

# POPULATION CHANGES AND VERMONT STATE REVENUE



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While Vermont's overall population count has been stable for over a decade, three trends are impacting how Vermonters earn, spend, and live. Those impacts, in turn, will reduce revenue from personal income and consumption taxes while fewer taxpayers will pay the full education property tax.

## Vermont Tax Structure Commission

**Deb Brighton • Bram Kleppner • Stephen Trenholm**

One Baldwin Street • Montpelier, VT 05633 • (802) 828-2295 • [taxcommission@leg.state.vt.us](mailto:taxcommission@leg.state.vt.us)

Prepared by: Seán Sheehan, Staff Director

## About the Commission

The Vermont Tax Structure Commission was created by Act 11 of 2018 to analyze Vermont’s revenue system, recommend improvements and modernization, and provide a long-term vision for the tax structure. Independent from both the legislative and executive branches of government, the Commission aims to make the tax system more understandable for the public, help policymakers compare the merits of various options, and offer recommendations that can help Vermont’s revenue system work better for Vermonters. The Commission is comprised of three members – Deb Brighton, Bram Kleppner, and Stephen Trenholm – and supported by Seán Sheehan (staff director), Susan Mesner (consultant), and Sorsha Anderson (staff associate). The Commissioners regularly hold public meetings and will deliver a final report in January 2021. More information on the Commission, its work, and upcoming meetings can be found here:

<https://ljfo.vermont.gov/committees-and-studies/tax-structure-commission>

## Acknowledgements

The Commission could not conduct its analyses without the support of staff and consultants from the Vermont Legislative Joint Fiscal Office, Department of Taxes, and other state agencies who provide crucial data and input. The Commission also thanks members of stakeholder groups, the Legislature, and the public who testify and participate in Commission meetings.

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## EXECUTIVE SUMMARY

Vermont's population has been remarkably stable for the last fifteen years, at least in terms of total numbers. The state had 620,000 people in 2004, 626,000 in 2010, and still 626,000 in 2018. In addition, at least two projections suggest little movement over the next decade (p5). However, a look beyond that total number reveals significant change. Three trends in particular stand out:

- 1) **More Seniors, Fewer Children, and Fewer Working-age Adults** – 2017 marked the first time that Vermont had as many seniors (65+) as children (<18). Proportionally Vermont has one of the nation's largest populations of baby boomers. When the youngest boomers turn 65 in 2029, more than one in four Vermonters will be seniors. Only Maine will have a higher proportion (p8).
- 2) **More Metropolitan, Less Rural** – Vermont is one of the most rural states in the nation, but its population is shifting from rural areas to its one metropolitan region. Since 2000, three counties around Burlington have grown by more than eight percent, while the other 11 counties have either lost population or are virtually unchanged (p11). The trend has accelerated since 2010.
- 3) **More Households with Fewer People** – The average Vermont household has shrunk as there are fewer families with children, fewer married couples, and more Vermonters living alone. Only North Dakota now has fewer people per household. Among owner-occupied housing units, one-person households are more prevalent in Vermont than in any other state in the Northeast (p16).

These demographic trends impact public finance. On the spending side, health care and retirement costs increasingly loom large. On the revenue side, the trends will impact all three of Vermont's major revenue sources: personal income tax, consumption taxes, and property tax. Specifically, we find:

- **Less Revenue from Personal Income Tax** – An aging population portends a slowdown in taxable income, leading to a decrease or less growth in revenue from personal income taxes. Younger baby boomers (age 55-64) currently account for more than a fifth of tax returns and more than a quarter of personal income tax dollars. As the state's most populous age cohort retires over the coming decade, their decreasing incomes will no longer contribute as disproportionately high of a share of income tax revenue. The age cohorts following behind them will likely see an increase in per capita income but, because those cohorts are smaller, a growing gap in revenues is likely (p18).
- **More Income Tax Stability than Most States** – The federal government gives tax breaks to seniors and states typically give more, sometimes exempting retirement income that is taxable at the federal level. As a result, seniors in some states pay less than half as much income tax as non-seniors pay at similar income levels. Vermont is one of the top three states for parity however, thus positioning the State to avoid the larger revenue drop-offs faced by states that treat retirement income dramatically different than the federal government (p20).
- **Less Revenue from Consumption Taxes** – An aging population portends a slowdown in taxable consumption, leading to a decrease or less growth in revenue from consumption taxes (sales, meals & rooms, and gas taxes). Compared to other age groups, seniors tend to spend less overall and focus what they do spend on mostly non-taxable services, such as health care, rather than the taxable goods favored by younger cohorts (p22).
- **Fewer Taxpayers Paying Full Education Property Tax** – Vermont's system of property tax adjustments features flat eligibility thresholds for all household sizes. Households with incomes below the thresholds qualify to pay a lower, income-based education tax, with property tax adjustments

making up the difference between their gross and net payment. An aging cohort of homeowners and smaller household sizes suggest that fewer households will pay the full property tax and the adjustments will be larger. If the Grand List grows fast enough to enable aggregate property tax revenue to outpace increases in education costs, rates may remain stable. If not, the result will be a strain on tax rates (p23).

In addition to examining these current population trends and their prospective impact on Vermont's revenue system, this report also flags five additional topics for consideration. The Commission believes that these factors, while not directly impacting state revenue, are important for Vermonters to consider when examining past and current trends and determining how to respond to future changes.

- 1) **Trends Can and Do Change.** Trends are comprised of recent datapoints compared to past datapoints and are subject to shift in the future. Demographic projections based on recent trends should not be viewed as set-in-stone predictions, as past examples in Vermont and other states offer cautionary tales (p27). Rather than being dismissed as uncertain, however, existing and emerging trends should be tracked, analyzed, and – when appropriate – addressed.
- 2) **Some Trends are Less Likely to Change than Others.** Of the three trends discussed in this paper, “More Seniors, Fewer Children and Fewer Working Adults” appears most likely to continue throughout the next decade, while “More Households with Fewer People” could be most susceptible to a turning point (p28).
- 3) **Housing - A Population Constraint or Impending Boom?** What happens when the trends of “More Households with Fewer People” and “More Metropolitan, Less Rural” collide with a tight housing market, unaffordable housing options, and a lackluster construction climate? Most likely a turning point in one or more trends. Which trend(s) shift will impact Vermont's future population structure and state revenue – including education property tax (p30).
- 4) **Transitions Present Short, Medium, and Long-term Challenges.** The 20<sup>th</sup> century's “population pyramid” is morphing into a “population pillar,” in which all age cohorts will be roughly similar sizes. Until that transformation completes in the mid-21<sup>st</sup> century, states like Vermont face an “inverted pyramid” with particularly high numbers of seniors. The challenge is to prepare for both the long-term future while also addressing the various stages of the transition (p34).
- 5) **In-migration Is Critical on Many Levels.** States with low birth rates rely on domestic and international migrants in order to grow and achieve generational balance. Domestically, a massive influx of baby boomers fueled Vermont's growth in the late 20<sup>th</sup> century, but subsequent generations have reversed course and moved to cities. In their wake, international immigrants have provided some stability, though Vermont – and all of Northern New England – see far fewer immigrants than most states and thus experience more generational imbalance and labor shortages. (p38).

Both Vermont's legislative and executive branches have taken early steps to address demographic pressures on the budget. The Tax Structure Commission publishes this report with the hope its findings will contribute to other planning efforts in the state while also providing building blocks for the Commission's subsequent research and deliberations.

## INTRODUCTION: FROM STEADY GROWTH TO SHIFTING STABILITY



Figure 1. Vermont population from U.S. Census, decennial census and 2018 estimate.

### Introduction: From Steady Growth to Shifting Stability

Turn on a 24-hour news network, check in with an economic think tank, or listen to a political debate and there's a good chance you'll hear how a "silver tsunami" is about to hit the nation's work force. If you're in Vermont, open a newspaper, turn on the radio, or attend a community meeting and you're just as likely to hear how the Green Mountain State's population is not only aging faster than the rest of the nation, but its growth has stagnated or, worse yet, will soon shrink.

Indeed, Vermont added more than 50,000 residents in the 1960s, '70s, and '80s, then 45,000 more in the '90s. However, the U.S. Census reports growth of only 17,000 in the first decade of this century and estimates a mere 600-person gain in the last eight years (Figure 1).<sup>1</sup> Vermont's Consensus Administration and Joint Fiscal Office projections expect the state to add just 12,000 people over the next 12 years, while demographers at the University of Virginia expect Vermont to lose 8,000 people over that period. In other words, Vermont's population is likely to stay about the same.

This halt in population growth means different things to different people. For credit rating agencies and other stakeholders in an economic system that depends on growth, it can be a major cause of consternation. For those concerned with the environmental impacts of unchecked growth, it can be a source of hope and a reason to rally around a strategy of adaptation to a steady state.

When it comes to Vermont's tax structure, however, the total number of Vermonters is only a small part of the story. More relevant are the major shifts that are occurring within the population, specifically:

- More Seniors, Fewer Children, and Fewer Working-age Adults
- More Metropolitan, Less Rural

<sup>1</sup> U.S. Census Bureau (2019), "State Population Totals."

- More Households with Fewer People

These trends impact how Vermonters work, spend, and live – which in turn will impact Vermont’s revenue system (Figure 2). Section A of this paper discusses these trends in greater detail. Section B explores the social and economic impacts of the trends, as well as four expected results for the State’s revenue system. Section C covers five additional factors that the Commission believes should be weighed when considering demographic trends, projections, and expected impacts before embarking on policy responses. These considerations are not specific to state revenue but are important for Vermonters – including the Commission as it continues its work – to consider when examining trends and determining if and how to respond to future changes. Finally, the paper recaps the key findings of this report.

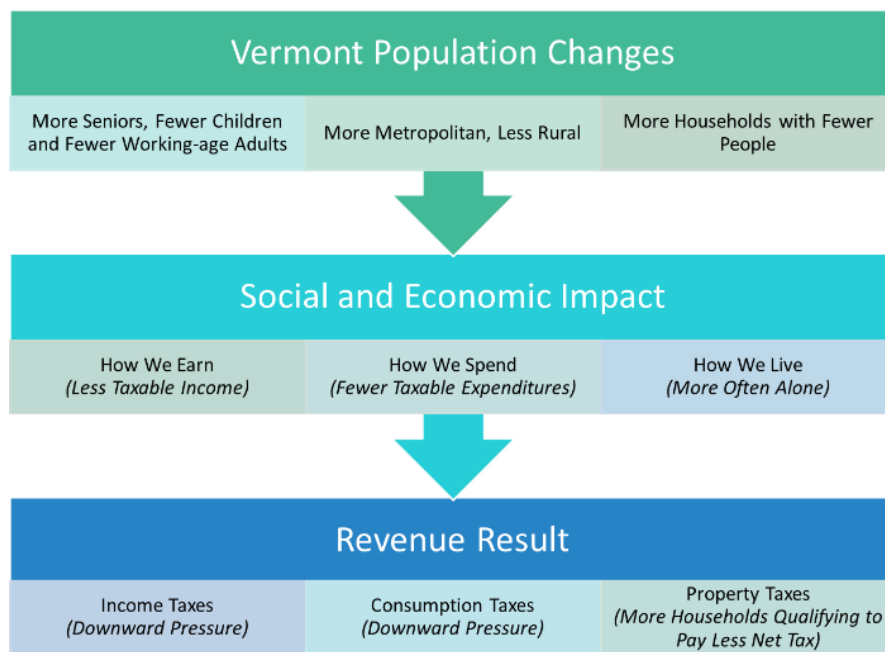


Figure 2. Vermont Population Changes, Social and Economic Impact, and Revenue Result.

## SECTION A: DEMOGRAPHIC TRENDS

## 1. Trend: More Seniors, Fewer Children, Fewer Working-age Adults

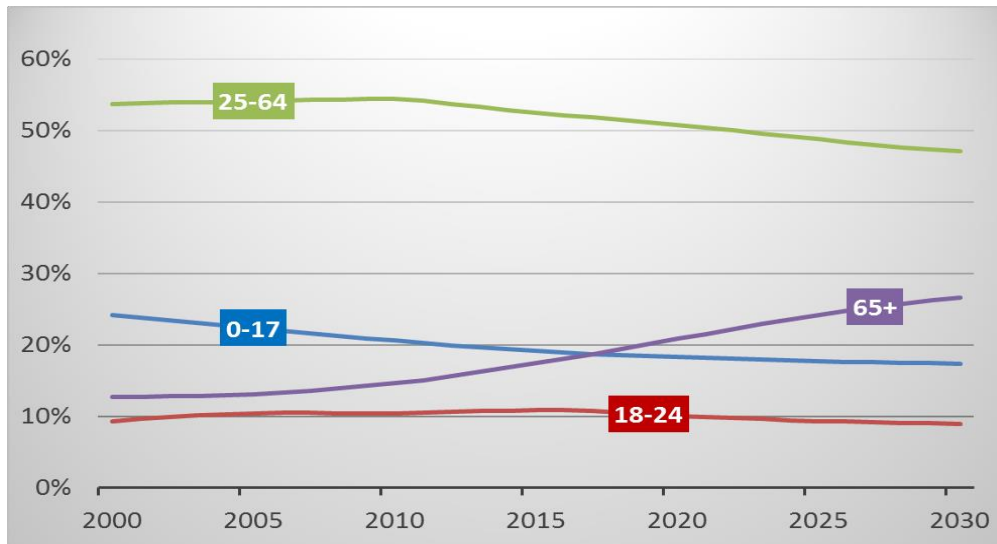


Figure 3. Share of Vermont population by age group, 2000-2030. 2000-2017 data from U.S. Census. 2018-2030 from Consensus Administration and Joint Fiscal Office projections.

#### A new normal in Vermont: Seniors outnumber children.

The year 2017 marked the first time that Vermont had as many seniors (65+) as children (<18). Over the coming decade, seniors will outnumber children by an increasing margin as younger baby boomers reach retirement age (Figure 3). Meanwhile, the number of children and working-age adults is projected to continue dropping. By the end of the next decade, just 47 percent of Vermonters will be between the ages of 25 and 64, down from 54 percent in both 2000 and 2010.

#### National context: The U.S. is aging fast. Northern New England is aging faster.

Vermont is not alone in facing a graying age structure. Americans are having fewer babies and living longer. As a result, the 20<sup>th</sup> century's population pyramid – where a small number of senior citizens sit atop a moderate number of middle-aged adults, a larger number of young adults, and even more children – is in the process of transitioning to a pillar, in which all age groups have roughly similar numbers (see Chapter 11).

But while the whole country is aging, the change is more dramatic in northern New England. Nationally, the proportion of seniors will increase nearly 50 percent from 2010 to 2030. In Vermont and New Hampshire the increase is projected to be about 80 percent. By 2030 the northern New England states are projected to be the first three states in the nation where seniors make up at least a quarter of the population (Figure 4).

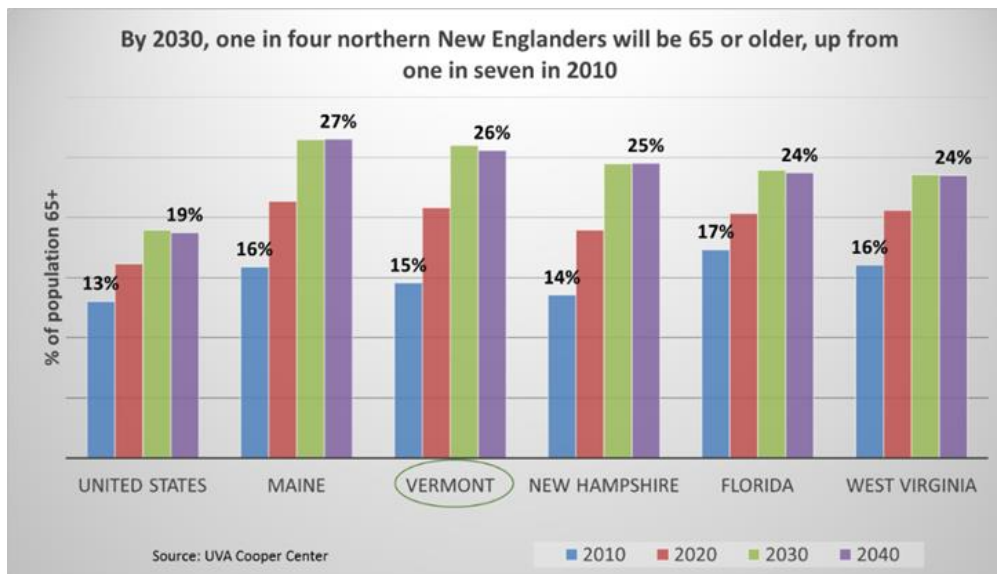
There are at least four reasons why the phenomenon is more acute in northern New England. First, Vermont saw higher net in-migration of baby boomers than other generations, meaning that the state benefited from a larger workforce as boomers aged and will now see a higher retirement population as the group continues to age (Figure 5 and Appendix B). Second, millennials have been more prone to leaving rural areas than their baby boomer parents (see Table 1 for generations), and Vermont is one of the most rural states in the nation.



Third, Vermont is highly educated, and high education tends to correlate with lower birth rates and longer lifespans. Fourth, the region has a low immigrant population, which is relevant because immigrants a) are more likely to be Generation X and thus balance out a region’s baby boomers, and b) tend to have higher birth rates than native-born residents and thus increase the number of children (Chapter 12).

Combined, these factors help explain why, compared to 2000, Vermont now has 1) more adults at every single year of age over 53 and fewer at every age 29-53 (Figure 6), and 2) a greater variance in size of generations than the nation at large (Figure 7).

As Fitch Ratings referenced in its July downgrade of the state’s bond rating, a state can grow from a) births outnumbering deaths, b) domestic in-migration outpacing out-migration, or c) immigration exceeding emigration.<sup>2</sup> Vermont shows little net gain in any of the three. The result: slow growth and an aging population.



Generations Defined

Birth Years	Age in 2019
<b>Silent</b>	
1928-45	74-91
<b>Baby Boomers</b>	
1946-64	55-73
<b>Generation X</b>	
1965-80	39-54
<b>Millennials</b>	
1981-96	23-38
<b>Generation Z</b>	
1997-2012	7-22

Table 1. Generation names and years, as defined by Pew Research Center.

Figure 4. The five states projected to have the highest proportion of seniors (age 65+) in 2030.

<sup>2</sup> Fitch Ratings, “U.S. States and the Growth Implications of an Aging Population.” See Fitch’s graph in Chapter 12.

