05	
x Share of Costs Allocated to Labor	41%	Conservative Industry Assum
= Labor Costs (\$MM)	\$17.65	
÷ Average Annual Salary + Benefits of Labor	\$83,200	Bureau of Labor Statistics
= Total Construction Jobs Created	212	

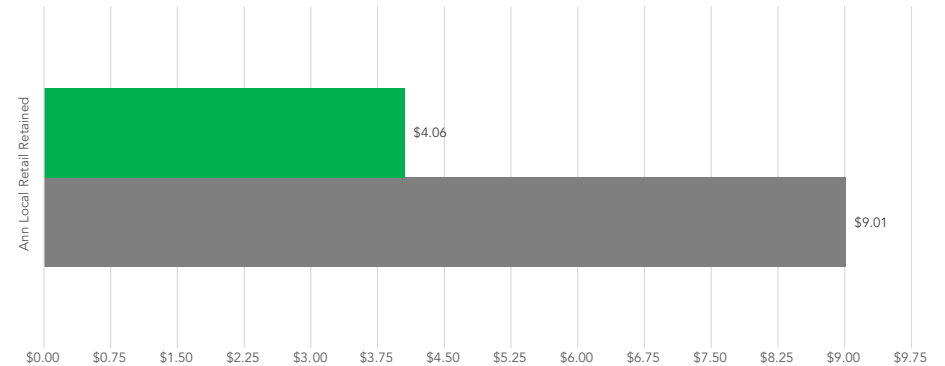
Money Spent in Local Communities

Additional Local Revenue by Adding Permanent Residents

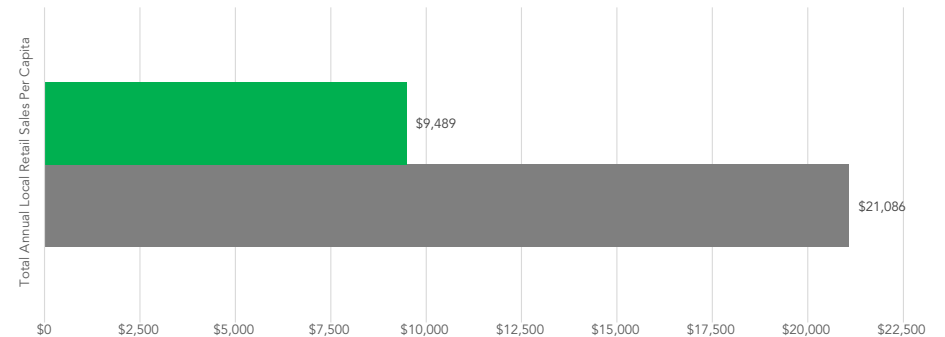
		Source
250 Unit Multifamily Project	250	
Average HH Size (Barnstable County)	2.22	ESRI
Number of Beds Added	450	(1)
Average Number of People Per Unit	1.80	
Occupancy Rate	95%	Industry Goal
Total Residents in Community	428	
Annual Retail Spending Capacity per Capita (2017) Cumulative	\$18,213	ESRI Retail
Price Increase (2017 - 2022)	15.78%	CPI Inflation Calculator
Inflation Adjusted Retail Sales Per Capita (2022)	\$21,086	TCG Estimate
Annual Retail Income Added by New Residents (\$MM)	\$9.01	
Percent of Retail Sales that Remain Within Barnstable County	45%	TCG Estimate
Annual Local Retail Income Added by New Residents (\$MM) Total	\$4.06	
Annual Local Retail Sales Per Capita	\$9,489	TCG Estimate
Food & Beverage @ 27.5%	\$2,609	ESRI Retail (2017)
Eating & Drinking Places @ 15.0%	\$1,423	ESRI Retail (2017)
Health & Personal Care @ 9.7%	\$920	ESRI Retail (2017)
Clothing & Accessories @ 9.6%	\$911	ESRI Retail (2017)
Sporting Goods/Hobby @ 5.2%	\$493	ESRI Retail (2017)
Books & Music @ 0.6%	\$57	ESRI Retail (2017)

(1) Assuming a unit mix of 100 1 Bedroom/ Studio Units, 100 2 Bedroom Units, and 50 3 Bedroom Units.

Local \$ Retained as Total of Retail Revenue (\$MM)



Local \$ Retained as Total of Retail Sales Per Capita



Note: As brick and mortar retail continues to face downward pressure by industry giants like Amazon, TCG expects a decline in the ratio of local: total sales. Barnstable County should target strong tenants in niche industries to support the retail component of new developments.

Retail Sales Tax**Sales Tax Generated by Residents of the Future Community**

		<u>Source</u>
Total Planned Units	250	TCG Assumption
x Population per Unit	1.80	TCG Estimate(1)
= Total Community Population	450.0	
x Retail Spending per Population	\$21,086	Retail Section
= Total Retail Spending from Project Population	\$9,488,786	census.gov
x Share of Retail Spending within Barnstable County	45%	Retail Section
= Total Retail Spending in Barnstable County	\$4,269,953	TCG Estimate
Effective MA Sales Tax	6.25%	mass.gov
Effective County Sales Tax Retention Effective City	1%	TCG Estimate
Sales Tax Retention	1%	TCG Estimate
= Annual County Revenue from Sales Tax (Resident Spending) =	\$42,700	
Annual City Average Revenue from Sales Tax (Res. Spending)	\$42,700	
= Total County + City Sales Tax Revenue from Resident Spending	\$85,399	

(1) Assumes 1.0 people per bedroom

Community Sales Tax Revenue Generation**Sales Tax Generated at the Community**

		<u>Source</u>
Potential Retail Component	10,000	TCG
x Spending per Square Foot	\$200	Recommendation
= Total Annual Retail Spending in the Community	\$2,000,000	TCG Estimate
x Effective County Sales Tax Retention	1%	TCG Estimate
x Effective City Sales Tax Retention	1%	TCG Estimate
= Annual County Revenue from Sales Tax in Community =	\$20,000	
Annual City Revenue from Sales Tax in Community	\$20,000	
= Total County + City Sales Tax Revenue from Community	\$40,000	