**From 2000 to 2015, Vermont benefited from a large increase in workers in the midst of their peak earning years**

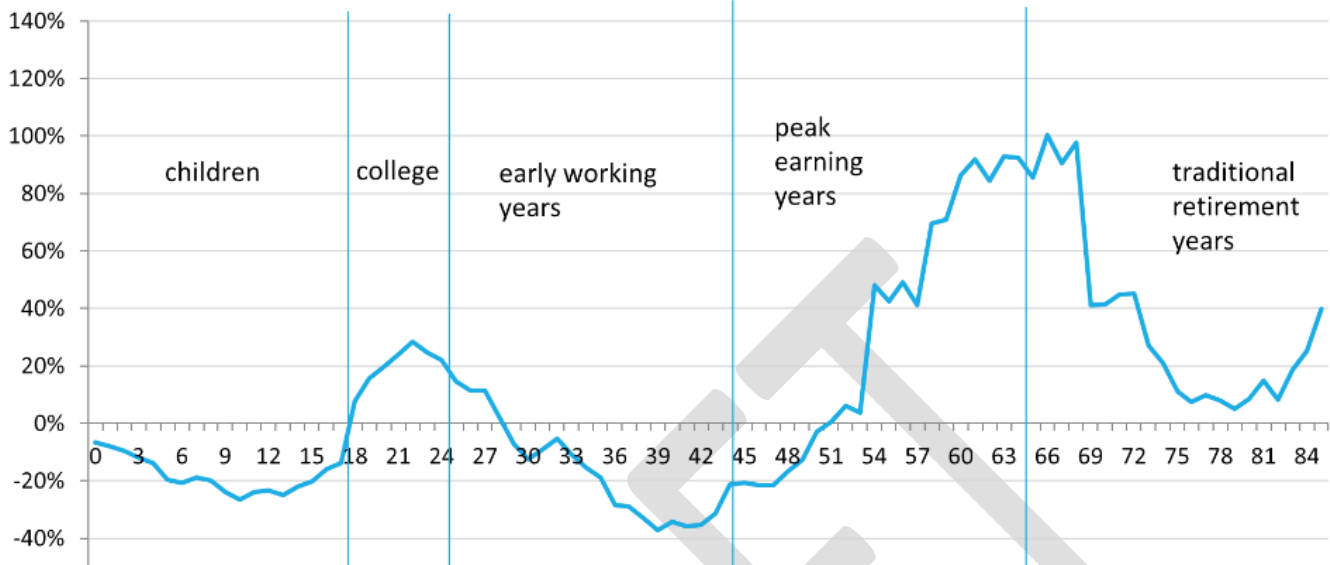


Figure 5. Change in population by single year of age from 2000 to 2015. Data from U.S. Census 2000 Decennial Census; American Community Survey estimate of 2015 population.

**From 2015 to 2030, Vermont will see a decrease of peak earners and increase of retirees and workers in their early years**

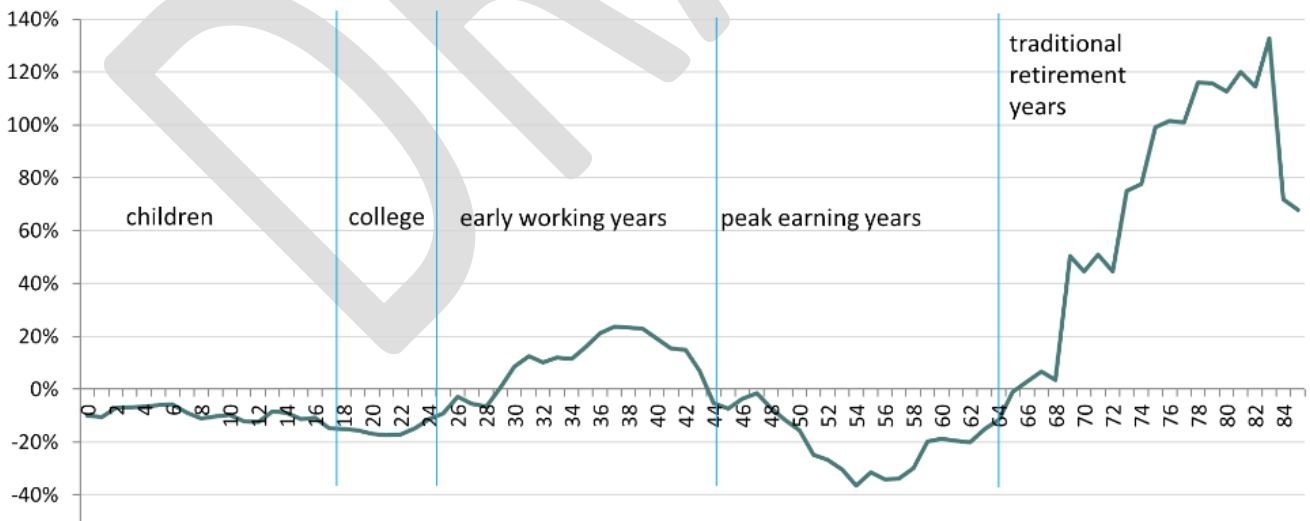


Figure 6. Projected change in population by single year of age from 2015 to 2030. Sources: American Community Survey estimate of 2015 population; Consensus Administration and Joint Fiscal Office projections of 2030 population.

### % VT and U.S. Populations by Single-year Age, 2018

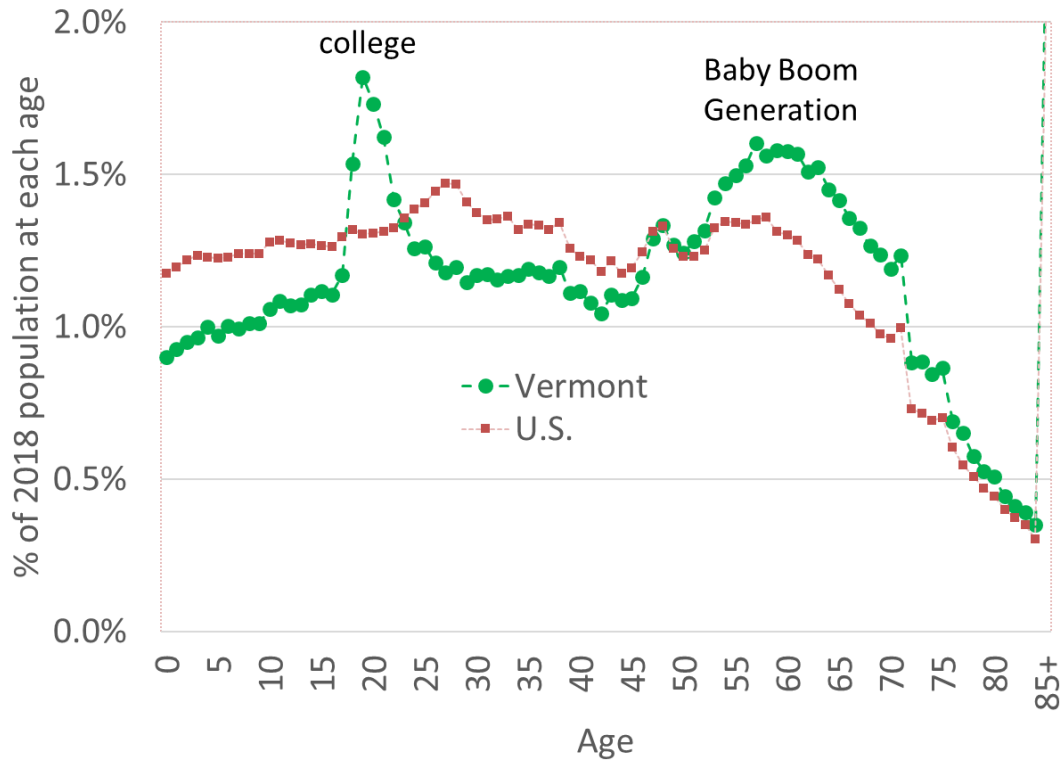
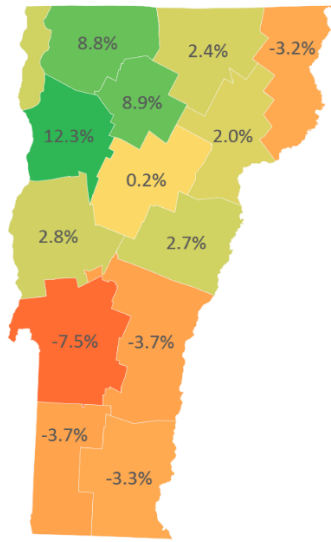


Figure 7. U.S. and Vermont population - single year of age as % of total population, 2018.



Change in County Population from 2000 to 2018		
Grew >8%	Virtually Unchanged	Shrunk >3%
Chittenden, Franklin, Lamoille	Addison, Caledonia, Grand Isle, Orange, Orleans, Washington	Bennington, Essex, Rutland, Windham, Windsor

Figure 8. Change in county population from 2000 to 2018.

## 2. Trend: More Metropolitan, Less Rural

### In Vermont: Only the Burlington area is growing.

Since 2000, three counties around Burlington have grown by more than eight percent while the five furthest from Burlington have shrunk. The remaining six were virtually unchanged, growing less than three percent over 18 years, or less than two-tenths of a percent per year (Figure 8).

### National Context: Americans have flocked to metropolitan areas, especially in the last decade.

Urbanization has been a global trend for over a century. In the U.S., the trend has been particularly strong in the last decade with nonmetro areas losing population (Appendix C).

Most states have large metro areas to counteract rural population loss. Vermont’s lone metro area consists of just three counties: Chittenden, Franklin, and Grand Isle (and the latter two are largely rural).

The Census defines rural areas differently than nonmetro areas, and the U.S. Department of Agriculture (USDA) has yet a different definition of rural counties (Appendix C). But regardless of which definition is chosen, Vermont stands as one of the two most rural states in the nation, along with Maine. Maine and Vermont each have about 61 percent of their populations living in rural census blocks; no other state has more than 51 percent and only seven other states have more than 40 percent of the population in rural areas.<sup>3</sup>

Nationally, as of 2016, only one out of seven (14%) Americans lived outside of metro areas.<sup>4</sup> In Vermont, two out of three (65%) did, but the proportion is declining as rural counties lose population and age faster

<sup>3</sup> U.S. Census Bureau (2016), “Life Off the Highway.”

<sup>4</sup> Cromartie, John (2017). “Rural Areas Show Overall Population Decline and Shifting Regional Patterns of Population Change.” U.S. Department of Agriculture Economic Research Service. (USDA ERS)

(Figures 9,10). In New England, most counties in Census-defined metropolitan areas have gained population (except in Connecticut), while nearly all nonmetro counties have lost population (Appendix C).

In short, the trend in Vermont is consistent with national and regional trends.

**Vermont’s rural counties are staying resilient in the face of population loss and aging.**

While the USDA reports that one in four rural counties nationally suffer from low employment and persistent related child poverty, and more than one in ten have low education and persistent poverty, the USDA says that no Vermont counties meet the criteria for any of these labels (see Table 2). Not all rural economies are equal. Those that are recreation-based or non-specialized – USDA classifications that fit every rural Vermont county except Essex – are less likely to suffer from these afflictions than counties dependent on farming, mining, manufacturing, or the government.<sup>5</sup>

Type of Rural County	Low Education	Low Employment	Persistent Poverty	Persistent Related Child Poverty
U.S.	15%	29%	11%	23%
VT	0%	0%	0%	0%

Table 2. Percentage of counties afflicted by four problems, U.S. and Vermont. Source: USDA

<sup>5</sup> USDA ERS (2015), “County Typology Codes.”

**While the whole state (and nation) is aging, Vermont's rural counties are older and aging faster...**

Median Age by County, 2010 - 2016

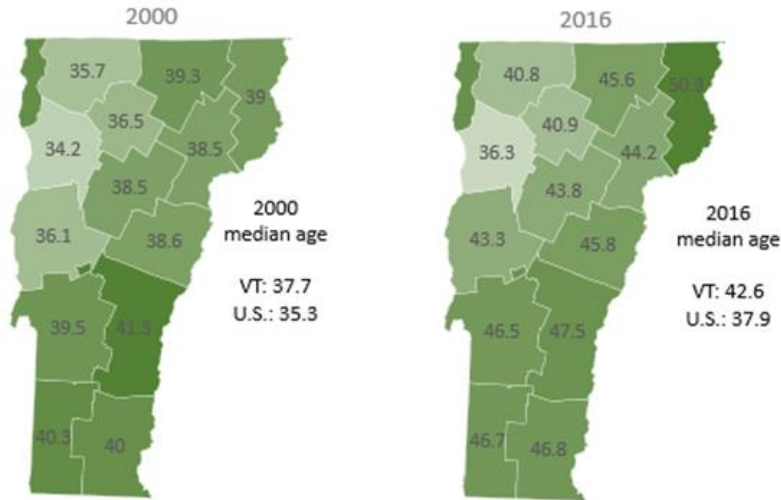


Figure 9. Median age by county, 2000 and 2016. Data from U.S. Census.

**...which means that counties outside of the Burlington metro area are also losing working age adults and children at a more dramatic pace**

Change in Age Group Population by County, 2010 - 2017

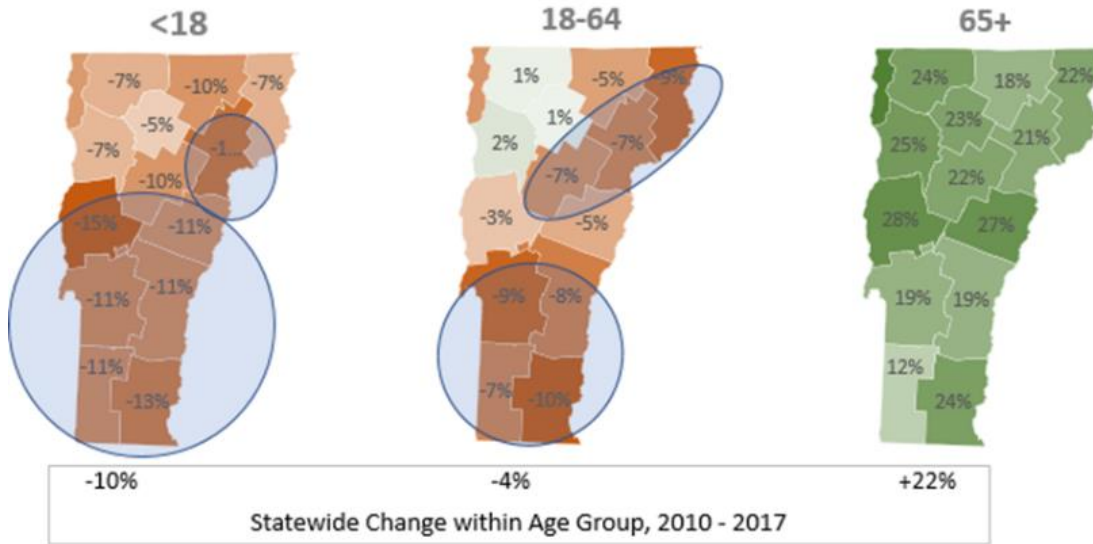


Figure 10. Change in age group population by county, 2010-2017. Data from U.S. Census.

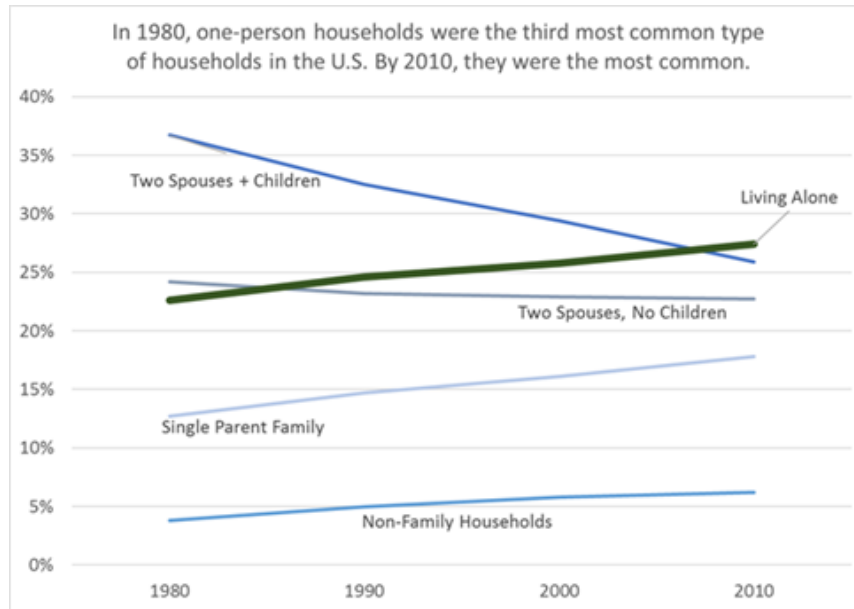


Figure 11. Proportion of U.S. households by type of household, 1980-2010. Data from U.S. Census Decennial Census.

### 3. Trend: More Households with Fewer People

#### The average Vermont household is shrinking and is now the second smallest in the nation

The number of people per Vermont household shrunk by 5% from 2000 to the period of 2013-2017.<sup>6</sup> At just 2.32 members, the average Vermont’s household is smaller than every state except North Dakota. Among owner-occupied households, no state has smaller households.

An analysis of Census data from the last decade, comparing American Community Survey 5-year data from 2005-2009 to 2013-2017, illuminates two points. First, household size – both in Vermont and nationally -- is impacted by counter trends resulting from the rise in households other than traditional families – pushed down by growth in single-person households and pushed up by multi-person non-family households. Second, Vermont’s decrease in household size is fully attributable to owner-occupied households as the size of Vermont renter households is unchanged (Figure 14).

#### One-person households: the most common household type in the nation; growing faster in Vermont

The traditional two-spouse family has been declining nationally for decades, while single-parent families, one-person households, and non-family households have all grown. One-person households became the most common type of household in the U.S. as of the 2010 Census, accounting for more than a quarter of American households (Figure 11).

Examining 5-year American Community Survey data, the prevalence of single-parent families has also begun to dip while one-person households have grown five times as fast in Vermont as in the nation as a whole over

<sup>6</sup> Household size from 2000 U.S. Census as well as U.S. Census 5-year American Community Survey from 2017 (data from 2013-2017).

the last decade. One-person households comprised 27.3% of U.S. households for the period 2005-2009, 27.5% for 2009-2013, and 27.7% for 2013-2017, compared to 27.7%, 28.4%, and 29.6% of Vermont households over the same periods (Figure 12).

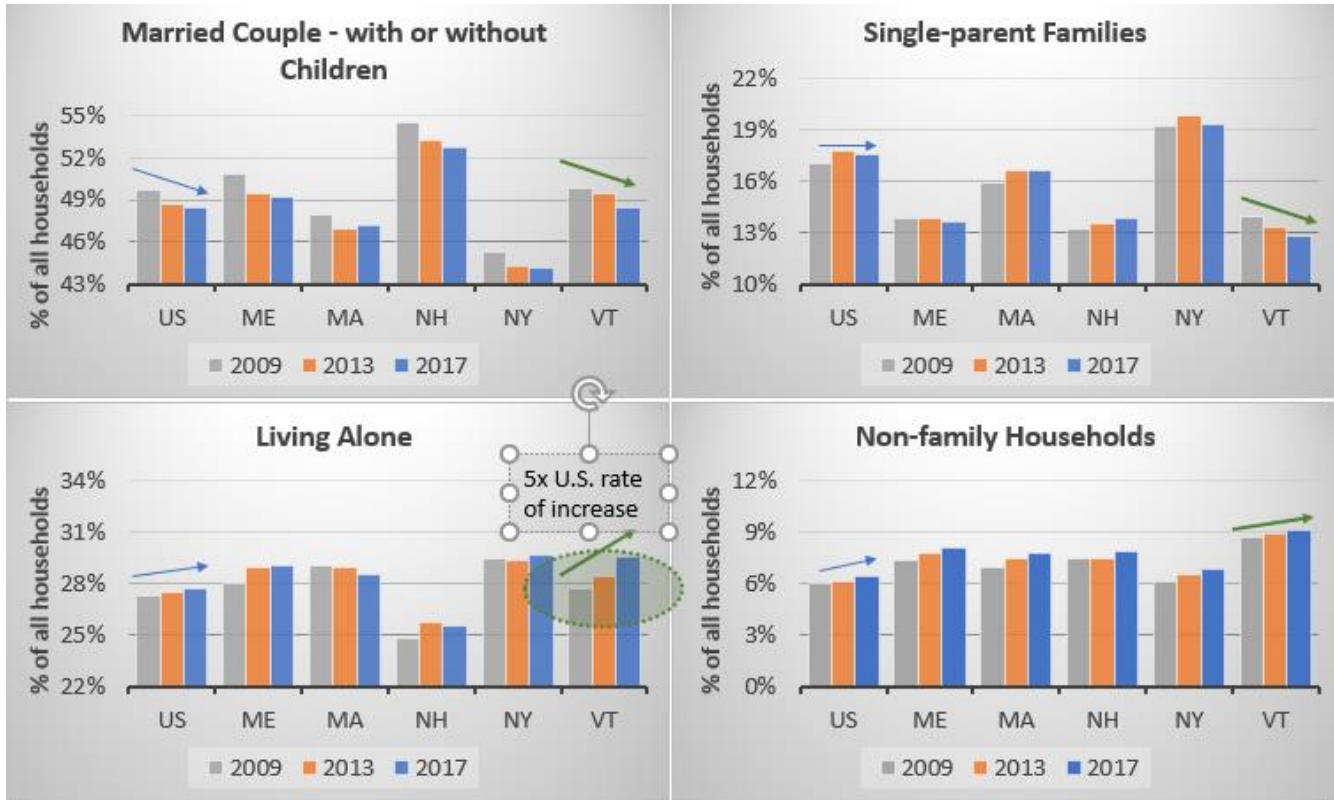


Figure 12. Proportion of four types of households in U.S., Vermont, and surrounding states. Data from U.S. Census 5-year American Community Survey.

As Figure 12 shows, the trends for various household types are directionally similar in Vermont as in the rest of the region. Therefore, the question of whether households shrink or expand could largely come down to weighting. In short, to what extent do people outside of families live alone as opposed to in multi-person households? To the extent that one-person households grow much faster, average household size would likely drop (as is seen in Vermont). To the extent that multi-person non-family households grow faster, average household size could tick up (as is seen in the nation as a whole). Because the proportion of one-person households is growing faster in Vermont than nationally, while multi-person non-family households are growing more slowly, it should not surprise that Vermont household size would continue to decline even as the size of U.S. households tick up.

**Global Context: One-person households even more prevalent in many other countries**

This phenomenon is not unique to the United States. In Germany and the Scandinavian countries, two out of five households are single persons, as are nearly a third of households in Japan and the United Kingdom.<sup>7</sup>

<sup>7</sup> Chamie, Joseph (2017). “The Rise of One-Person Households.” Inter Press Service.



**National Context: The trend toward one-person households is expected to continue.**

The Harvard Joint Center for Housing Studies projects that one-person households will account for 38 percent of all new households across the country from 2018-2028, a development that would widen the gap between one-person households and other types of households (Appendix D).

**Regional Context: Owner-occupied households are more likely to be one-person in Vermont than in any other state in the Northeast.**

While there has been a national uptick in average household size for both owner-occupied households and renters, the experience for states neighboring Vermont has been more in line with Vermont’s. Specifically, owner-occupied households have shrunk, though not as significantly as in Vermont (Figure 13), while renter households have expanded in New York and Massachusetts while staying stable throughout Northern New England (Figure 14).

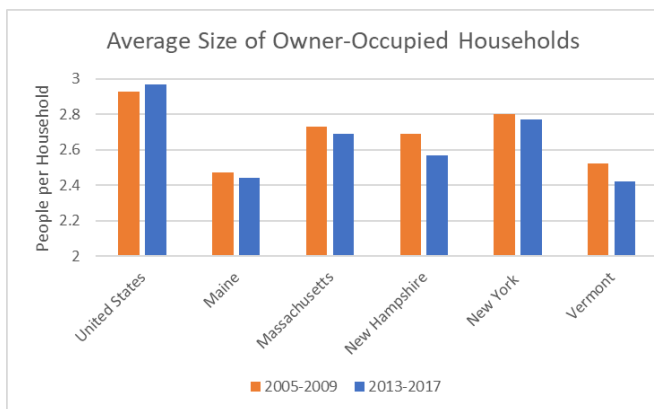


Figure 13. Size of average owner-occupied household in U.S., Vermont, and neighboring states. Data from U.S. Census 5-year American Community Survey, 2009 and 2017.

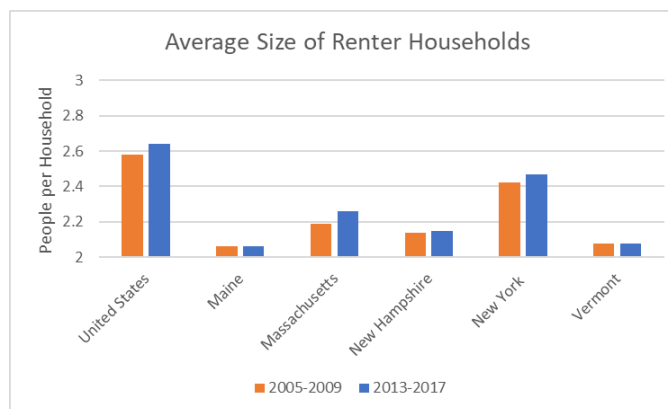


Figure 14. Size of average renter household in U.S., Vermont, and neighboring states. Data from U.S. Census 5-year American Community Survey, 2009 and 2017.

As one-person households are largely driving the decrease in household size, it is not surprising that the data also show the shift toward one-person households in Vermont being particularly acute among owner-occupied housing units, where more than 24 percent of households were one-person based on 2013-2017 data, up from less than 22 percent for the 2005-2009 period, and the highest of any northeast state (Figure 15).

Given Vermont’s high proportion of single-family homes and low availability of multi-family units and small homes, living alone can be an expensive proposition.<sup>8</sup> Additional discussion can be found in Chapter 10 and Appendix D. Appendix D also details data on incidence of changes in one-person households by age group in Vermont and neighborhood states.

<sup>8</sup> While not scientific, a 2011 report from Realtor.com found that Vermont homes for sale had the largest lots of any state in the nation and the largest house size of any state in the Northeast.

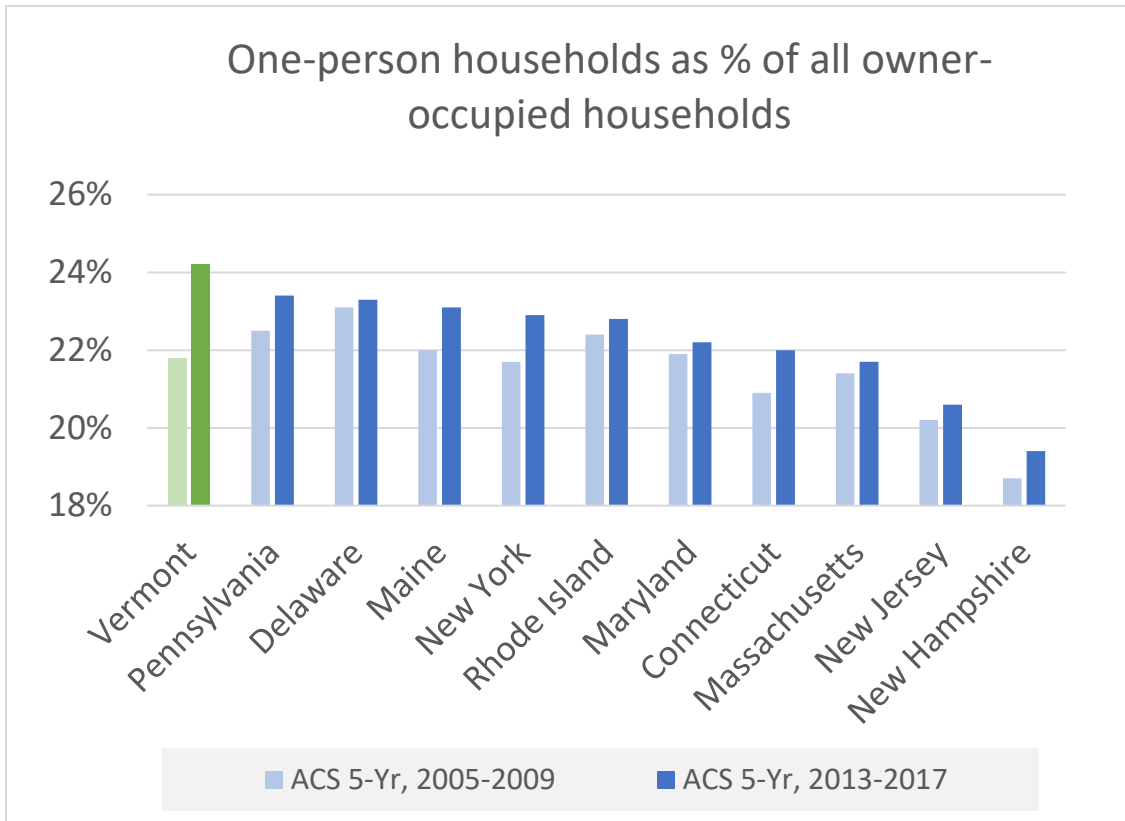


Figure 15. Proportion of one-person owner-occupied households in ten northeastern states. Data from U.S. Census 5-year American Community Survey.

**Seniors are more likely to live alone in Vermont than in neighboring states or the nation as a whole**

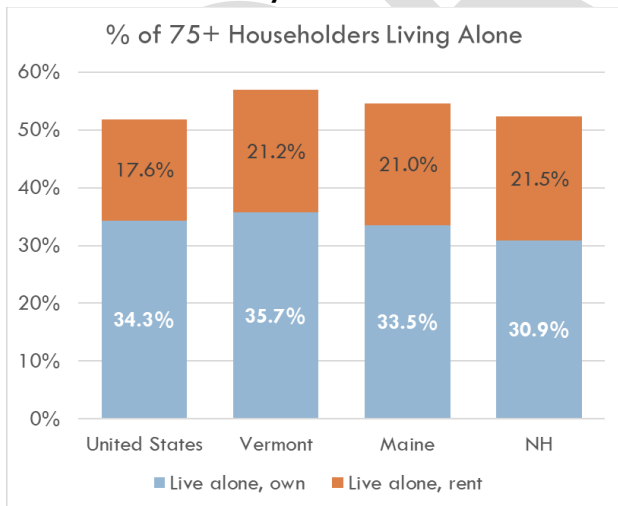


Figure 16. One-person households as a percentage of all households headed by a person 65-74.

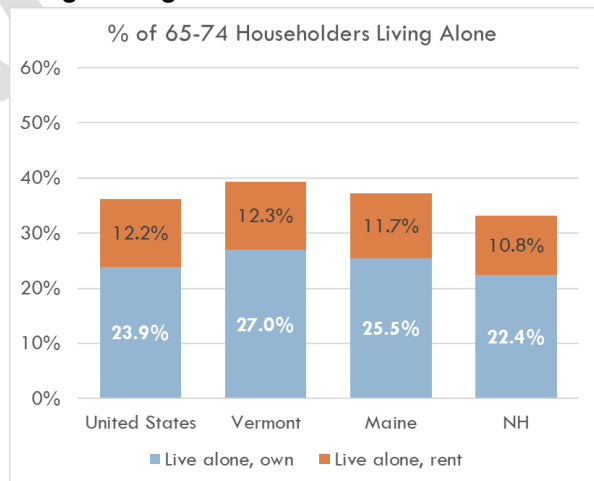


Figure 1. One-person households as a percentage of all households headed by a person 65-74.

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SECTION B: IMPACT OF THE TRENDS ON VERMONT’S REVENUE SYSTEM

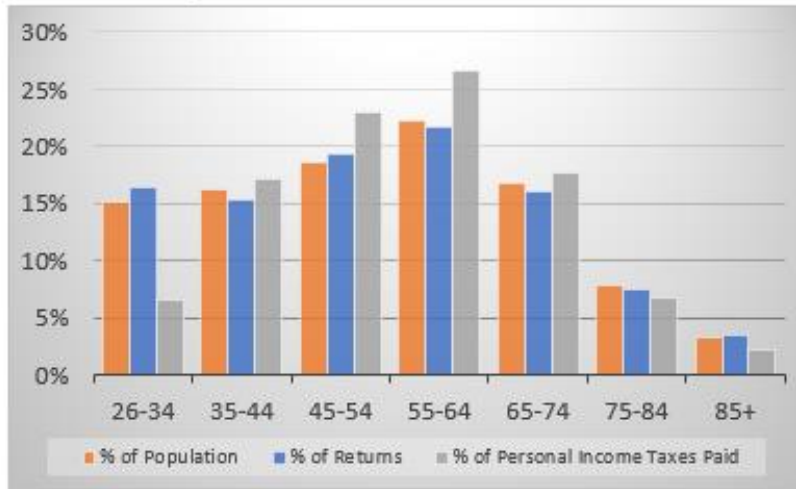
The three trends discussed in the previous section will impact how we earn (and pay income tax), how we spend (and pay consumption taxes), and how we live (and pay property tax).

<b>Impact</b>		<b>Revenue Result</b>
<b>How We Earn</b>	→	Less Personal Income Tax Revenue Per Capita
<b>How We Spend</b>	→	Less Consumption Tax Revenue Per Capita
<b>How We Live</b>	→	Fewer Taxpayers Pay Full Education Property Tax

Population changes interact with how we earn

4. Impact: Less Revenue from Personal Income Tax

Vermonters Age 45-64 Pay the Most Income Tax Relative to Population Size and Number of Returns



Source: 2018 estimated income tax by age group, residents only, using Chainbridge model. Population from U.S. Census estimates.

Figure 2. Proportion of Vermont population, tax returns, and total income taxes paid.

**Impact: Taxable income decreases**

Incomes generally increase throughout a person’s working years, then decrease in retirement. The non-taxable portion of income tends to increase in retirement as well. For these reasons, Vermonters between the ages of 45 and 64 collectively pay the most personal income tax, both overall and relative to their population size. Younger baby boomers (those currently aged 55-64) are the largest age group in the state and account for more than a fifth of tax returns and more than a quarter of all income tax dollars (Figure 18).

**Impact: Higher incomes concentrate in the growing metro area**

The per capita income of the three counties in the Census-defined Burlington-South Burlington Metropolitan Statistical Area (Burlington metro area) is seven percent higher than the per capita income of the state as a whole. This is the region, along with adjacent Lamoille County, that is gaining population. The counties that are losing population tend to have lower incomes.<sup>9</sup>

**Impact: Per capita income up, household income down**

The shrinking size of households underscores the importance of reading income metrics closely. Since 1999, Vermont real per capita income has increased five percent while the state’s median household income has fallen four percent.<sup>10</sup> This divergence between per capita income and median household income is driven by

<sup>9</sup> County population and income U.S. Census decennial census as well as U.S. Census 5-year American Community Survey from 2017 (data from 2013-2017).

<sup>10</sup> Income from U.S. Census decennial census as well as U.S. Census 5-year American Community Survey from 2017 (data from 2013-2017).

two factors. First, smaller households mean fewer earners per household and total income is spread across more households. Second, greater inequality, with greater concentration of income among high-earners, serves to pull up the average more than the median. The first factor can suppress revenue to the extent that tax benefits are given at the household level (as opposed to by filing status or number of dependents), while the second factor produces increased revenue through a higher effective tax rate in a state with a progressive income tax (like Vermont).

### **Revenue Result: Personal income tax revenue will likely decrease**

In announcing its July 2019 cut to Vermont’s bond rating, Fitch Ratings referenced a 2018 report that “working age populations are projected to decline approximately 0.5% between 2017 and 2026. This trend will strain economic growth....with knock-on implications for revenue growth prospects and ratings.”<sup>11</sup>

Several state and national researchers have studied the impact of demographic shifts on income tax revenues and tax expenditures. In 2013, Alison Felix and Kate Watkins with the Federal Reserve Bank of Kansas City estimated Vermont’s per capita income tax revenue would fall four percent from 2011 to 2030.<sup>12</sup> This projection assumed that income composition by age cohort would hold steady over time, while in fact – as the authors acknowledged – seniors have tended to retire later and thus earn more wage income than they did in past decades. Assuming the trend of working later in life continues, and depending on the types of jobs worked and incomes earned, it could alleviate some of the downward pressure on income tax revenue.

Two additional factors could impact income tax revenues.

First, the Bank made its projection prior to Vermont’s creation of a personal income tax exemption for social security beneficiaries below certain income thresholds. Passed in 2018, Vermont’s partial social security exemption was projected to cost \$5 million the first year, a figure that will presumably tick up as more Vermonters draw social security.<sup>13</sup> However, even with the new tax expenditure, Vermont’s income tax exemptions for seniors are modest relative to many other states in the region (Appendix F) and throughout the country.

Second, in-migration dipped below the Census projections used by the study for several years before starting to rebound. To the extent that in-migration tends to be younger than a resident population, lower in-migration would generally result in an even older population and thus likely less taxable income. A 2019 Joint Fiscal Office analysis seems to indicate that this may not be the case with recent migration.<sup>14</sup>

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<sup>11</sup> Fitch Ratings (2018), “U.S. States and the Growth Implications of an Aging Population.”

<sup>12</sup> Felix and Watkins (2013), “The Impact of an Aging U.S. Population on State Tax Revenues.”

<sup>13</sup> Office of Governor Phil Scott (2018), “New Vermont Law Reduces Personal Income Taxes by \$5 Million for Social Security Recipients.”