**Cumulative Annual Sales Tax Revenue from
Resident Spending and Community Transactions** = **\$125,399**

Property Tax Generated by the Community			
	Total Residential Planned Units	250	<u>Source</u> Project Sponsor
	Projected Market Rents per Square Foot Per Month	\$1.75	TCG Projections
x	Average Unit Size	950	Project Sponsor
=	Projected Market Rent per Unit per Month	\$1,663	
x	Months/Year	12	
=	Total Projected Annual Residential Revenue (\$MM)	\$4.99	
x	NOI %	70%	Industry
=	Project NOI (\$MM)	\$3.5	Standard
	Total Planned Retail Space (Approx.)	10,000	
x	Projected Market Rent (NNN)	\$30.00	
=	Total Projected Revenue (\$MM)	\$0.30	
x	NOI %	95%	
=	Project NOI (\$MM)	\$0.29	
	Total Project NOI	\$3.78	
	Projected Capitalization Rate	5.0%	
	Total Project Capitalized Value (\$MM)	\$75.53	
	Value per Door	\$302,100	
x	County Property Tax Rate	0.80%	smartasset.com
=	Annual County Revenue from Property Tax	\$604,200	
x	City Share of Property Tax	20% of 0.80%	TCG Assumption
=	Annual City Revenue from Property Tax	\$120,840	

The Environmental Impact of Current Commuting Patterns

Avg. Commuting Distance to Work (Barnstable)

	Share	Count
Less than 10 miles	55.60%	12,177
10 to 24 miles	15.60%	3,424
25 to 50 miles away	7.5%	1,639
Greater than 50 miles away	21.3%	4,653

Gallons used while commuting based on 2015 Honda Accord Emissions

Less than 10 miles	0.08
10 to 24 miles	0.31
25 to 50 miles away	0.77
Greater than 50 miles away	1.54

Grams of CO₂ produced while driving to work (Individual)

Less than 10 miles	808.70
10 to 24 miles	3,234.78
25 to 50 miles away	8,086.96
Greater than 50 miles away	16,173.91

Daily Total (Less than 10 Miles)	1,617
Daily Total (> 50 miles)	32,348

Grams of CO₂ produced while driving to work (working population)

		% of Total Daily Emissions
Less than 10 miles	9,847,486	9.0%
10 to 24 miles	11,075,895	10.1%
25 to 50 miles away	13,254,521	12.1%
Greater than 50 miles away	75,257,213	68.8%
Total Emissions 1-Way	109,435,116	Per Month 6,566,106,963
Total Emissions Per Day	218,870,232	Per Year 79,887,634,722

Source(s): car-emissions.com; US Census Bureau

Honda Accord - Most Popular Car in Massachusetts (4.4%)



2015 Honda Accord Emissions Statistics

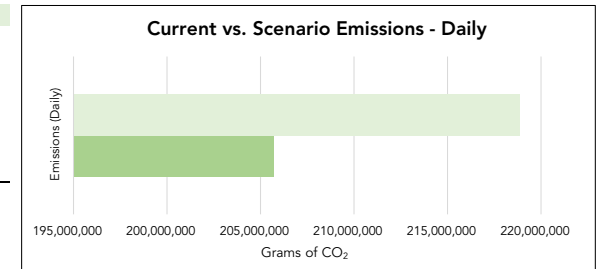
32.5	MPG
201	g CO ₂ /km
323	g CO ₂ /mile
10,513	g CO ₂ / gallon

Note: Barnstable Town was used in this exhibit since it has the greatest proportion of employment in Barnstable County.

Employed Labor Working in Barnstable Town (2019 Census Data)

Distance from Home to Work	Count of Employed Labor	Share of Total Em. Labor	Num. of Cars (1)	Gallons of Gas Used 1-Way	Gallons of Gas Used Daily	Daily CO ₂ Produced (Individual)	Daily CO ₂ Produced (Tot. Pop)	Share of Total Daily Emissions
Less than 10 miles	12,177	56%	9,870	0.08	0.15	1,617	19,694,973	9.0%
10 to 24 miles	3,424	16%	2,775	0.31	0.62	6,470	22,151,790	10.1%
25 to 50 miles away	1,639	7%	1,329	0.77	1.54	16,174	26,509,042	12.1%
away	4,653	21%	3,772	1.54	3.08	32,348	150,514,427	68.8%
Total/ Weighted Average	21,893	100%	17,746	0.48	0.95	9,997	218,870,232	100%

Emissions (Daily) **218,870,232**
Emissions (Monthly) **6,566,106,963**
Emissions (Yearly) **79,887,634,722**



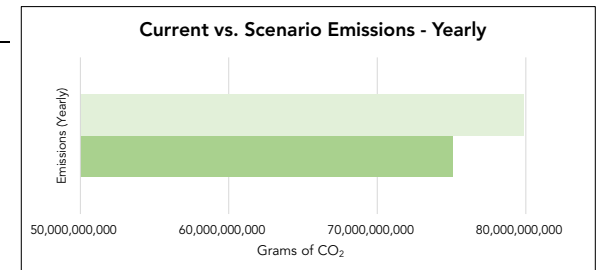
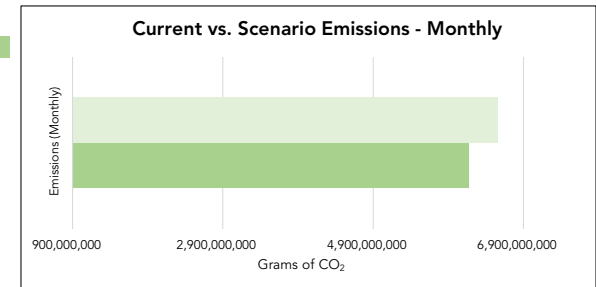
Employed Labor Working in Barnstable Town (Scenario)

Scenario Assumptions: (2)