<sup>14</sup> Campbell and Wexler (2019), “Taxpayer Migration by Age and Income: Evidence from the IRS.”

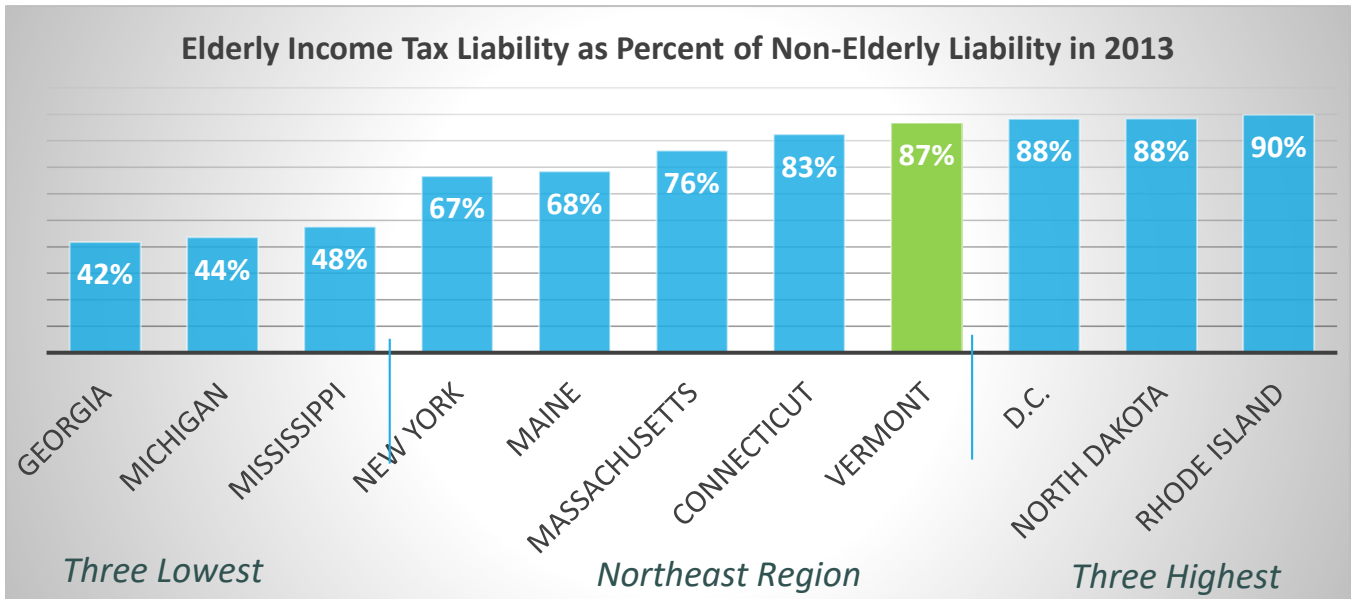


Figure 3. Income tax seniors would pay on the same income as non-seniors, expressed as a % of non-senior tax liability. Data from Brewer et al.

The tax structure interacts with how we earn

5. Impact: More Income Tax Stability than Most States

National Context: It may be little consolation, but several states will see larger revenue drops

The federal government gives tax breaks to seniors and states typically give more, sometimes exempting retirement income that is taxable at the federal level. Vermont’s approach of largely following federal rules for treatment of retirement income is presumably a large reason that Felix and Watkins projected the comparatively modest drop in per capita income tax revenue (Figure 20). States that offer generous exemptions for retirement income projected significantly steeper drops, even though they have a lower proportion of seniors.

According to a 2017 study by Brewer, Conway, and Rork, seniors in 2013 paid as little as 42% of the income tax they would have paid on the same income as a non-senior (in Georgia), or nearly 90% (in Rhode Island). Seniors in six states had less than 50% of the liability of non-seniors, while seniors in ten states (plus the District of Columbia) paid over 80%. At 87%, Vermont was the state with the third highest parity (fourth if counting the District, Figure 19).<sup>15</sup>

Such exemptions are sometimes used by states that are competing for wealthy retiree in-migrants. For example, a study commissioned by the OneGeorgia Rural Policy Center notes: “Georgia appeals to retirees with substantial retirement income due to its generous retirement income exclusion—\$65,000 for singles and \$130,000 for couples. Social security income also is fully exempt.”<sup>16</sup> These states often have higher

<sup>15</sup> Brewer et al. (2017). “Protecting the Vulnerable or Ripe for Reform, State Income Tax Breaks for the Elderly: Then and Now.”

<sup>16</sup> Selig Center for Economic Growth (2013). “Golden Rules: Evaluating Retiree-Based Economic Development in Georgia.”

unemployment rates and count on job creation and consumption tax revenues from incoming seniors with disposable income and a need for services. However, the states also must plan for a larger drop in per capita income tax revenue.

**A 2013 report by the Federal Reserve Bank of Kansas City projected that Vermont’s income tax per capita would fall 4% by 2030. Several less aged states, particularly those with extensive tax breaks for retirement income, projected larger drops.**

Projected Change in Income Tax per Capita, 2011-2030

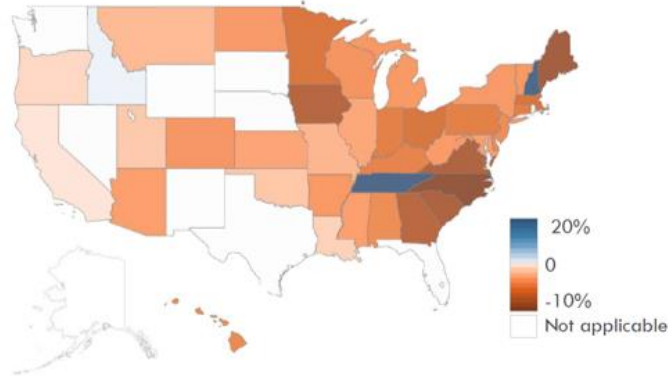


Figure 4. Projected change in per capita income tax by state, 2011-2030. Graph from Mullis, data from Felix and Watkins.

Population changes and the tax structure interact with how we spend

6. Impact: Less Revenue from Consumption Taxes

Less spending on goods (typically taxable), more spending on services (typically non-taxable)

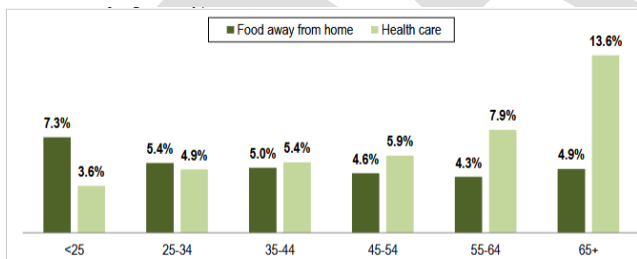
Seniors, especially older seniors, tend to spend less than younger cohorts. In addition, the focus of seniors' spending tends to shift away from taxable goods and toward non-taxable services. Compared to other age groups, seniors spend the largest proportion on health care – which is mostly non-taxable<sup>17</sup> – and spend less than most groups on taxable food away from home (Figure 21).

Taxes are not limited to Vermont residents. Consumption taxes, particularly Meals & Rooms, are also paid by visitors to Vermont. Vermont's Agency of Commerce and Community Development (ACCD) estimates that out-of-state visitors account for roughly 50 percent of meals and over 95 percent of rooms.<sup>18</sup> Therefore, an increase in retirement tourism into Vermont would have the potential to boost tax revenues. However, many factors impact tourism and there is not clear evidence on how demographics impact projections. ACCD did find spending was highest among younger adults with children, an area that is unlikely to grow – at least not as a result of demographic changes.

Revenue Result: Less consumption tax revenue

In 2013, Alison Felix and Kate Watkins with the Federal Reserve Bank of Kansas City estimated Vermont's per capita sales tax revenue would fall one to two percent from 2011 to 2030 (Figure 22).<sup>19</sup>

This projection assumed that expenditures by age cohort would hold steady over time, while in fact – as the authors acknowledged but did not work into calculations – average expenditures by seniors have increased as they have continued to work past retirement age. Assuming the trend of working later in life continues, younger seniors will likely spend at higher levels, thus mitigating some of the projected decrease in revenue.



Source: Consumer Expenditure Survey, 2014; Joint Fiscal Office

Figure 25. Spending by age in two areas: food away from home (taxable) and health care (usually non-taxable). Graph from 2017 Vermont Tax Study.

Projected Change in Sales Tax per Capita, 2011-2030

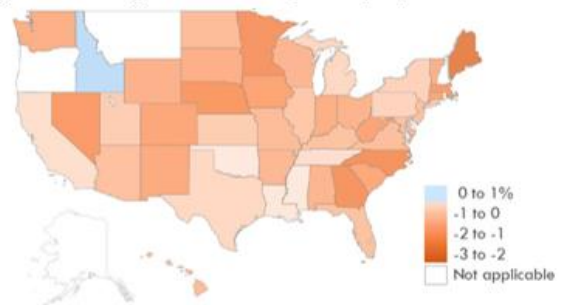


Figure 6. Projected change in per capita sales tax by state, 2011-2030. Graph from Mullis. Data from Felix and Watkins.

<sup>17</sup> Health care is subject to a variety of taxes and fees but, in percentage terms, they account for far less of the purchase price than sales taxes.

<sup>18</sup> Jones (2018). "Tourism Benchmark Study, 2017."

<sup>19</sup> Felix and Watkins (2013), "The Impact of an Aging U.S. Population on State Tax Revenues."



Population changes and the tax structure interact with how we live

7. Impact: More Households Qualifying to Pay Less Net Tax

This paper examines Vermont tax data and determines that the number and size of property tax adjustments (PTA), as currently constructed, are likely to increase significantly due to both the trend of more seniors and the trend of smaller households. Property tax rates could then face upward pressure unless an increase in households drives the grand list to grow faster than education costs. See Chapter 10 for additional discussion.

**Smaller households are more likely to qualify for adjustments and to receive larger adjustments. An increase in the proportion of small households will increase total adjustments.**

Eligibility for property tax adjustments -- and the size of the adjustment -- are determined, in part, on the level of household income and do not take household size or filing status into account. Therefore, Vermont’s previously discussed trend toward smaller households with higher per capita incomes and lower household incomes creates more exposure for the property tax adjustment system.

An analysis of 2018 Vermont tax data shows that small households receive a disproportionate share of PTA. More than four in five (82%) one-person households receive PTA compared to two in three (66%) two-person households and less than three in five (59%) households with more than two members (Figure 23).

In addition, smaller households tend to receive larger adjustments. The average adjustment for a one-person household was \$1,870 in 2018, more than \$400 greater than the average adjustment for a two-person household and nearly \$600 more than for a household with more than two members (Figure 24). As previously demonstrated, one-person owner-occupied households are more prevalent in Vermont than in any other state in the Northeast and continue to grow.

**Four in five (82%) one-person households qualify for adjustments, compared to three in five (59%) households with more than two members.**

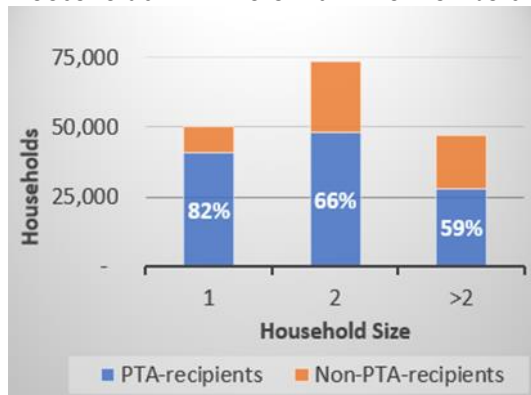


Figure 7. Number of households and share of PTA-recipients by household size. Tax Structure Commission analysis of Vermont Department of Taxes 2018 data.

**The average adjustment for qualifying one-person households is nearly 50% more than adjustments for households with more than two people.**



Figure 24. Average property tax adjustment per household size. Tax Structure Commission analysis of Vermont Department of Taxes 2018 data.

**Trend meets policy: Older Vermonters are 1) more likely to own homesteads, 2) more likely to receive PTA, and 3) more likely to receive large adjustments and pay less net tax**

When evaluating the magnitude of property tax adjustments, the impact of age can be seen by examining three factors: 1) the prevalence of homestead ownership in each age group, 2) the likelihood of each householder to qualify for an adjustment, and 3) the average size of each age group’s adjustment. The data show that the age groups that will be growing most rapidly in the coming years – seniors – have high values on all three factors.

On the first count, the ratio of homesteads to the state’s population peaks for the 60-80 age groups and remains high over 80 years old (Figure 25) – presumably because younger cohorts are less likely to own homes than older cohorts and because older cohorts are more likely to be one-person households.

On the second, every age cohort over the 40-49 group is more likely to receive PTA than the next youngest age group. More than three in four (76%) householders in their 70s qualify, as do 85 percent of householders in their 80s (Figure 26).

Thirdly, while the average recipient household received a \$1,572 adjustment in 2018, there was significant variance across age groups. Each age group received more PTA per recipient than the next younger age group, with recipients in their 30s getting an average adjustment of \$1,123, just over half the \$2,134 adjustment received by the average householder in their 80s (Figure 27).

Viewed through the lens of Vermont’s aging demographics – particularly the oldest cohort nearly doubling by 2030 while the second oldest increases by half (Figure 28) – these three factors point to an increase in the proportion of Vermont homesteaders who receive an adjustment and the total value of the adjustments.

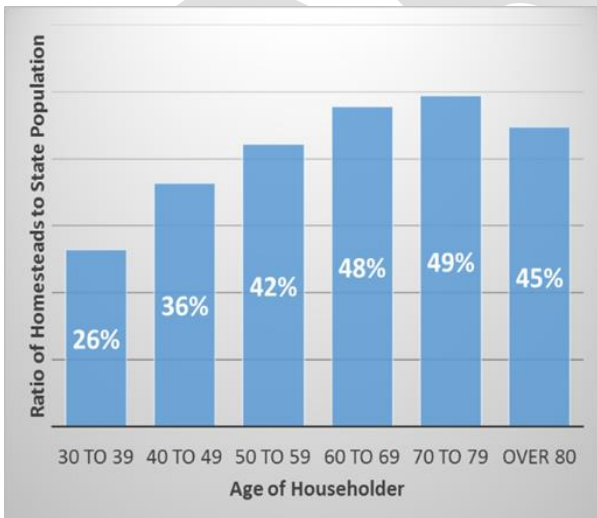


Figure 25. Homesteads per Vermonter in each age group.

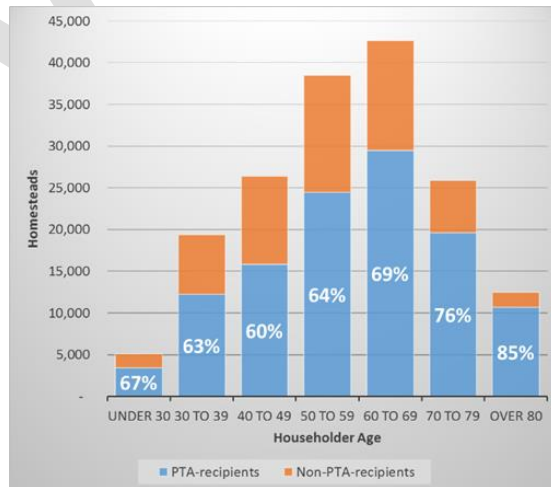


Figure 26. Number of households and proportion receiving PTA by age group.

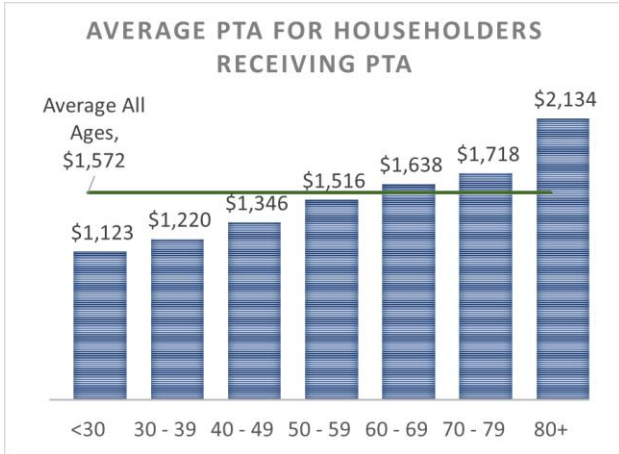


Figure 8. Average PTA for recipient householders.

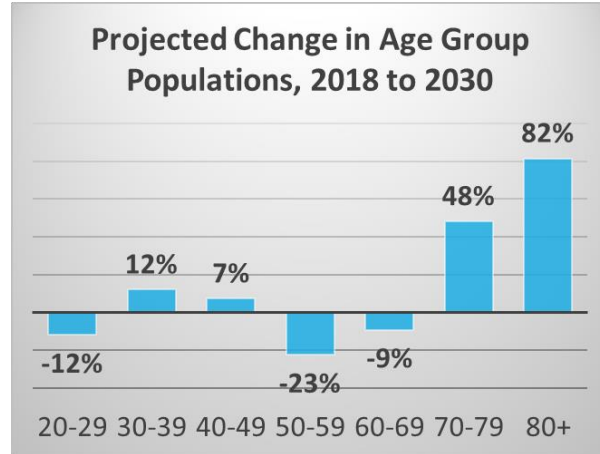


Figure 9. Projected change in Vermont population by age group, per Consensus Administration and Joint Fiscal Office projections.

**Impact on taxes actually paid: Older householders individually pay lower net bills**

An analysis for the future of Vermont’s tax structure is likely more concerned with how much tax is actually paid rather than the size of the adjustments. On this count, householders in their 40s pay the highest average net bill, even though their gross bills are slightly lower than the next three age groups. The average householder in their 70s pays a net bill that is lower than the previous four cohorts, though their gross bill is the highest of any group.

Aggregate revenue depends not just on what individual householders pay but also on how many of them pay. This paper does not make projections on the rate of change in the grand list but does discuss relevant factors in Section C.

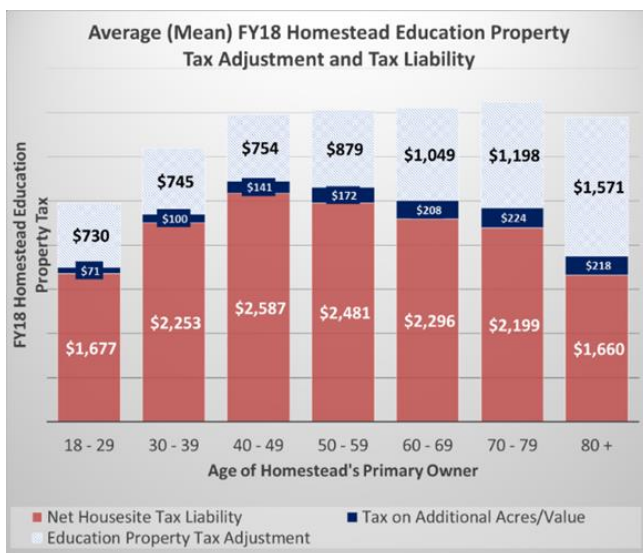


Figure 10. Gross and net education property tax by age group. Joint Fiscal Office analysis of Vermont tax data.

**Regional comparison: Other states can expect more limited increases in property tax adjustments and credits**

Unlike Vermont's income tax structure, which offers more stability in the face of demographic change than most states, Vermont's system of providing property tax adjustments (for both municipal and education property taxes) is more exposed to change than most states. Other northeastern states offer adjustments, credits, and exemptions, but benefit caps are lower and eligibility thresholds are tighter (Appendix F).

Massachusetts, Maine, and Connecticut all offer property tax credits to income-qualifying seniors, but the highest *maximum* benefit – \$1,250 in Connecticut – is lower than the *average* benefit of senior recipients in Vermont (\$1,638 for recipients in their 60s, \$1,718 for those in their 70s, and \$2,134 for those in their 80s). In addition, income thresholds are much lower (e.g. \$43,000 for joint filers in Connecticut compared to over \$130,000 for all filers). Unlike Vermont, all three states also have lower thresholds for single filers, as does New Hampshire, which offers education property tax relief for property owners of all ages up to \$20,000 for singles and \$40,000 for married joint filers.

New York's education property tax relief system may have the highest exposure to demographic change after Vermont. New York's system offers qualifying seniors relief on the first \$68,700 of home value, compared to \$30,000 for younger households. By tying the benefit to a fixed dollar of home value, New York's system compels individuals in lower value homesteads to pay a lower percentage of their gross property tax than their neighbors with higher value homesteads. By contrast, Vermont's system sets the net tax bill for qualifying homesteads based on income, then adjusts the gross bill accordingly, meaning that individuals with moderately high-value homesteads pay a lower percentage of their gross property tax.

## SECTION C: OTHER CONSIDERATIONS

### 8. Trends Can and Do Change

2,500 years ago Heraclitus said that “change is the only constant.” Those words should sound a cautionary note for anyone who evaluates trends and projects their future impact. After all, trends are comprised of recent datapoints compared to past datapoints and are subject to shift in the future. When trends and underlying assumptions shift, the projections can turn out to be inaccurate. Multiple cases illustrate this point.

#### Vermont’s population trajectory shifted in the 1960s and again in the early 2000s.

Few people in 1950s Vermont would have looked back at the state’s lackluster population growth of the previous decades and predicted rapid growth over the following decades, as baby boomers from other parts of the country flocked to the state. Vermont proceeded to add roughly 50,000 people in each of the next four decades.

Based on that late 20<sup>th</sup> century trend, an observer might have projected continued growth. Indeed, in 2006, a U.S. Census report projected that Vermont’s population would grow by nearly ten percent by 2020 (Figure 30). The same report projected that North Dakota and Washington, D.C. would both lose population by 2020. However, as of 2018, Census data show those projections to be considerably off-the-mark. As of 2018, Vermont’s population appears to be virtually unchanged. And rather than shrinking to 630,000, North Dakota actually grew 20 percent to 760,000 while the nation’s capital actually grew 27 percent to 702,000.

In the case of the Census, projections based on past data could not foresee the impact of an urban revival on Washington, DC or on a rural state like Vermont, nor could it anticipate an oil boom in North Dakota.

In 2013, Vermont’s Agency of Commerce and Community Development produced two scenarios of population projections. The first (Scenario A) projected the state’s population through 2030 based on a recurrence of patterns from the 1990s. The second (Scenario B) replicated the much slower 2000s. As seen in Figure 31, Scenario B currently looks far more accurate, though even it underestimated the internal shift toward some of the metro counties.

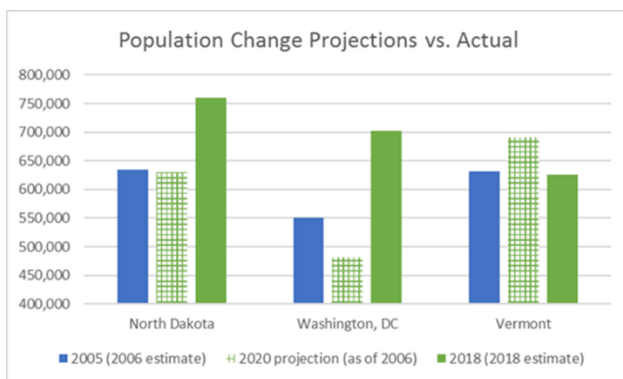


Figure 11. U.S. Census projections from 2006 vs. actuals.

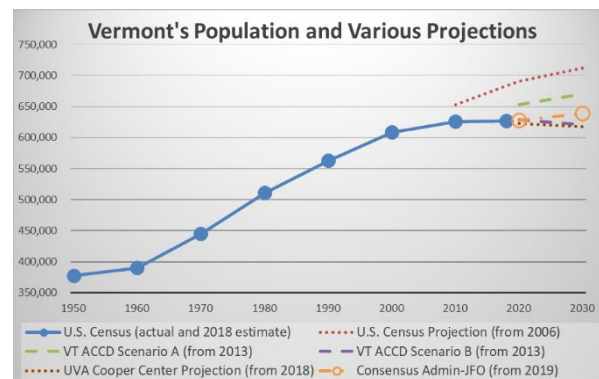


Figure 31. Vermont’s population and various projections.

**The balancing act: monitoring for changes in trends but not jumping to premature conclusions**

Just as past trends shifted unexpectedly in the last century, current trends and projections are almost certain to miss demographic disruptions that will be driven by social, economic, and environmental phenomena.

Climate-induced migration is one area that is increasingly drawing attention, observation, and anticipation. In some ways Vermont seems relatively well-positioned to attract migrants from coastal areas. After all, property values are expensive compared to the national average but affordable relative to coastal cities like Boston and New York. And, while scientists certainly expect Vermont to be impacted by climate change, the state projects to remain more habitable than many regions. On the other hand, the state's tight housing market could certainly be a constraint on attracting and retaining a significant number of in-migrants on short notice.

Importantly, while it is prudent for policymakers to plan for the possibility of such shifts, it would be irresponsibly speculative to count on changes happening within a certain timeframe or to a particular magnitude. Projections can be a useful tool for long-term planning, but only if the underlying assumptions are well understood and data are continually monitored to detect new trends.

In short, all demographic projections carry significant uncertainty that should be considered and tracked but not viewed as being set in stone. Existing and emerging trends should certainly be tracked, analyzed, and – when appropriate – addressed.

## 9. Some Trends Are Less Likely to Change than Others

As the Chapter 8 demonstrates, population projections should be used to understand what is likely to happen if current trends continue. But what if trends change? For this reason, it's useful to pause and assess the likelihood of the three trends continuing over the next one to two decades.

### **Trend #1: More Seniors, Fewer Children and Fewer Working-age Adults**

Confidence in Trend: High

Fertility and mortality rates seem unlikely to take a dramatic turn. Immigration and domestic migration are thus the wildcards, dependent on federal policy, the availability of jobs, incomes relative to cost of living, and the disruption caused by global phenomena such as war, famine, and climate change.

Such factors could certainly blunt or accentuate this trend by increasing or decreasing the number of working-age adults and children. Given the large proportion of baby boomers in the state that will reach retirement age in the next decade, however, this trend is very unlikely to hit an actual turning point anytime soon.

### **Trend #2: More Metropolitan, Less Rural**

Confidence in Trend: Moderate to High

Recent centuries have been marked by people moving from rural areas to metro areas, but there have been periodic countertrends over time – including in Vermont in the late 20<sup>th</sup> century. This century's job growth has overwhelmingly taken place in cities, but the fact that Gallup reports so many Americans want to live in rural areas (Appendix C) indicates that another countertrend isn't out of the question. There are very real reasons that this decade's job creation has been concentrated in metro areas but, as with Trend #1, it's at least within the realm of possibility that a national or global event could change migration patterns.

### **Trend #3: More Households with Fewer People**

Confidence in Trend: Moderate

Household size isn't so much a single trend as it is a weighted average of various types of households. For decades, single-person households became increasingly popular while married-with-children families decreased. Those trends, combined with fewer children in households that did have children, resulted in a steady decrease in household size. However, an additional type of household – the non-family household – has also been on the rise. Multigenerational households, homesharing, and immigration all feed into these non-family households which could be fostering a countertrend at the national level. In fact, Census data showed an uptick in American family size for the first time in well over a century.<sup>20</sup>

To be clear, Census data on Vermont does not show a corresponding uptick. To the contrary, the increase in single-person households has driven a continued decrease in household size, leaving Vermont with the second smallest average household in the nation. But the fact that the trend is slowing or turning at the national level at least opens the possibility of Vermont following suit. Also, if the housing market remains tight and if it's true that younger generations will not be as wealthy as their predecessors (and, to date, studies have shown

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<sup>20</sup> Fry (2019). "The number of people in the average U.S. household is going up for the first time in over 160 years."

millennials have lower earnings and less wealth than prior generations had at the same age<sup>21</sup>), then it's possible fewer people will be able to afford to live alone.

DRAFT

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<sup>21</sup> Kurz (2018). "Are Millennials Different?"



## 10. Housing - A Population Constraint or Impending Boom?

Reports of population stagnation can conjure up images of ghost towns full of vacant buildings and properties being sold for pennies on the dollar. In Vermont, nothing could be further from the truth. Furthermore, the issue is far more than a curious phenomenon; it can impact the state’s revenue system in terms of both the size of the education property tax’s grand list and the state’s capacity to add population. This section offers an overview of housing availability, affordability, and construction metrics, as well as how these factors interact with the three trends discussed in Section A.

### Housing Availability: Decreasing in the U.S., Lower in the Northeast, Even Lower in Vermont

The U.S. rental vacancy rate fell to 6.9% in 2018, tied with 2016 for its lowest level in over 30 years. The rate had hovered around 10% for most of the 2000s, climbing as high 10.6% in 2009 before declining in the aftermath of the housing bubble’s burst and Great Recession.

Rental vacancies in northeastern states have consistently stayed below the national average and Vermont has typically been even lower (Figure 32). Vermont and New York are the only two states in the country that haven’t had a 7% vacancy rate this century, with New York’s rate fluctuating between 4.9% and 6.8% while Vermont’s rate fluctuated between 3.5% and 6.1% from 2000 to 2018. Of note, the northern New England states do not stand together on this metric. Vermont clearly has the Northeast’s lowest vacancy rate over the last two decades, while Maine and New Hampshire more closely resemble the rest of the region (Figure 33).

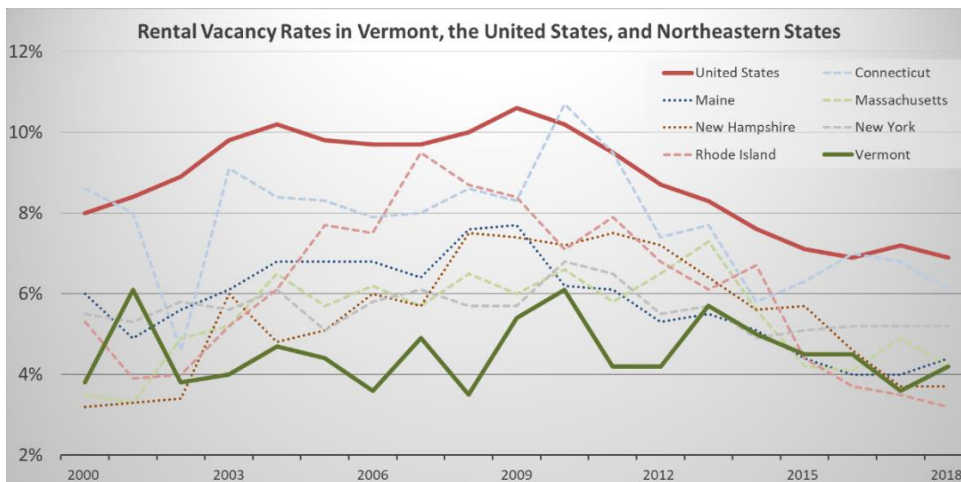


Figure 12. Rental Vacancy Rates by State, 2000-2018. Data from U.S. Census.

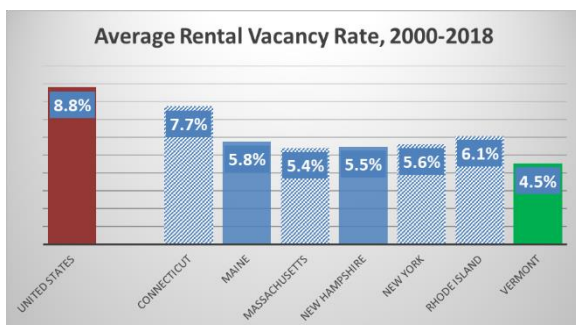


Figure 33. Average rental vacancy rate, 2000-2018 (sum of annual rates / 19). Data from U.S. Census.

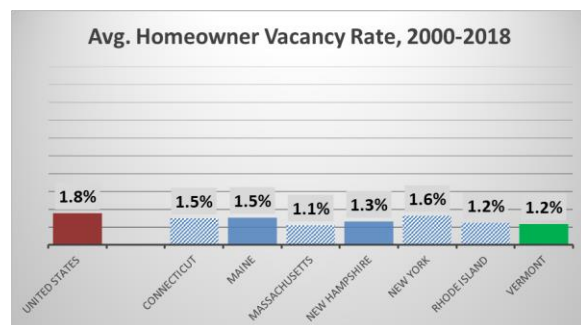


Figure 34. Average homeowner vacancy rate, 2000-2018. Data from U.S. Census.

Homeowner vacancies rates tend to be much lower than rentals, though the national rate has similarly fallen in recent years. Vermont’s average rate since 2000 has been 1.2%, or 50% lower than the national and among the lowest in the Northeast (Figure 34).

**Affordability: Housing makes Vermont Costly**

It’s no surprise that when supply is short, prices are expensive. In fact, when people talk about Vermont being expensive, there’s a good chance they’re talking about housing, not goods and services. Based on data from the U.S. Bureau of Economic Analysis, goods in Vermont cost slightly less than the national average, which is about the same as Maine and Rhode Island and less than the other four states in the region (Figure 35). Services in Vermont also cost about the same as services in Maine and Rhode Island, which is slightly more than the national average and less than other states in the region (Figure 36).

**The cost of goods and services in Vermont is about the same as the national average, rivaling Maine and Rhode Island for the lowest cost in the northeast.**

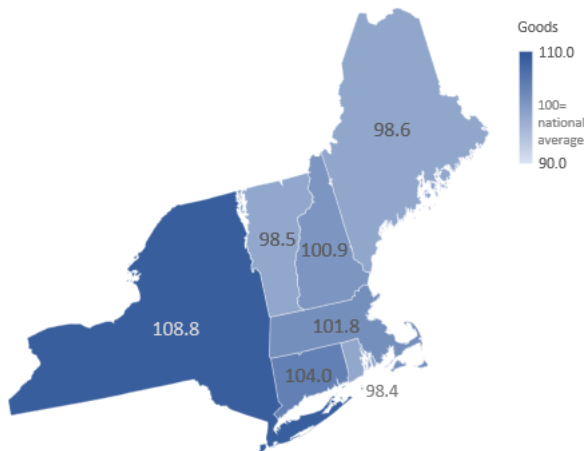


Figure 14. Relative cost of goods (100= national average). Data from U.S. Bureau of Economic Analysis.

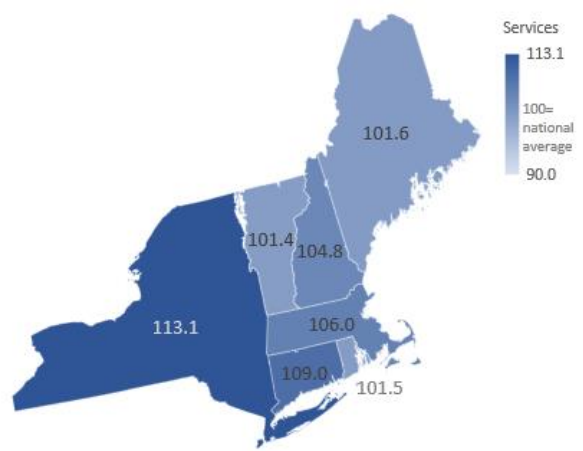


Figure 15. Relative cost of services (100= national average). Data from U.S. Bureau of Economic Analysis.

**However, rents in Vermont cost substantially more (16%) than the national average, far more than Maine and Rhode Island, more than Connecticut, and close to New Hampshire.**

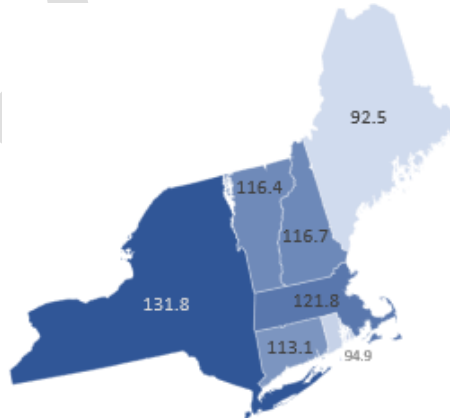


Figure 13. Relative cost of rent (including owner-equivalent rents) by state (100= national average). Data from U.S. Bureau of Economic Analysis.

Housing is another story, however, with rents and owner-equivalent rents far higher than the national average, while Maine and Rhode Island are lower (Figure 37). Judging from the definition of cost-burdened families as those who pay more than 30 percent of their income for housing, a higher proportion of Vermont owners and renters are cost-burdened than other Northern New England states or the nation at large (Figures 38,39).

**The U.S. Department of Housing and Urban Development defines cost-burdened families as those “who pay more than 30 percent of their income for housing.”**

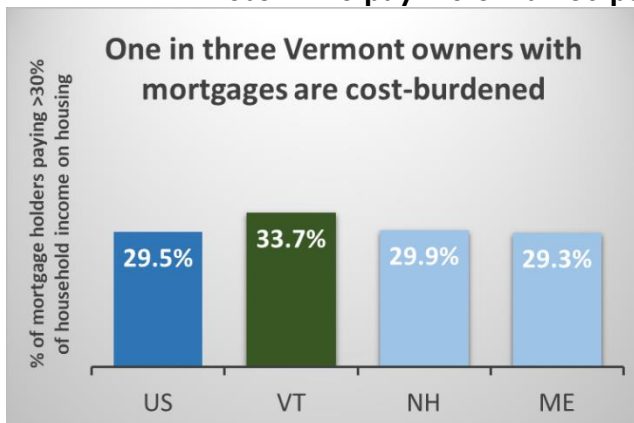


Figure 17. Data from U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Selected Monthly Owner Costs as Percentage of Household Income (SMOCAPI). This metric is the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condo fees.