250 Units Added 450
New Beds Added
1.8 Ind. per Units
95% Occupancy Rate
428 New Residents

Distance from Home to Work	Count of Employed Labor	Share of Total Em. Labor	Num. of Cars (1)	Gallons of Gas Used 1-Way	Gallons of Gas Used Daily	Daily CO ₂ Produced (Individual)	Daily CO ₂ Produced (Tot. Pop)	Share of Total Daily Emissions
Less than 10 miles	12,605	58%	10,217	0.08	0.15	1,617	20,386,408	9.9%
10 to 24 miles	3,424	16%	2,775	0.31	0.62	6,470	22,151,790	10.8%
25 to 50 miles away	1,639	7%	1,329	0.77	1.54	16,174	26,509,042	12.9%
away	4,226	19%	3,425	1.54	3.08	32,348	136,685,732	66.4%
Total/ Weighted Average	21,893	100%	17,746	0.45	0.89	9,397	205,732,972	100%
Difference	---	---	---	0.03	0.06	600	13,137,260	---

Emissions (Daily) **205,732,972**
Emissions (Monthly) **6,171,989,158**
Emissions (Yearly) **75,092,534,754**



(1) Using 2019 census data, we found that out of the total amount of employed labor in Barnstable, 76% drive alone, 11% carpool, and 2% use public transit methods. For those that carpool, we assumed that there are 2.3 riders per vehicle, making the total number of cars on the road less than half of the carpooling population.

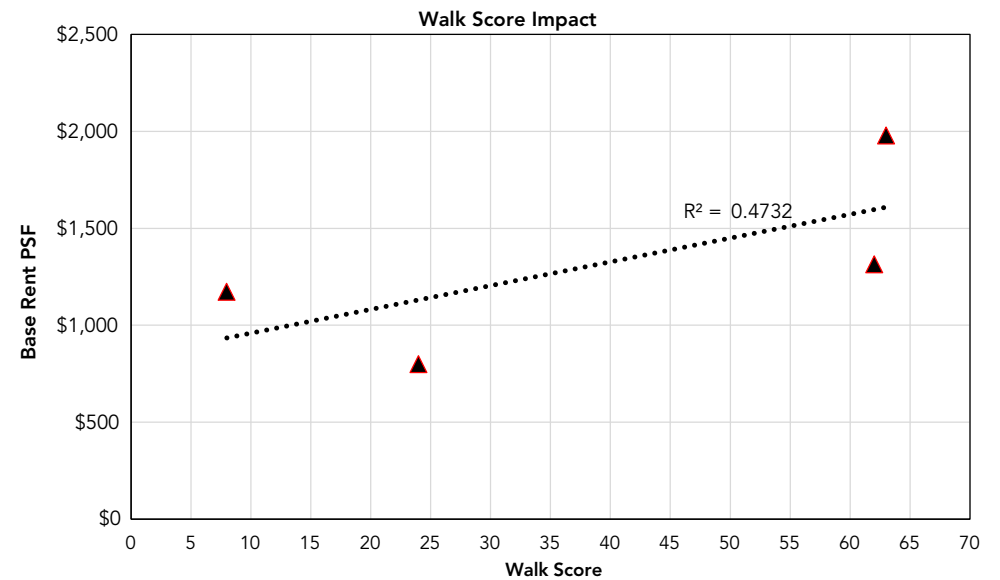
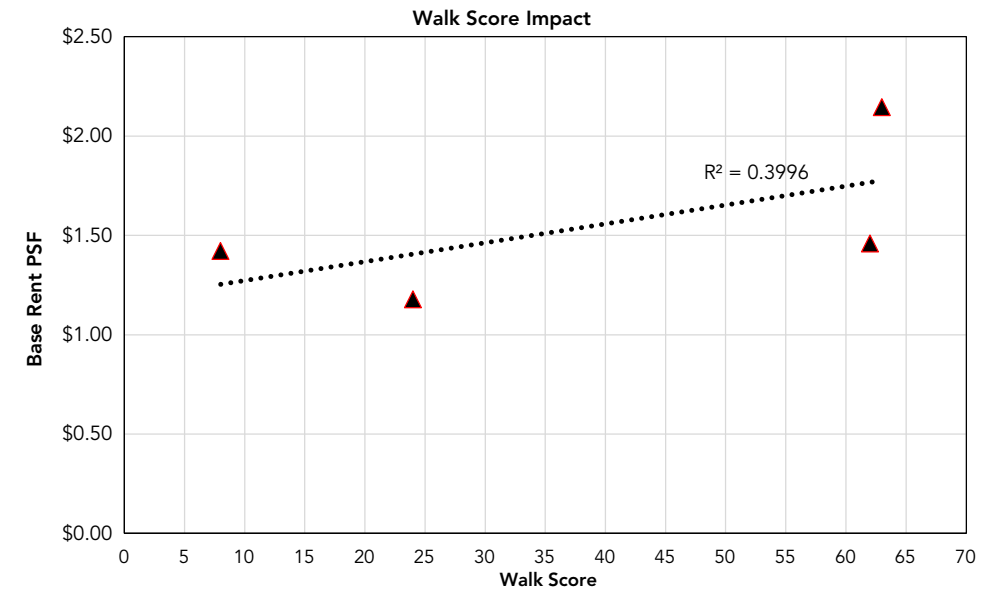
(2) We base our calculations by subtracting the number of new residents added by 500 additional units from the proportion of employed labor living greater than 50 miles from their place of work. We then add these new residents to the employed labor group that live less than 10 miles from their place of work.

CO₂ Saved: Daily Emissions Monthly **13,137,260**
Emissions Yearly **394,117,806**
Emissions **4,795,099,968**

Key Takeaways

- Walk Score is positively correlated with rents on a PSF and Nominal basis.
- Density can deliver positive value to a community.
- Development within walkable distance to downtown centers can deliver direct and indirect economic value.

Project Name	Submarket	Units	Walk Score	Year Built/Ren.	Unit Size	Project Average	
						Base Rent \$	Base Rent \$/sf
71 Jobs Fishing Road	Mashpee	32	63	2019	923	\$1,980	\$2.14
29 Market Street	Mashpee	40	62	2014	902	\$1,316	\$1.46
1 Wampanoag Dr	Mashpee	145	8	1972	826	\$1,174	\$1.42
1 Carleton Dr	Mashpee	56	24	2007	680	\$801	\$1.18
Totals/Weighted Averages:		273	26	1991	819	\$1,213	\$1.48



Note: Mashpee was used due to its' relative higher density of larger (10+ Unit) multi-family dwellings in Barnstable County. Each apartment community selected either had market / market affordable rents.