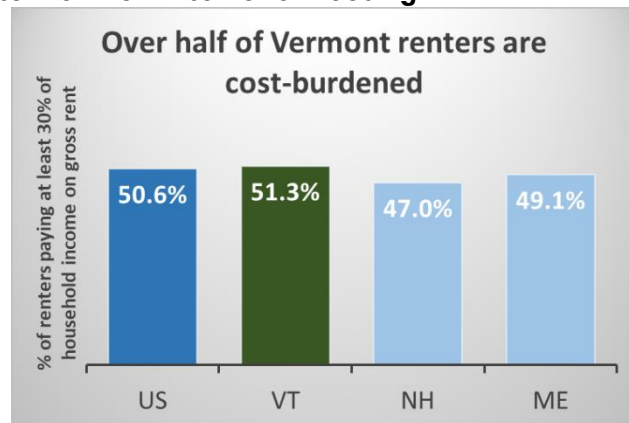


Figure 18. Data from U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Gross Rent as Percentage of Household Income (GRAPI).

**Construction Rates: Low in Northern New England, Even Lower in Vermont**

Students of Economics 101 might assume that high demand and high prices combined with a perennially tight housing market would prompt the “invisible hand” to supply more housing in Vermont. Reality is not as simple, however. In fact, a smaller percentage of Vermont’s housing stock has been built since 2000 than nationally

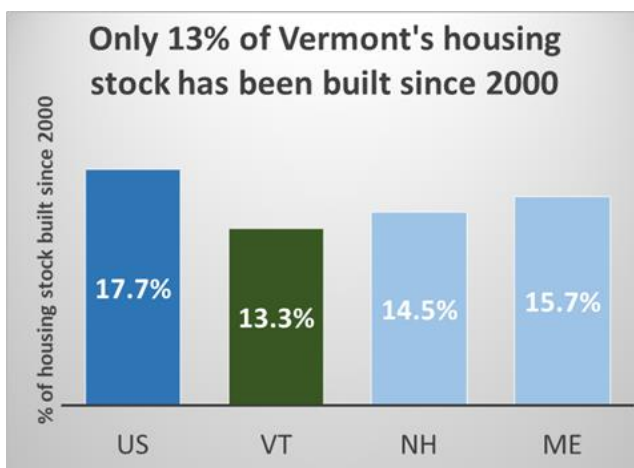


Figure 40. Relative cost of goods by state (100= national average). Data from U.S. Bureau of Economic Analysis.

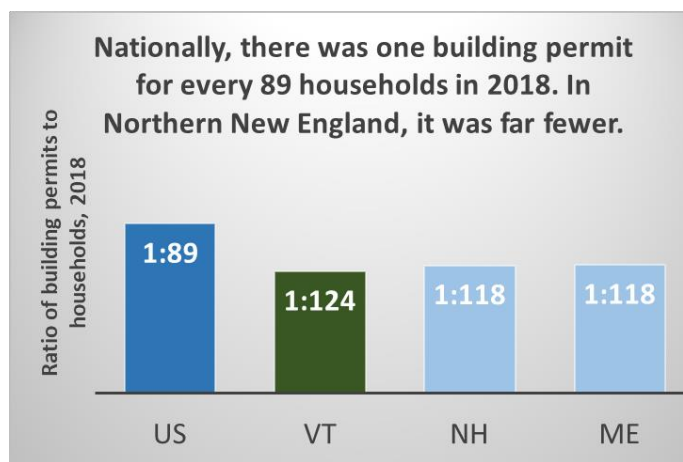


Figure 16. Relative cost of services by state (100= national average). Data from U.S. Bureau of Economic Analysis.

and in Vermont's northern New England neighbors (Figure 40), and the ratio of building permits to households is also lower in Vermont (Figure 41).

**Summing All the Parts: Are We on Track for a Housing Boom or is Housing a Population Constraint? And What Does It Mean for State Revenue?**

What do you get when you combine the trends of “More Households with Fewer People” and “More Metropolitan, Less Rural” with a tight housing market (i.e., extremely low vacancy rates), unaffordable housing options (i.e. costs higher than national averages and high cost-to-income ratios), and a lackluster construction climate (i.e., meager building permits)?

Could the collision cause one of the components to give way? Could A) the high demand overcome such obstacles as zoning restrictions and construction labor shortages to spark a housing boom, B) one or both of the trends bump up against the limits and reverse course, or C) the trends and housing climate all hold, leading the state to lose residents and prospective residents who can't afford housing?

If Scenario A (housing boom) plays out, the increased housing units could absorb the growing number of single-person households and metro area in-migrants, thus allowing Vermont to maintain or increase its population. In this scenario, the impact of the increase in property tax adjustments could be mitigated as average net payments decrease but more households make those smaller payments.

For Scenario B (trend reversal) to come to pass, the state would either benefit from a revival of rural areas and/or see an increase in nontraditional households, such as multigenerational households and home sharing. In this scenario, property tax adjustment growth would be tempered due to the growth in household income from increased household sizes.

Alternatively, Scenario C (population constraint) could ensue if the trends continue but housing starts remain tepid. In this scenario, the increase in property tax adjustments per taxpayer due to aging and smaller households would result in lower net revenue, putting pressure on tax rates and non-homestead sources of revenue for the Education Fund. In addition, the lack of housing available to working age families could exacerbate labor shortages and put additional downward pressure on revenue from income and consumption taxes.

Which factor(s) hits a turning point, and which scenario plays out, will impact Vermont's future population structure and state revenue.

## 11. Transitions Present Short, Medium and Long-term Challenges

The U.S. Census has produced a set of materials called “From Pyramid to Pillar” that provides a visualization of how the national age structure is changing (Figure 42).<sup>22</sup>

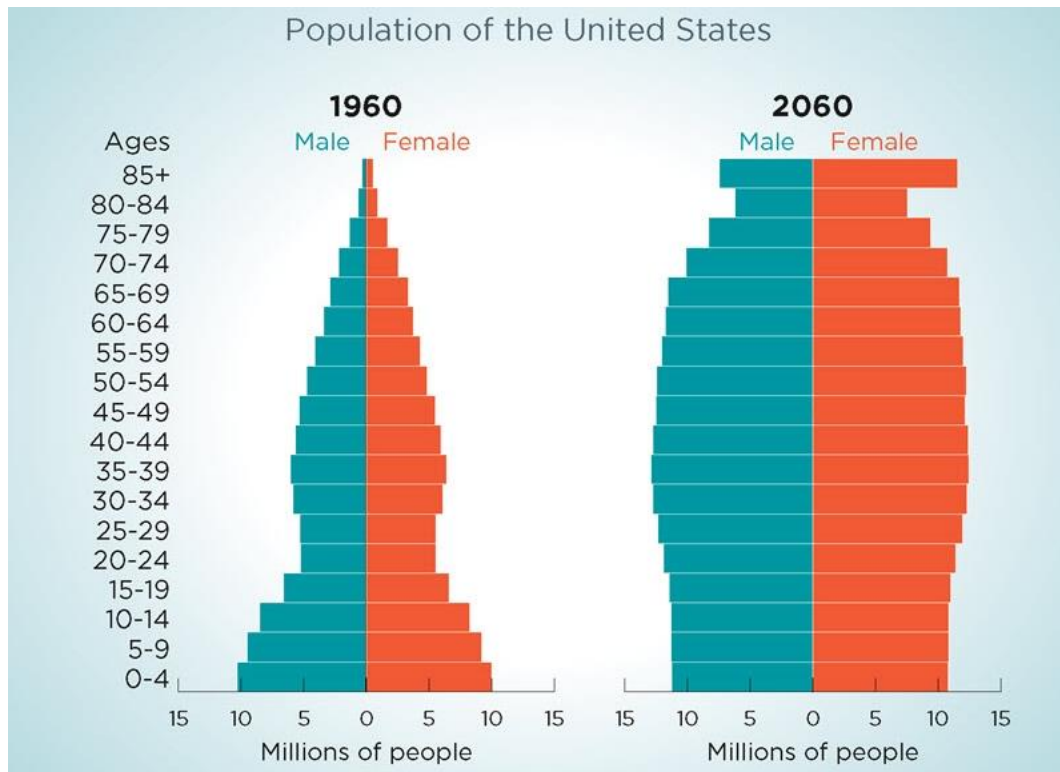


Figure 19. U.S. age structure, 1960 actual and 2060 projected. Graph from U.S. Census Bureau National Population Projections 2017.

A similar visual can be created at the state level using data from the decennial Census as well as state projections.

### How did we get here?

Ninety years ago, Vermont’s age structure looked like the traditional “population pyramid.” More than one in three (37%) Vermonters were under 20 years old, each of the subsequent age cohorts gradually decreased in size, and less than nine percent were 65 or older (Figure 43).

<sup>22</sup> U.S. Census Bureau, “From Pyramid to Pillar.” An excellent three-minute video is available at <https://www.census.gov/programs-surveys/popproj.html>

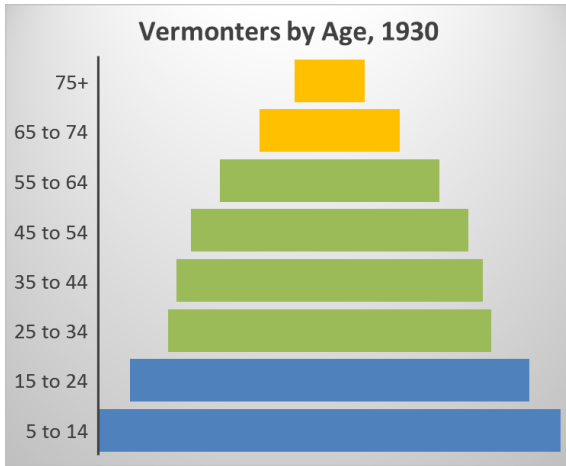


Figure 43. Vermont age structure in 1930 (not including 0-4 year-olds). Seniors 65+ in gold, youth <25 in blue. Data from 1930 Census.

A drop in births during the Great Depression and World War II was followed by a post-war baby boom, which combined with a drop in childhood mortality to disrupt the pyramid (Figure 44).

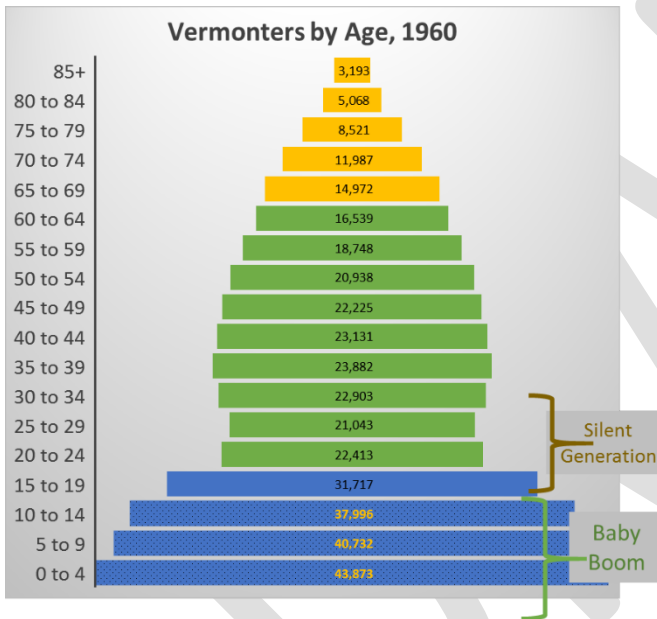


Figure 20. Vermont age structure in 1960. Seniors 65+ in gold, youth <20 in blue. Baby boomers in dots. Data from 1960 Census.

Falling mortality rates then led to longer lifespans. For example, a child born in the U.S. in 1930 could expect to live until 63, while a child born in 1975 could expect to live to 73, and a child born in 2010 could expect to live to 79.<sup>23</sup> These longer lifespans serve to broaden the top of the age structure (Figure 45).

At the same time, falling birth rates served to shrink the age structure’s base. U.S. fertility rates fell by nearly 50 percent from the mid-1950s to the mid-1970s and have stayed low for the last forty years. By mid-21st century, Vermont’s population structure will likely resemble a pillar. But first it must manage the transition of

<sup>23</sup> Jacobs (2016), “Soaring Numbers of Elderly Reshaping U.S. Economy.”

its largest cohort from the workforce to retirement (Figure 46).<sup>24</sup>

**Net In-migration Boosted VT Baby Boomers Nearly 20% in 50 Years**

Age Cohort	In VT in 1960	In VT in 2010
Born ~early 1950s (5-9 in 1960 Census, 55-59 in 2010)	40,732	<b>48,739</b>
Born ~late 1950s (0-4 in 1960 Census, 50-54 in 2010)	43,873	<b>52,493</b>

Table 3. Growth over time in Vermont residents born in the 1950s.

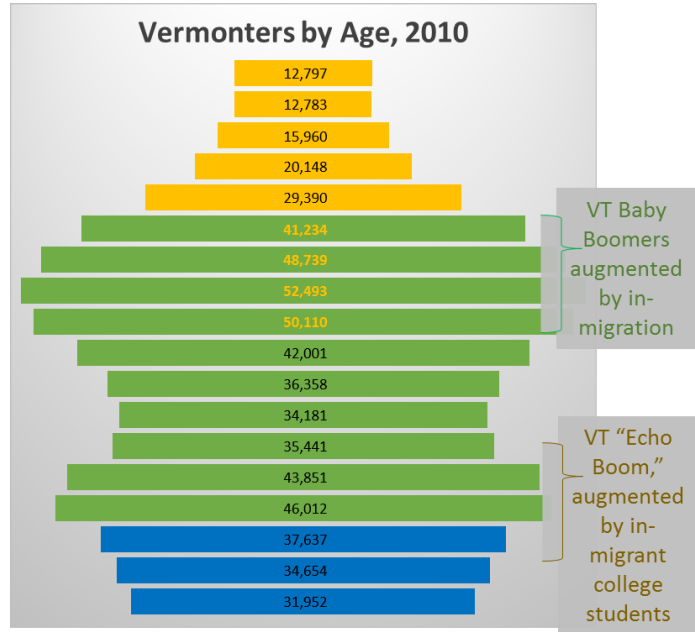


Figure 22. Vermont age structure in 2010. Seniors 65+ in gold, youth <20 in blue. Baby boomers in dots. Data from 2010 Census.

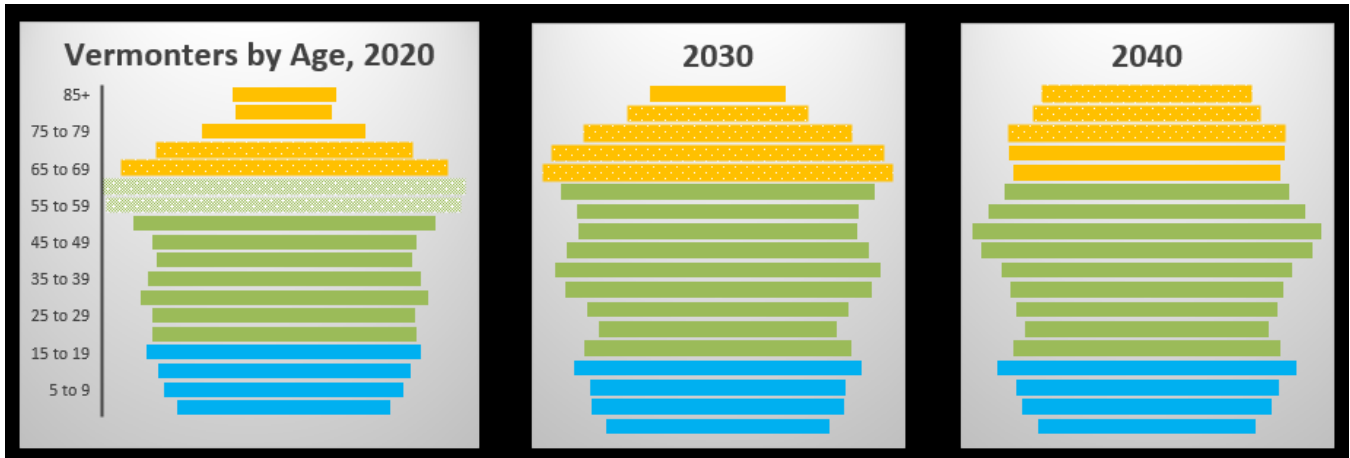


Figure 21. Projected Vermont age structure for 2020, 2030, 2040. Seniors 65+ in gold, youth <20 in blue. Baby boomers in dots. Data from UVA Cooper Center.

<sup>24</sup> Jacobs (2016).

## 12. In-migration Is Critical on Many Levels

States with low birth rates (like Vermont) must rely on domestic and international migrants in order to maintain or grow their population and achieve generational balance. The importance of domestic migration to Vermont can be seen by contrasting the migration patterns of baby boomers to millennials, while the importance of immigrants can be seen by contrasting Vermont to other states and immigrants to native-born residents.

### Domestic migration in Vermont

Domestically, a massive influx of baby boomers fueled Vermont’s growth in the late 20<sup>th</sup> century, but subsequent generations have reversed course and moved to cities.

To understand the impact of the baby boom in Vermont, this paper started by reviewing the 1960 Census. It turns out that children born in the 1950s weren’t overrepresented in Vermont in 1960. In fact, 1950s children made up virtually identical proportions of the U.S. and Vermont populations, just under 22% (Figure 47).

Over the coming decades, however, loads of 1950s-born in-migrants moved to Vermont. By the time they were 30-somethings in 1990, their ranks had swelled by 17%, from less than 85,000 to nearly 100,000. Nationally, immigration boosted the ranks of the age group by a more modest 7%.

By comparison, children born in the 1980s are nearly the same age now as 1950s children were in 1990. So, how did their growth rate compare? Nationally, immigration picked up, giving the United States 22% more 1980s-born adults than the nation had in 1990. Yet in Vermont an exodus left that state with 12% fewer members of the cohort (Figure 48). Such outmigration has a ripple effect both in terms of workers entering their peak working years as well as for parents of the next generation of children.

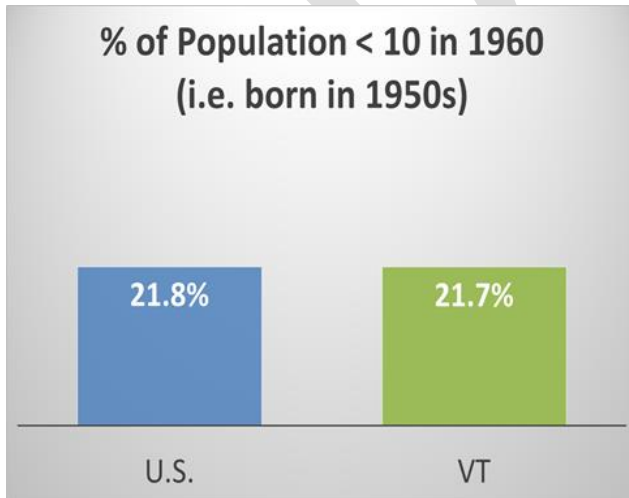


Figure 23. Proportion of U.S. and Vermont residents born in the 1950s as of 1960. Data from U.S. Census.

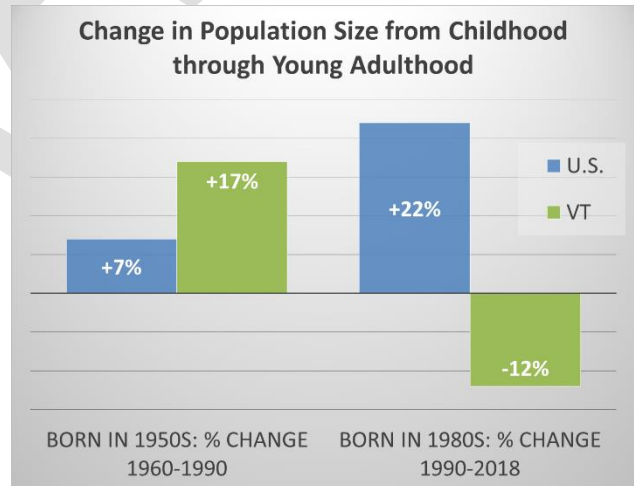


Figure 24. Boomer vs. millennial migration. Change in population from childhood through young adulthood. Data from U.S. Census – 1960 and 1990 decennial census and 2018 American Community Survey.



**Immigration**

Nationally immigrants provide a counterbalance to generational ebbs and flows. For example, while native born Americans have a large population of baby boomers and a significantly smaller population of Generation Xers, the latter generation is bolstered by the largest cohort of immigrants (Figure 49). In addition, immigrants tend to have higher birth rates than native born Americans, which provides a further counterbalance to aging generations. Without immigrants, the U.S. population would have a larger drop-off from baby boomers to Generation X – much like Vermont’s variance.

Recent immigration has come from the south (Latin America) and west (Asia) into the American South and West (Figure 50). The declining share received by the Northeast has concentrated in urban areas, leaving rural northern New England with less than half the proportion of immigrants as the U.S. overall (Figure 52).

Nonetheless a July 2019 analysis from the Federal Reserve Bank of Boston illustrates the growing importance of immigration to northern New England. The study shows the three states added nearly 60,000 immigrants from 1990 to 2017, a growth rate of 63 percent, while the region’s native-born population increased by less than 12 percent. Notably, the Bank’s analysis also showed that immigration was particularly impactful in relatively slow-growing communities with small populations of youth, that the quintile of towns with the lowest native-born growth rates had their population losses (11.5%) offset by immigration, and that the quintile with the second lowest growth rate attracted the largest share by far.<sup>25</sup>

In other words, immigration is bolstering the population in some of the areas that need it most and could play an increasingly important role in the future. The changing nature of federal immigration policy shrouds any forecasts in uncertainty however.

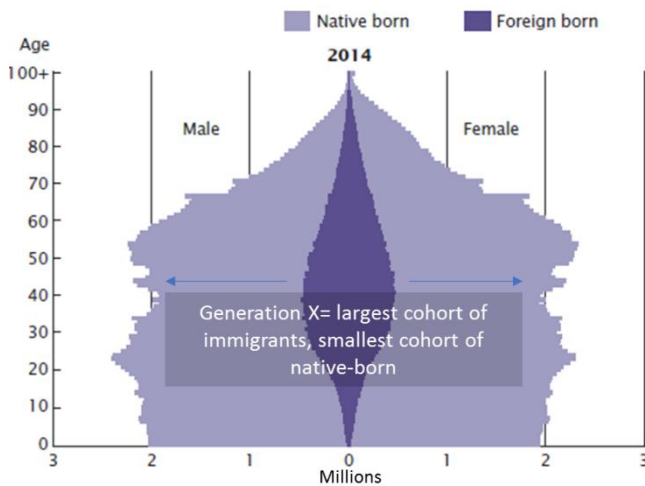
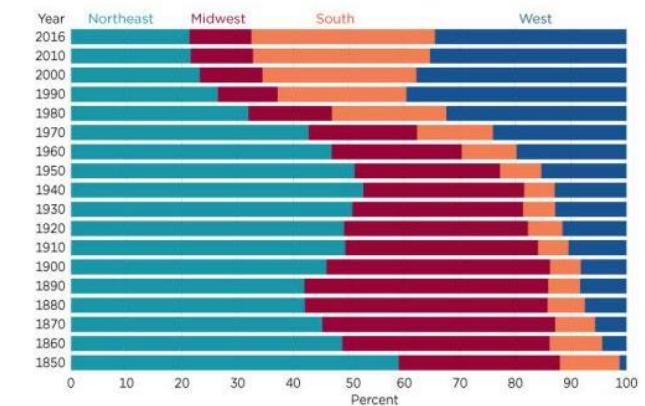


Figure 25. Age and sex structure of U.S. population. Graph from U.S. Census. Overlaid arrows/comments added by Tax Structure Commission. Note that children of immigrants are not shown distinct from other native-born residents.



Source: U.S. Census Bureau, Census of Population, 1850-2000; 2010 and 2016 American Community Survey, 1-year estimates.

Figure 26. Share of foreign-born population by region, 1850-2016. Graph from U.S. Census.

<sup>25</sup> Sullivan, Riley (2019). “Aging and Declining Populations in Northern New England: Is There a Role for Immigration?”

**Vermont is one of the slowest growing states in the nation despite having relatively neutral net domestic migration. Low birth rates and low international migration, which often go hand-in-hand as immigrants tend to have higher birth rates, keep Vermont’s overall growth rate lower than states with far more out-migrants.**

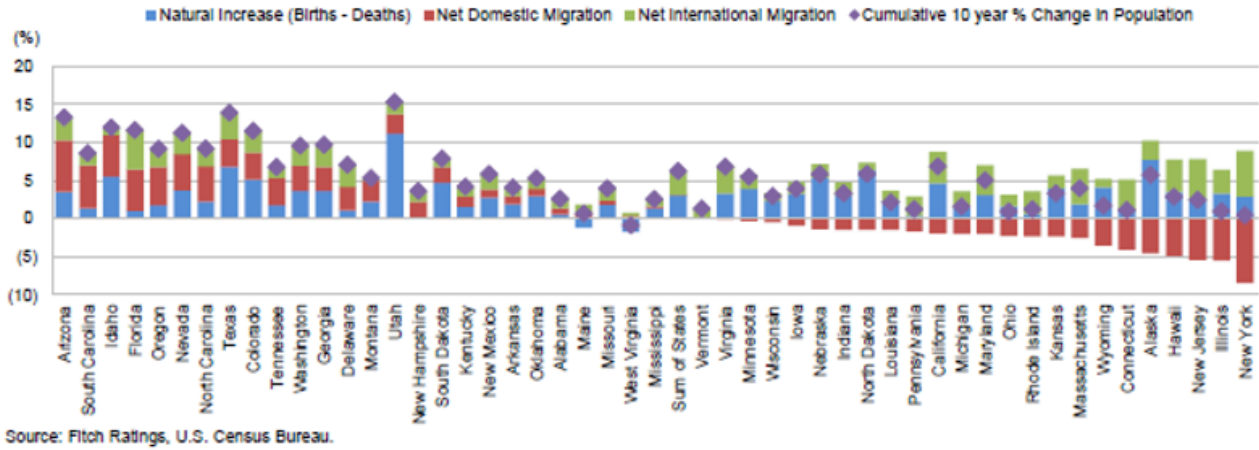


Figure 51. Cumulative projected change in population: 2017-2026. Data from U.S. Census, graph from Fitch Ratings.

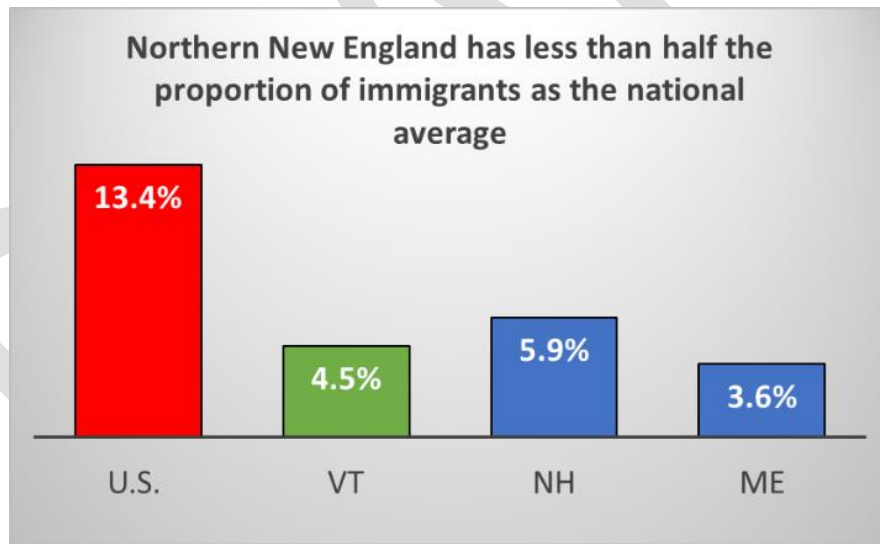


Figure 52. Foreign-born persons as proportion of overall population, 2013-2017. Data from U.S. Census American Community Survey 5-Year Estimates.

## FINDINGS

The Commission views the following findings as one set of building blocks that will contribute to future deliberations and, ultimately, recommendations for the future of Vermont's tax structure. The Commission hopes the findings will also be useful to state agencies and community organizations as they engage in planning efforts to anticipate future population changes and necessary adjustments to the ways they serve Vermonters.

**1) The baby boom generation is disproportionately large in Vermont. As baby boomers age, Vermont is gaining more seniors while losing working age adults and children.**

- The baby boomers' share of total population is nearly a quarter larger in Vermont than the nation as a whole (in 2018, 25.3% of Vermont vs. 20.8% of the U.S. were baby boomers, age 55-72).
- New Hampshire and Maine have similar age distributions to Vermont. As a result, the three states project to be the oldest in the nation by 2030 when all baby boomers are over 65.

**2) Vermonters are shifting toward its one metropolitan area and away from rural areas.**

- Since 2000, three counties around Burlington have grown by more than eight percent, while the other 11 counties have either lost population or are virtually unchanged. Since 2010, the trend has accelerated.
- Throughout the nation, rural areas have lost population this decade as younger generations in particular move to metropolitan areas. Vermont and Maine are the two most rural states in the nation.

**3) More households with fewer people results in household growth without population growth.**

- The proportion of one-person households has grown five times as fast in Vermont over the last several years as in the nation as a whole.
- Only North Dakota now has fewer people per household.

**4) Vermont can expect less revenue from personal income tax.**

- Vermont has benefited in recent years from substantial income tax receipts from the large cohort of baby boomers progressing through their peak earning years.
- Younger baby boomers (age 55-64 in 2018) currently account for more than a fifth of tax returns and more than a quarter of personal income tax dollars. As the state's most populous age cohort retires over the coming decade, their decreasing incomes will no longer contribute as disproportionately high of a share of income tax revenue.

**5) Relative to other states, Vermont's tax structure provides more income tax revenue stability.**

- Due to varying state tax breaks, seniors tend to pay less state income tax than non-seniors pay at similar income levels – in several cases, less than half as much.
- Vermont is one of the top three states for senior/non-senior parity and, as such, is positioned to avoid the larger revenue drop-offs faced by states that treat retirement income dramatically different than the federal government. The state's new partial social security exemption, passed in 2018, can be expected to widen Vermont's senior-to-non-senior ratio, but not to a major degree.

**6) Vermont can expect less revenue from consumption taxes.**

- Compared to other age groups, seniors tend to spend less overall and focus what they do spend on mostly non-taxable services, such as health care, rather than the taxable goods favored by younger cohorts.
- This drop could be partially mitigated due to seniors tending to work and spend later in life, and because baby boomers as a whole are wealthier than other generations and thus have more resources to spend on taxable, as well as non-taxable, goods and services.

**7) Fewer taxpayers will pay education property tax based on their property value, as more will qualify to pay based on income with property tax adjustments making up the difference.**

- Because the property tax adjustment eligibility thresholds do not adjust by household size or filing status, the benefits of Vermont’s adjustment system tend to accrue to owner-occupied single-person households and seniors – cohorts that are growing. For example, the average octogenarian homeowner has a gross education property tax of \$3,449 but pays \$1,878, while the average 30-something has a gross tax of \$3,097 and pays \$2,353.
- Unlike Vermont’s income tax structure, which offers more stability in the face of demographic change than most states, Vermont’s system of providing property tax adjustments (for both municipal and education property taxes) is more exposed to change than most states. Other northeastern states offer adjustments, credits, and exemptions, but benefit caps are lower and eligibility thresholds are tighter.

**8) Trends Can and Do Change**

- The track record of past population projections serve as a reminder to not see trends as being set in stone.
- Existing and emerging trends should be tracked, analyzed, and – when appropriate – addressed.

**9) Of the trends outlined in this paper, “More Seniors” seems the least likely to reverse course in the coming decade.**

- The trend of “More Metropolitan” seems unlikely to reverse course in a major way, but some rural areas have seen periodic countertrends over time and another is certainly conceivable.
- The trend of “More Households with Fewer People” is the most susceptible of the three in that it has recently shifted nationally, though not in the northeast, and there are social and economic pressures that could make shared housing preferable to living alone for some people.

**10) The relationship of housing availability and affordability to demographic trends merits further analysis and monitoring.**

- Vermont’s lack of affordable and available housing is a constraint that could trigger a turning point in one of the other trends.
- Alternatively, an increase in the housing stock and grand list could help alleviate pressures of increased property tax adjustments and lower net property tax payments.

**11) The population structure in Vermont – like the nation and much of the world – is undergoing a century-long transformation with a series of stages.**

- By mid-century, Vermont's population structure will likely resemble a pillar with age cohorts that are similar in size.
- First, the state must manage the transition of its largest cohort from the workforce through retirement.

**12) In-migration, both domestic and international, is crucial for maintaining population stability, achieving generational balance, and addressing workforce shortages... which will then benefit the State's revenue system.**

- Domestic in-migration of baby boomers fueled Vermont's late 20<sup>th</sup> century growth and international immigrants have helped bolster many smaller towns– even though northern New England attracts only one-third the proportion of immigrants as the nation as a whole.
- Predictive models should recognize the potential for in-migration to be driven by climate change and other social phenomena, but they cannot count on it happening at a certain timeframe or to a particular magnitude.

## APPENDICES

### Appendix A – Methodology

This paper surveys data on three demographic trends, the impact of those trends on how Vermonters earn, spend, and live, and accordingly the impact on three of Vermont’s key revenue sources: income tax, sales tax, and property tax. When possible the paper offers context of whether a Vermont trend or impact is consistent with national and regional trends.

When focusing on Vermont, this paper uses Consensus Administration and Joint Fiscal Office projections of 2019-2030 populations by single year of age. When making regional and national comparisons, the paper uses data from the University of Virginia Cooper Center for both Vermont and other states’ projections in order to provide a consistent comparison. Cooper Center data is also used when projecting to 2040.

Similarly, while data from the Vermont Department of Taxes provides the most precise picture of Vermont, data from the U.S. Census Bureau is used for both Vermont and other states when making comparison national and regional comparisons. The Census’s five-year American Community Survey is used, rather than the one-year, in order to maximize reliability.

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### Appendix B – More Seniors (Bonus Information and Graphs)

A comparison of age distribution across northern New England shows a similar pattern between the three states (Figure 53). A comparison of the seven oldest states show a few similarities but also several distinctions. For example, northern New England is especially underrepresented with children and young adults (older millennials/younger Gen Xers) and has a particularly high concentration of boomers compared to the other aging states. Florida and West Virginia have particularly high concentration of the oldest seniors.

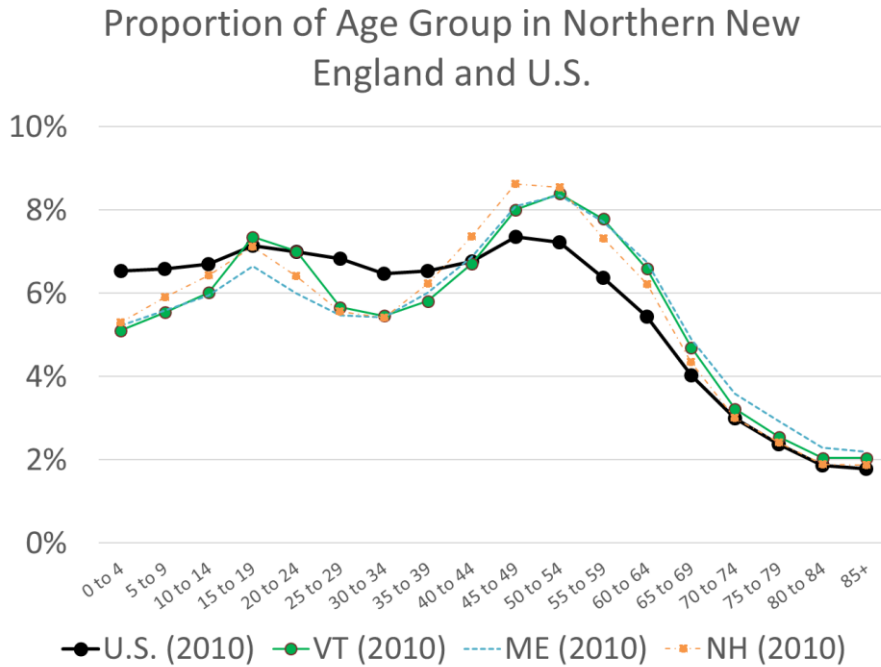
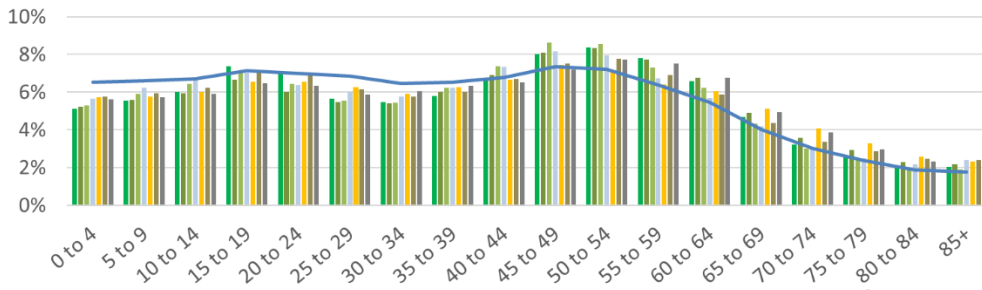


Figure 53. Age distribution of U.S. compared to northern New England states. Data from 2010 U.S. Census Decennial Census.