All data comes from CoStar.

Benefits of Mixed Use Development

Place Making

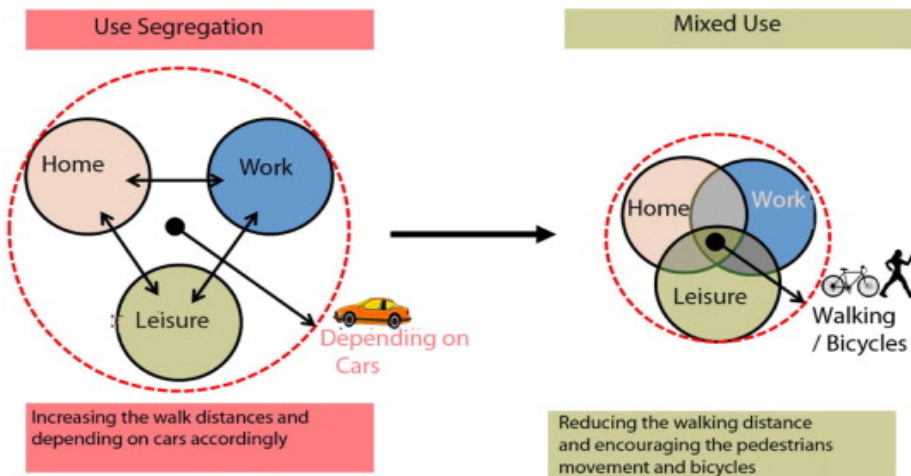
- Preserves and enhances traditional village centers
- Enhances an area's unique identity and development potential (e.g. village centers or "gateway" areas that announce a community's strengths)
- Promotes a sense of community and a sense of place

Modernization and Efficiency

- Spurs revitalization and excitement
- Encourages high quality design
- Promotes efficient and environmentally conscious use of land and infrastructure
- Allows for higher density land uses, which can assist in protecting coveted areas and environmentally sensitive places.

Local Government Welfare

- Increased revenue
- Budget cost savings
- Activation of deteriorated zones
- "Final word" during the zoning process to curtail development to specifications
- Ability to amend development code so that developers are incentivized, through tax reduction, density reduction, parking reduction, and fee waivers, to build more workforce and



Source: http://www.plan4sustainabletravel.org/key_themes/mix_of_uses/

Other Sources: The Lincoln Institute, Metropolitan Area Planning Council

Economic/ Fiscal Advantages

- Sustains local businesses by enlarging the customer pool
- Encourages economic investment from outsiders
- Increases economic and fiscal revenue through HH expenditures, sales/property tax revenue
- Agglomeration economies, or a collection of uses and space within a relatively small area which naturally attracts many people.
- Risk diffusion

Environmental Benefits

- Reduces auto dependency, roadway congestion, and air pollution by co-locating multiple destinations
- Reduces bridge traffic during rush hour periods, where cars are forced to stall and idle as they wait to pass over
- Bourne and Sagamore

Employed Labor Utility

- Provides more housing opportunities, especially for those who have been displaced
- Decreases commute times to and from work, contributing to long term retention of people that positively impact the community
- Allows people to live and work in a single community, which gives them more time for their children, friends, and community involvement activities.
- Enhances vitality and decreases stress and/or anxiety



Source: University of Delaware

IV. Cost of Doing Nothing

Denver: Predicting the impact of capital investments

- Multi-disciplinary team from across city departments developed a dashboard that shows an array of demographic and housing data across Denver's 78 neighborhoods.
- Then, the city hired a consultant to develop a "change model" in order to understand how city investments affect property values and rents.
- Model projects that a bus-rapid transit project in the works would raise rents within a relatively small impact radius - about 100 feet from a bus station
- Tool also shows the demographics and characteristics of those who will be affected by a city investment.
- This knowledge helps planners to choose wisely from their policy playbook
- Ex:
 - Rent-assistance strategies might be what's needed in neighborhoods with older residents on fixed incomes, for example, while neighborhoods with a lot of families living on low income might need larger apartments.
- Another KEY strategy:
 - Engage residents for feedback
 - One example is in the neighborhood of East Colfax, which has a large immigrant and refugee population. Interview data shows that residents prefer "language services like translation and interpretation" and not just anti-displacement programs.

Austin: A targeted approach

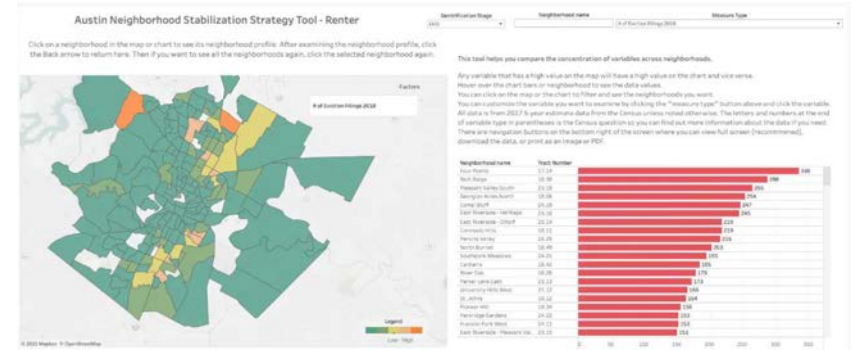
- The i-team created a neighborhood stabilization strategy tool, a map that displays displacement risk factors such as age, income, and the composition of renters and owners.
- They also use another tool, the Equity Tool, that guides the use of antidisplacement funding to benefit people most at risk of displacement.

Atlanta: Seeing displacement more clearly

- In a published report regarding neighborhood change, ATL found that more than a third of the city's residents lived in a neighborhood that experienced substantial change.
- One way the city is now responding is with inclusionary zoning, which requires a portion of newly constructed housing in certain fast-growing neighborhoods to be affordable to residents with low or moderate incomes.



Rendering of an affordable housing unit in Denver. (Source: City of Denver)



Austin's Neighborhood Stabilization Strategy Tool.

	Economic Expansion within NSA	Economic Decline within NSA
Growth in Low-Income Population	Growth 12 neighborhoods 61,342 residents	Low-Income Concentration 5 neighborhoods 22,249 residents
Decline in Low-Income Population	Low-Income Displacement 16 neighborhoods 92,557 residents	Population Decline 1 neighborhood 2,385 residents

The chart is from the Neighborhood Change Report and shows the frequency of types of neighborhood change that the report measured. (Source: City of Atlanta)

Source: Bloomberg Cities Network; Johns Hopkins University; Cities of Denver, Austin, and Atlanta

Increase Housing Stability with the Policy Playbook

I. Create and preserve dedicated affordable units

- Specific policies:
 - Set aside a portion of the proceeds from the local housing trust fund or dedicated revenue sources for activities that support housing stability.
 - Support the acquisition and operation of moderate-cost rental units
 - Facilitate the recapitalization of deteriorating affordable properties through the
- Low-Income Housing Tax Credit, housing trust funds, and other funding sources.
 - Adopt a right of first refusal policy that gives mission-oriented buyers priority consideration when the owner of a subsidized rental property decides to stop participating in the subsidy program
- Logic/mechanism:
 - Housing trust funds and other sources of local revenue provide a flexible funding source that can be used to address local priorities, including rental housing preservation and housing stability.
 - Transferring ownership of dedicated affordable rental properties to organizations that are committed to maintaining affordability - whether private non-profits or tenants organizations - helps ensure that current residents have the option to stay in their homes.

II. Help households access and afford private-market homes

- Specific policies:
 - Provide state- or local-funded tenant-based rental assistance to help renters maintain their housing during a financial crisis.
 - Offer housing education and counseling, or support programs implemented by non-profit partners, to help prospective buyers assess their readiness for homeownership.
 - Provide energy-efficient retrofits that improve the energy performance of existing homes and lower utility bills.
- Logic/mechanism:
 - Short-term financial assistance can help families keep up with their rent when they face unexpected challenges.
 - Programs that ensure homebuyers are adequately prepared for homeownership help to avoid challenges that can lead to delinquency and foreclosure.
 - Renovations that reduce home energy consumption help low-income homeowners avoid large and/or unpredictable utility bills that threaten their ability to stay in their homes over time.

III. Protect against displacement and poor housing conditions

- Specific policies:
 - Adopt rent regulation policies
 - Protect renters from condo conversions
 - Adopt “just cause” eviction policies and offer eviction prevention programs and legal assistance for at-risk renters.
 - Provide tax incentives and expanded access to capital to help owners of unsubsidized affordable rental properties cover the cost necessary repairs and routine maintenance.
 - Create tax relief and circuit breaker programs to help low-income homeowners avoid affordability challenges as the costs of homeownership increase.
 - Foreclosure prevention programs help families resolve mortgage delinquencies or identify alternatives to foreclosure.
 - Assistance for home safety modifications and rehab of existing homes make it possible for homeowners to remain in their homes as they age.
- Logic/mechanism:
 - Policies that stabilize rents and protect against the loss of affordable units make it possible for families to stay in their rental units over the long term.
 - Eviction and foreclosure prevention programs help renters and homeowners avoid displacement if possible.
 - Assistance provided to owners of rental properties to support upkeep and repair enables those units to remain available and affordable.
 - Assistance to limit increases in the utility and tax bills makes it possible for households on a fixed income to afford the ongoing costs of homeownership.

Source: Local Housing Solutions, NYU Furman Center, Abt Associates

The Impact of Housing Affordability on the Economy

“Greater tax generation, creation of jobs, opportunities for economic development, increased job retention and productivity, and the ability to address inequality - all are among the economic benefits of increased access to quality, affordable housing.”

“A 2004 report showed a harmful link between high housing costs and employee recruitment, productivity and retention, which hurts businesses and a community’s economy.”

Economic Development

- Linda Tyler, mayor of Pittsfield, MA:
 - “We can see how not investing in several of our neighborhoods with concentrated poverty is diminishing the value of the housing... I am a firm believer that job creation, business development and stabilized neighborhoods are all part of economic development... housing is certainly part of the economy.”

Income Inequality

- Katherine O’Regan, NYU Wagner professor of public policy and planning
 - “As the cost of housing goes up in a community, people may not be able to live there so they move further out. Moving further away from hot markets may be stopping people from working in locations with higher wages. This impedes the ability of businesses to hire workers and is not good for local economies.”
 - “The higher cost of housing in markets with higher wages also may be exacerbating income inequality because less-educated and lower-income households are particularly the ones likely unable to afford housing in the denser, higher-cost areas. While local decisions may be key drivers in the higher cost of housing, the drag on the economy and its contribution to greater income inequality is playing out on the national stage.”

Attracting and keeping business and manufacturing

- Gina Leckron, Habitat for Humanity Indiana State Director
 - “Manufacturers have been screaming because they have the factory jobs, but the communities where they do business don’t have enough affordable workforce housing—homes between \$100,000 and \$250,000.”
 - “When we get families into homes, they can begin paying property taxes. And if they have a home that they can afford, they have more expendable funds to spend on food and other consumer goods. They help local businesses because they can afford to eat in restaurants and shop in stores.”

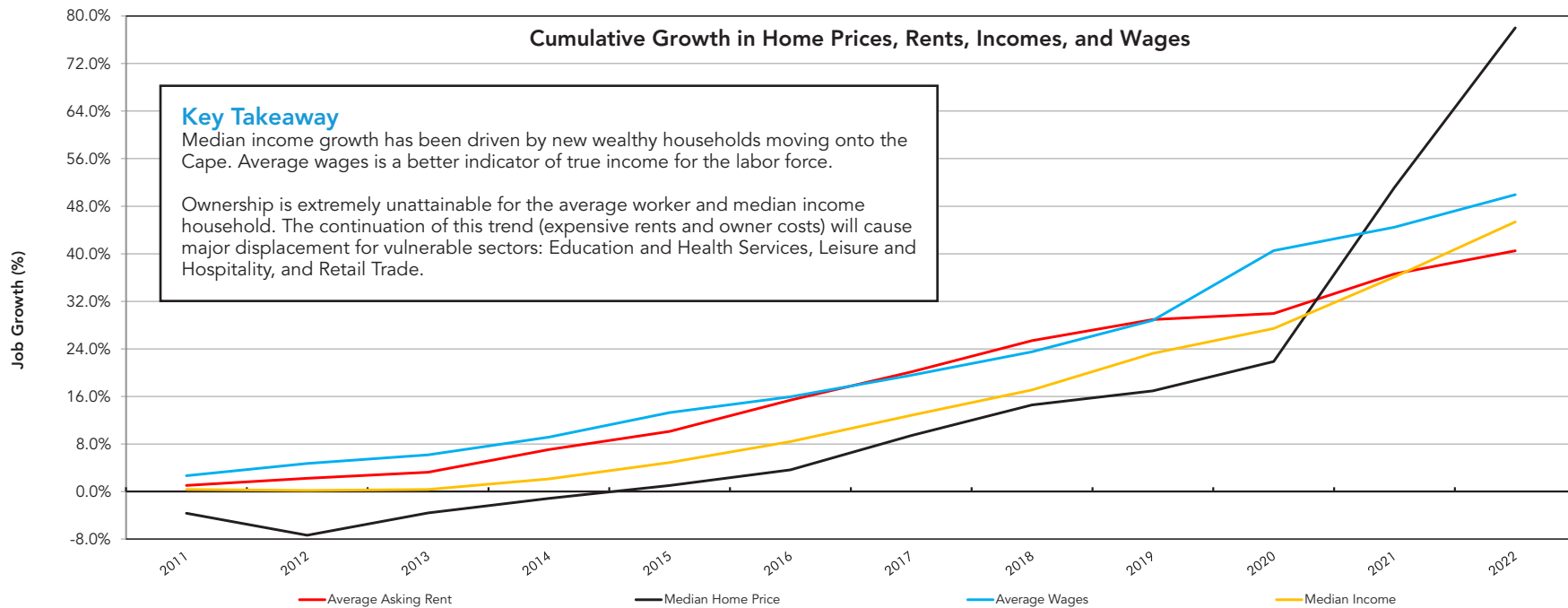
Additional “hidden” costs

- Dr. Megan Sandel, associate professor of pediatrics, Boston University School of Medicine, and principal investigator, Children’s HealthWatch
 - “We have used some of our research out of Children’s HealthWatch, a research policy network based at Boston Medical Center, to ask, ‘What health care and educational costs could be avoided if all families with children lived in a stable home?’ We estimated that number at \$111 billion over 10 years.”
 - “This is based on the health-related costs of mothers and children who have either experienced homelessness, moved two or more times or been behind on rent in the previous year. The costs linked to unstable housing include increased hospitalizations, ambulatory visits, dental procedures, mental health care for mothers and special education services for children.”

The current Barnstable County Housing Affordability Index is 43 - meaning that the area median household income is only 43% of what is necessary to afford a median-priced home.

Source: Habitat for Humanity

Barnstable County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD 2022	Average
Median Home Price	\$377,829	\$364,003	\$350,013	\$364,222	\$373,454	\$381,632	\$391,634	\$413,429	\$432,874	\$441,826	\$460,422	\$571,116	\$672,585	\$430,388
Cum. Change	---	(3.7%)	(7.4%)	(3.6%)	(1.2%)	1.0%	3.7%	9.4%	14.6%	16.9%	21.9%	51.2%	78.0%	15%
Required Income	\$74,354	\$71,750	\$69,115	\$71,791	\$73,530	\$75,070	\$76,954	\$81,058	\$84,720	\$86,406	\$89,908	\$110,754	\$116,848	\$83,251
Average Asking Rent	\$1,079	\$1,090	\$1,103	\$1,114	\$1,155	\$1,188	\$1,245	\$1,296	\$1,353	\$1,391	\$1,402	\$1,474	\$1,516	\$1,262
Cum. Change	---	1.0%	2.2%	3.2%	7.0%	10.1%	15.4%	20.1%	25.4%	28.9%	29.9%	36.6%	40.5%	18%
Required Income	\$43,160	\$43,600	\$44,120	\$44,560	\$46,200	\$47,520	\$49,800	\$51,840	\$54,120	\$55,640	\$56,080	\$58,960	\$60,640	\$50,480
Average Wages	\$39,759	\$40,815	\$41,632	\$42,205	\$43,397	\$45,039	\$46,096	\$47,530	\$49,108	\$51,208	\$55,872	\$57,444	\$59,614	\$47,671
Cum. Change	---	2.7%	4.7%	6.2%	9.1%	13.3%	15.9%	19.5%	23.5%	28.8%	40.5%	44.5%	49.9%	22%
Wages Less Req. Inc. (Own)	(\$34,595)	(\$30,935)	(\$27,484)	(\$29,587)	(\$30,133)	(\$30,031)	(\$30,858)	(\$33,528)	(\$35,612)	(\$35,198)	(\$34,036)	(\$53,310)	(\$57,234)	(\$35,580)
Wages Less Req. Inc. (Rent)	(\$3,401)	(\$2,785)	(\$2,488)	(\$2,355)	(\$2,803)	(\$2,481)	(\$3,704)	(\$4,310)	(\$5,012)	(\$4,432)	(\$208)	(\$1,516)	(\$1,026)	(\$2,809)
Median Income	\$60,317	\$60,525	\$60,424	\$60,526	\$61,597	\$63,251	\$65,382	\$68,048	\$70,621	\$74,336	\$76,863	\$82,092	\$87,677	\$68,589
Cum. Change	---	0.3%	0.2%	0.3%	2.1%	4.9%	8.4%	12.8%	17.1%	23.2%	27.4%	36.1%	45.4%	15%
Income Less Req. Inc. (Own)	(\$14,037)	(\$11,225)	(\$8,691)	(\$11,265)	(\$11,933)	(\$11,819)	(\$11,572)	(\$13,010)	(\$14,099)	(\$12,070)	(\$13,045)	(\$28,662)	(\$29,171)	(\$14,661)
Income Less Req. Inc. (Rent)	\$17,157	\$16,925	\$16,304	\$15,966	\$15,397	\$15,731	\$15,582	\$16,208	\$16,501	\$18,696	\$20,783	\$23,132	\$27,037	\$18,109



Source: U.S. Census Bureau, Zillow, Moody's Analytics

- New development in Barnstable County is incredibly unattainable for the general workforce. Newly constructed homes are now selling for nearly \$1.7M for the average 2,434 SF home.
- The required income to afford a \$1.7M home is about \$300,000, considering that a household will not exceed more than 30% of income spent on housing.
- Although there is significant workforce demand for housing, the average days on market for newly constructed homes is 239, indicating that developers are not incentivized to build cheaper homes even though the sell-up pace would be quicker.

New Construction (For sale as of 7.21.22)

Type	Count	Avg. Price	Size	PSF	Days on Market	Min Price	Max Price	Min SF	Max SF
Single Family Residential	54	\$1,896,945	2,736	\$693	139	\$699,900	\$9,999,000	1,144	7,504
Townhouse	8	\$716,150	1,336	\$536	575	\$699,900	\$729,900	1,248	1,389
Condo/Co-op	11	\$1,403,555	1,748	\$803	484	\$699,900	\$4,995,000	1,248	4,100
Sum/ Weighted Average:	73	\$1,693,196	2,434	\$696	239				

Monthly Payment for Avg. Price Home
Property Tax + Insurance

\$6,208
\$1,209

Monthly Payment for Min.
Price Property Tax + Insurance

\$2,566
\$547

Total Monthly Housing Cost

\$7,417

\$3,113

Yearly Housing Expense

\$89,006

\$37,355

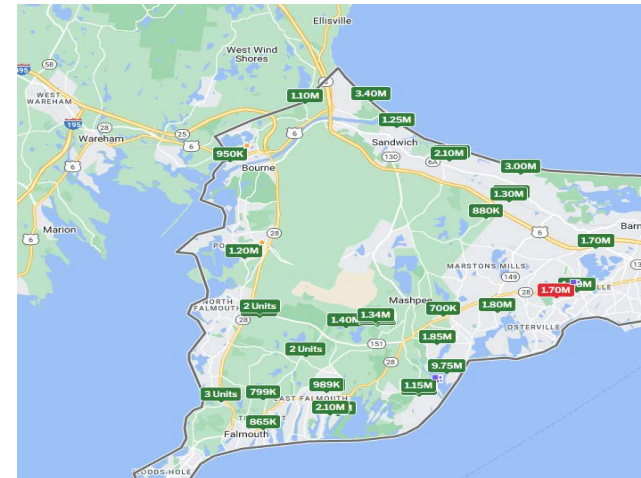
Required Income to Afford Avg. Current
New Construction Home Prices:
(Assuming 30% housing to inc. ratio)

\$296,687

Required Income to Afford
Cheapest New Construction:
(Assuming 30% housing to inc. ratio)

\$124,516

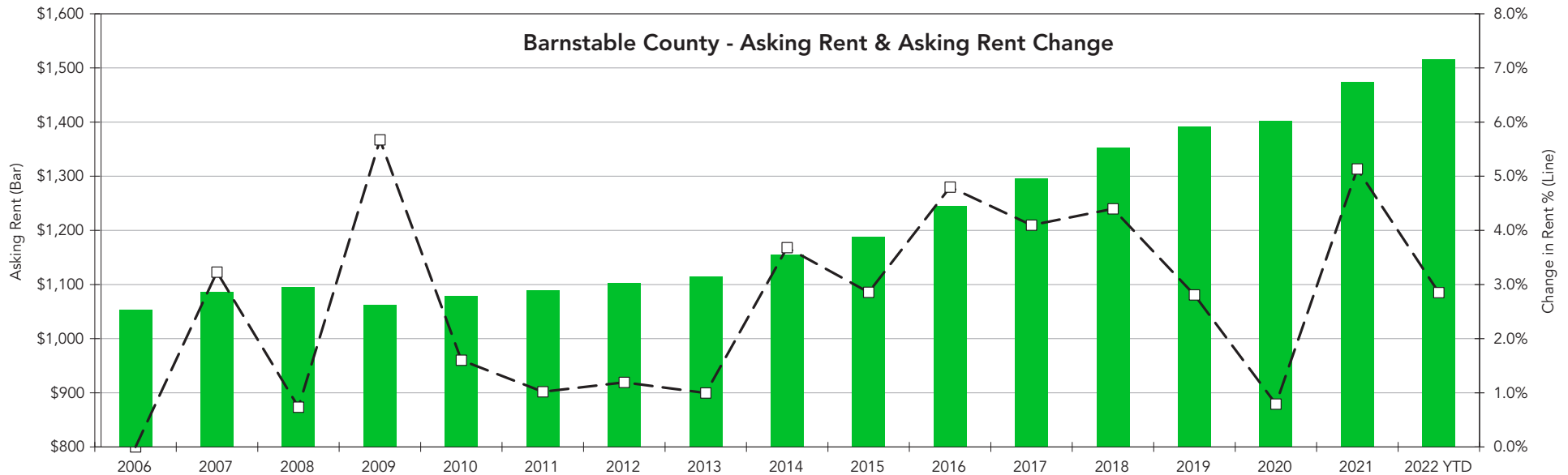
% Required Income to Median Income %	338%	142%
Required Income to Average Wages	498%	209%



Key Findings, Takeaways and Implications

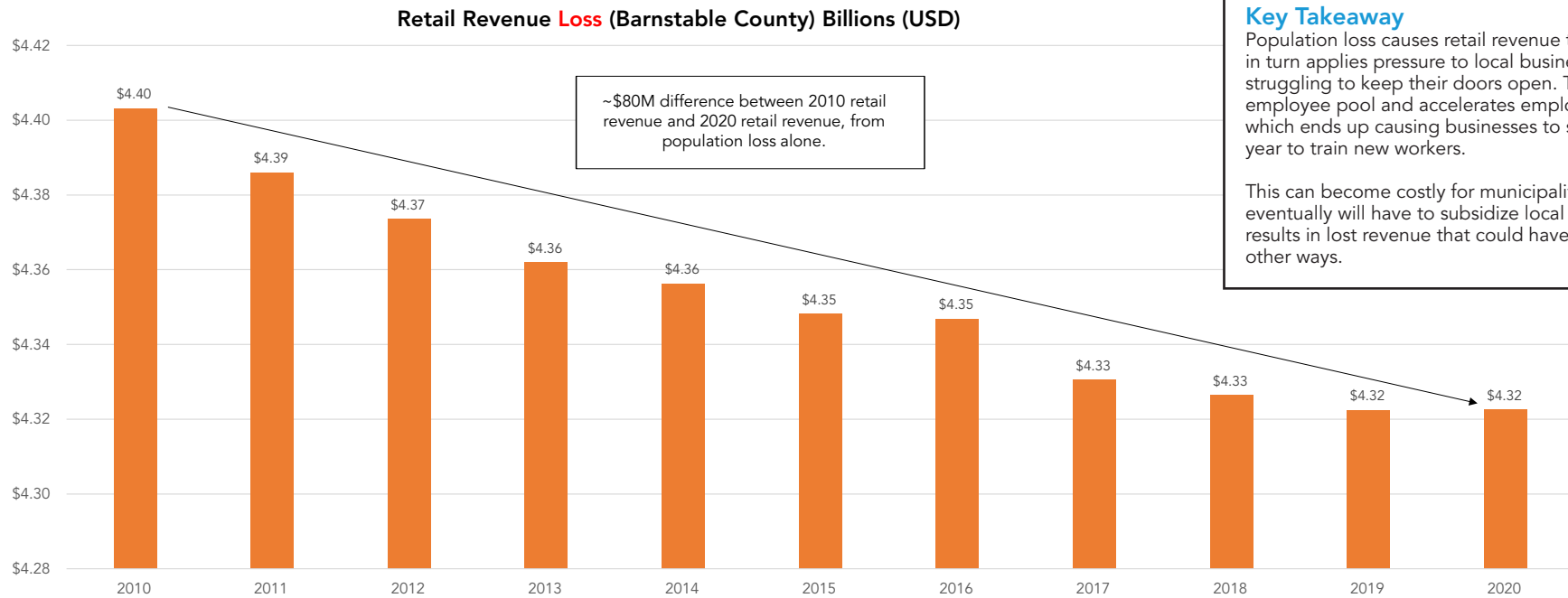
- As vacancy rates have remained below 3.5% since 2006, there is an apparent strong demand for year-round rental housing. The problem is the lack of inventory provided across the Cape. This has pushed many workers farther away since affordable ownership is mostly unattainable for the general workforce.
- With asking rents continuing to rise, renters at average wage incomes are cost burdened.

Geography	Annual																	5-Yr Avg.	
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD	17-'21	16-'20
Barnstable County																			
Inventory	1,831	1,847	1,847	1,849	1,849	1,849	1,849	1,849	1,913	1,913	1,913	1,913	1,913	1,913	1,913	1,913	1,925	1,913	1,887
Net Completion	---	16	0	2	0	0	0	0	64	0	0	0	0	0	0	0	12	0	13
Net Absorption	---	23	-2	0	2	2	-6	6	49	27	10	-8	4	4	11	4	14	3	17
Vacancy Rate	3.1%	2.7%	2.8%	2.9%	2.8%	2.7%	3.0%	2.7%	3.4%	2.0%	1.5%	1.9%	1.7%	1.5%	0.9%	0.7%	0.6%	1.3%	2.5%
Asking Rent	\$1,053	\$1,087	\$1,095	\$1,062	\$1,079	\$1,090	\$1,103	\$1,114	\$1,155	\$1,188	\$1,245	\$1,296	\$1,353	\$1,391	\$1,402	\$1,474	\$1,516	\$1,383	\$1,161
% Change	---	3.2%	0.7%	-3.0%	1.6%	1.0%	1.2%	1.0%	3.7%	2.9%	4.8%	4.1%	4.4%	2.8%	0.8%	5.1%	2.8%	2.6%	2.5%
Required Income	\$42,120	\$43,480	\$43,800	\$42,480	\$43,160	\$43,600	\$44,120	\$44,560	\$46,200	\$47,520	\$49,800	\$51,840	\$54,120	\$55,640	\$56,080	\$58,960	\$60,640	\$55,328	\$46,440
% Req. to Median Inc. %	---	---	---	---	72%	72%	73%	74%	75%	75%	76%	76%	77%	75%	73%	72%	69%	74%	75%
Req. to Avg. Wages	---	---	---	---	109%	107%	106%	106%	106%	106%	108%	109%	110%	109%	100%	103%	102%	106%	107%



Source: CoStar

Barnstable County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Cumulative Growth/Loss
Population	217,483	216,639	216,021	215,449	215,167	214,766	214,703	213,900	213,690	213,496	213,505	(1.83%)
2017 Retail Sales:	\$4,330,657,853											
2017 Per Capita Retail Expenditures:	\$20,246											
Retail Sales Based on 2017 Per Capita Ex. (000s):	\$4,403,200	\$4,386,112	\$4,373,600	\$4,362,019	\$4,356,310	\$4,348,191	\$4,346,916	\$4,330,658	\$4,326,406	\$4,322,478	\$4,322,661	(\$80,539)
Revenue Loss by Population Decline (YoY) (000s):	---	(\$17,088)	(\$12,512)	(\$11,581)	(\$5,709)	(\$8,119)	(\$1,276)	(\$16,258)	(\$4,252)	(\$3,928)	\$182	
Change	---	(0.39%)	(0.29%)	(0.26%)	(0.13%)	(0.19%)	(0.03%)	(0.37%)	(0.10%)	(0.09%)	0.00%	



Key Takeaway

Population loss causes retail revenue to decline, which in turn applies pressure to local businesses already struggling to keep their doors open. This limits the employee pool and accelerates employee turnover, which ends up causing businesses to spend more per year to train new workers.

This can become costly for municipalities as they eventually will have to subsidize local operations which results in lost revenue that could have been spent in other ways.

Source: U.S. Census Bureau, ACS 5-year estimate tables, ESRI