### Proportion of Age Group in Seven Oldest States, 2010



### Projected Proportion of Age Group, 2030

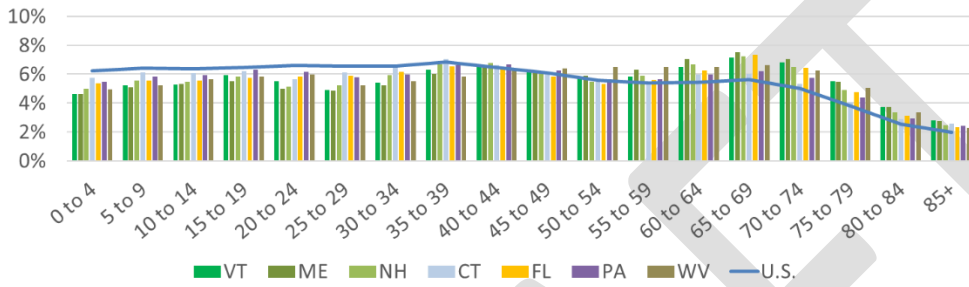


Figure 54. Population of U.S. and seven oldest states, 2010 from Census and 2030 projections from UVA Cooper Center.



## Appendix C - More Metro (Bonus Information and Graphs)

From the U.S. Census:

### Urban (defined at Census block level)

“In order for a block to qualify as urban, it must have a density of 1,000 people per square mile.”

“In 2000, the Census Bureau expanded the classification to include two types of urban areas: urbanized areas and urban clusters. Urbanized areas are areas with 50,000 or more people. Urban clusters are areas with at least 2,500 but fewer than 50,000 people.”<sup>26</sup>

### Rural (defined at Census block level)

“Rural is defined as all population, housing, and territory not included within an urbanized area or urban cluster.”

### Metro Areas (defined at county level)

“Metropolitan statistical areas, or metro areas, are delineated by the U.S. Office of Management and Budget (OMB). Each metro area consists of one or more counties that contain a core urban area of 50,000 or more population, plus additional counties that have a high degree of social and economic integration with the urban core. They are typically partly urban and partly rural, and can contain many cities, in whole or in part. Each metro area generally includes a large city and its nearby suburbs, as well as some sparsely settled territory that is in some degree reliant on the urban core for employment. About 83.7 percent of the U.S. population lived in metro areas in 2010.”

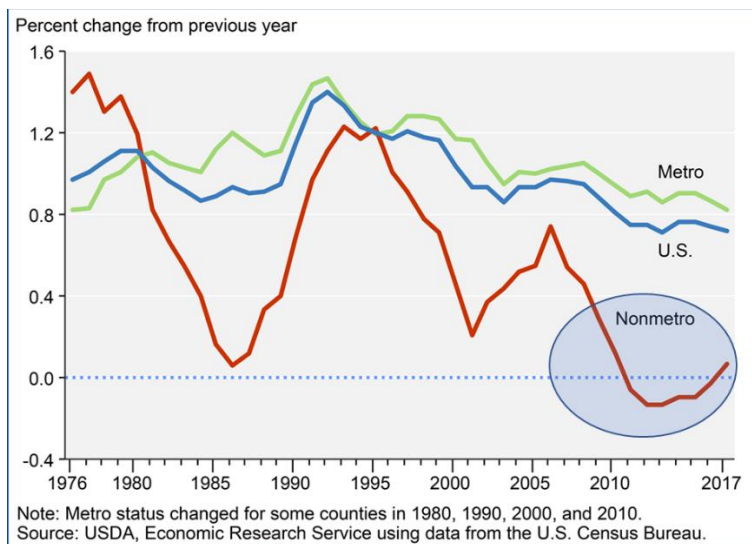


Figure 55. U.S. population change by metro/nonmetro status. Graph from USDA using data from U.S. Census.

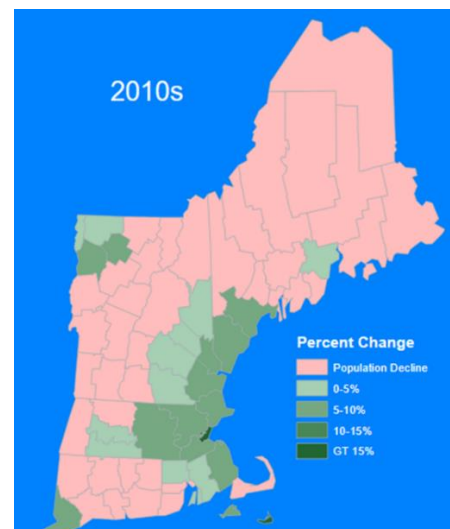


Figure 27. Population change, 2010-2017. Graph from Peter Nelson of Middlebury College using data from U.S. Census.

<sup>26</sup> Ratcliffe et al. (2016). “Defining Rural at the U.S. Census Bureau.”

	Where Americans would like to live*	Where Americans actually live**
	%	%
Big city	12	20
Small city	17	20
Suburb of a big city	21	19
Suburb of a small city	10	7
Town	12	16
Rural area	27	15

\*Based on interviewing conducted Nov. 13-18, 2018; \*\*Based on interviewing conducted in September, October and November 2018

GALLUP

Table 4. Where Americans would prefer to live compared with where they actually live. Data and table from Gallup.

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### Appendix D – Smaller Households (Bonus Graphs)

The following data is from the U.S. Census American Community Survey for the period 2013-17 (and, where noted, 2005-2009).

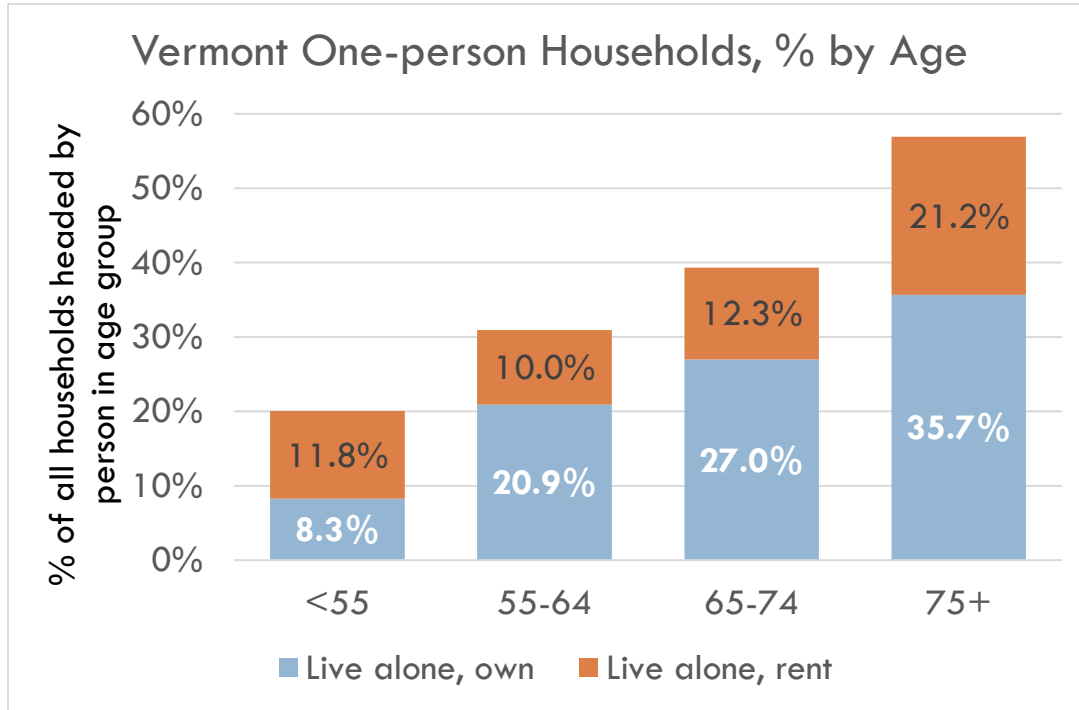


Figure 28. Vermont One-person Households as a Percentage of All Households Headed by a Member of Age Cohort.

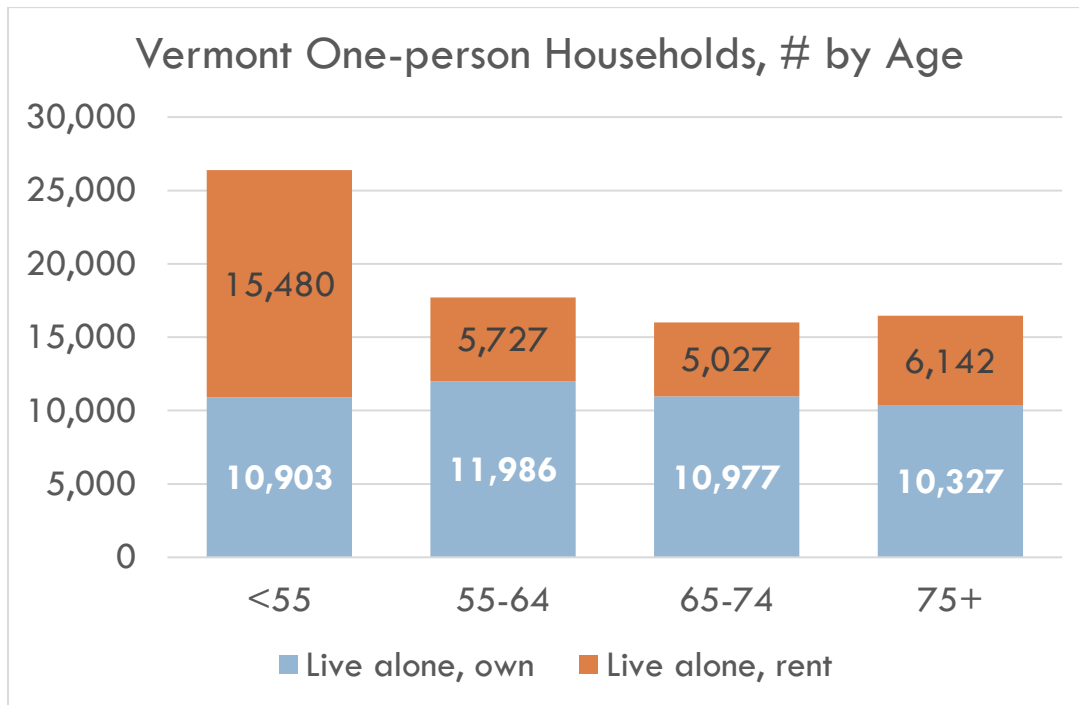


Figure 58. Number of One-person Households by Age Cohort.

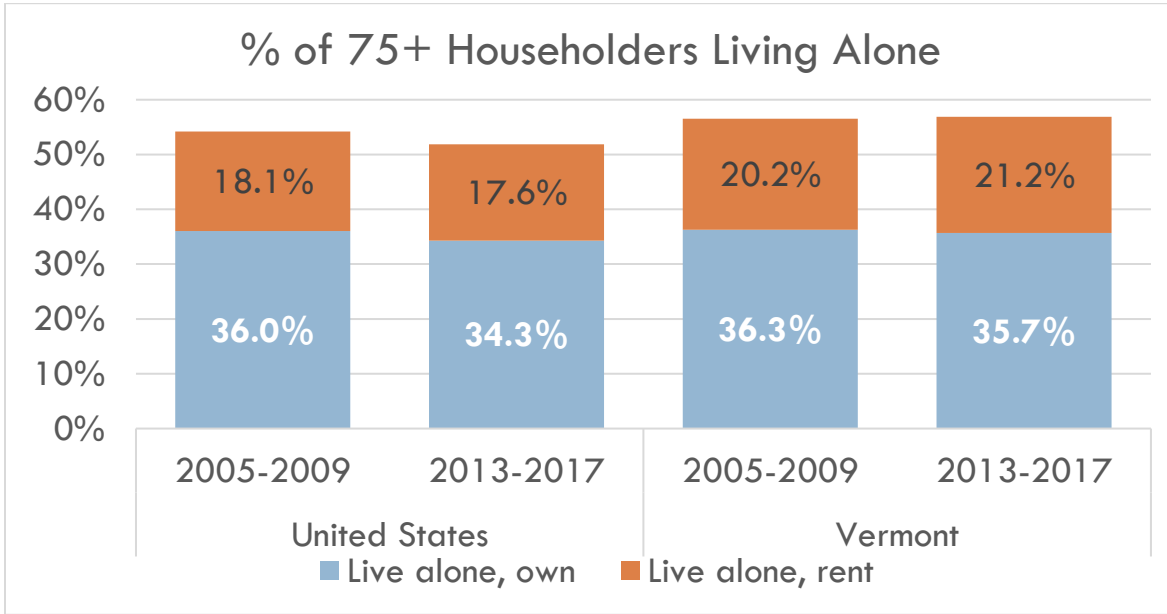


Figure 29. One-person Households as a Percentage of All Households Headed by a Person 75+.

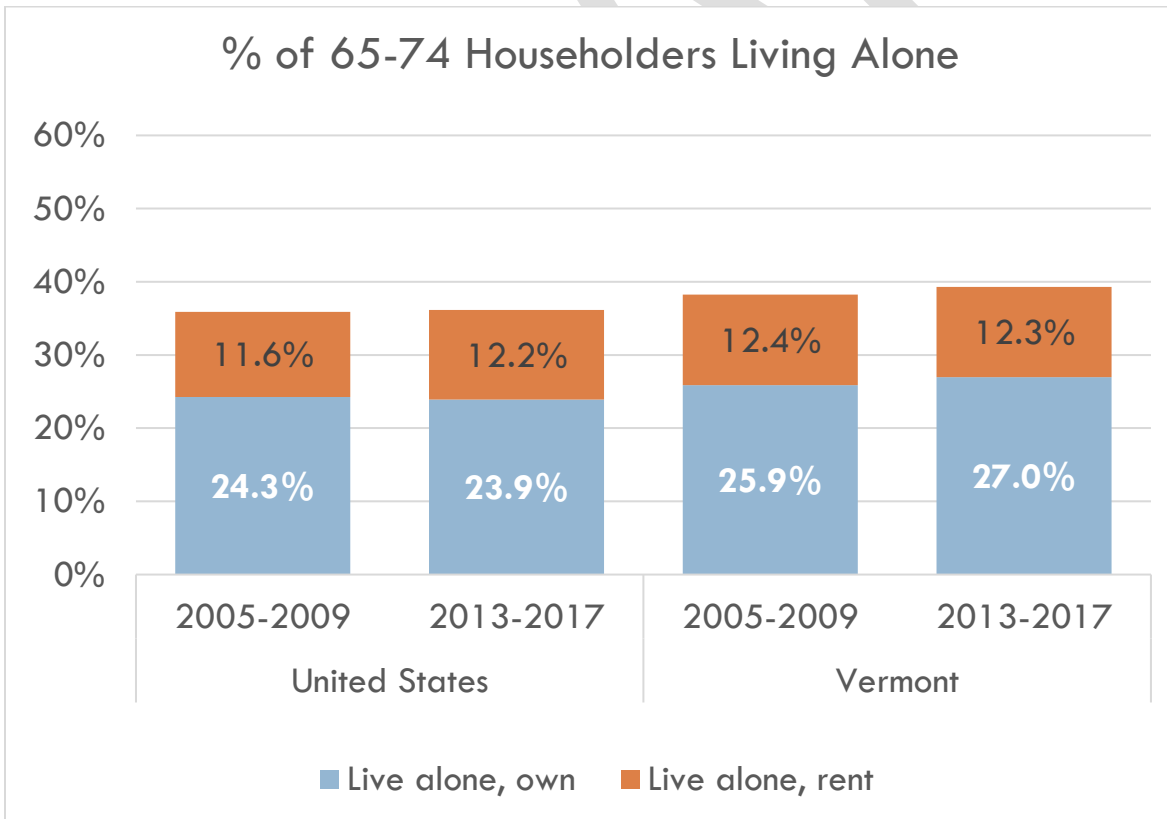


Figure 60. One-person Households as a Percentage of All Households Headed by a Person 65-74.

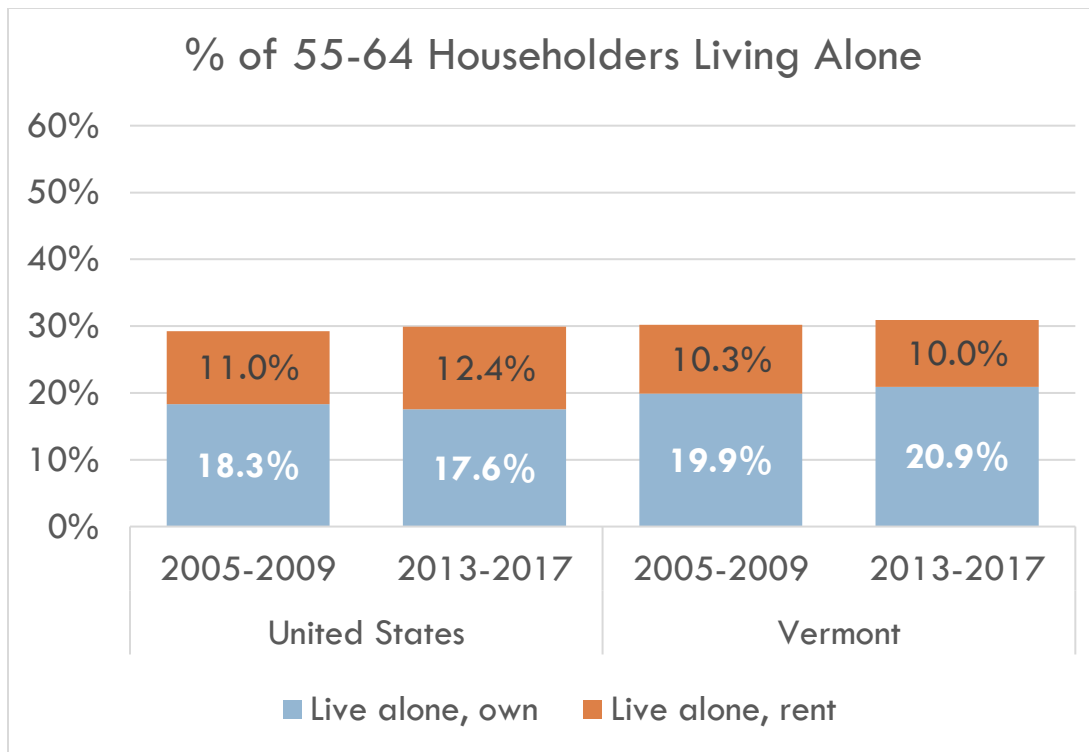


Figure 61. One-person Households as a Percentage of All Households Headed by a Person 55-64.

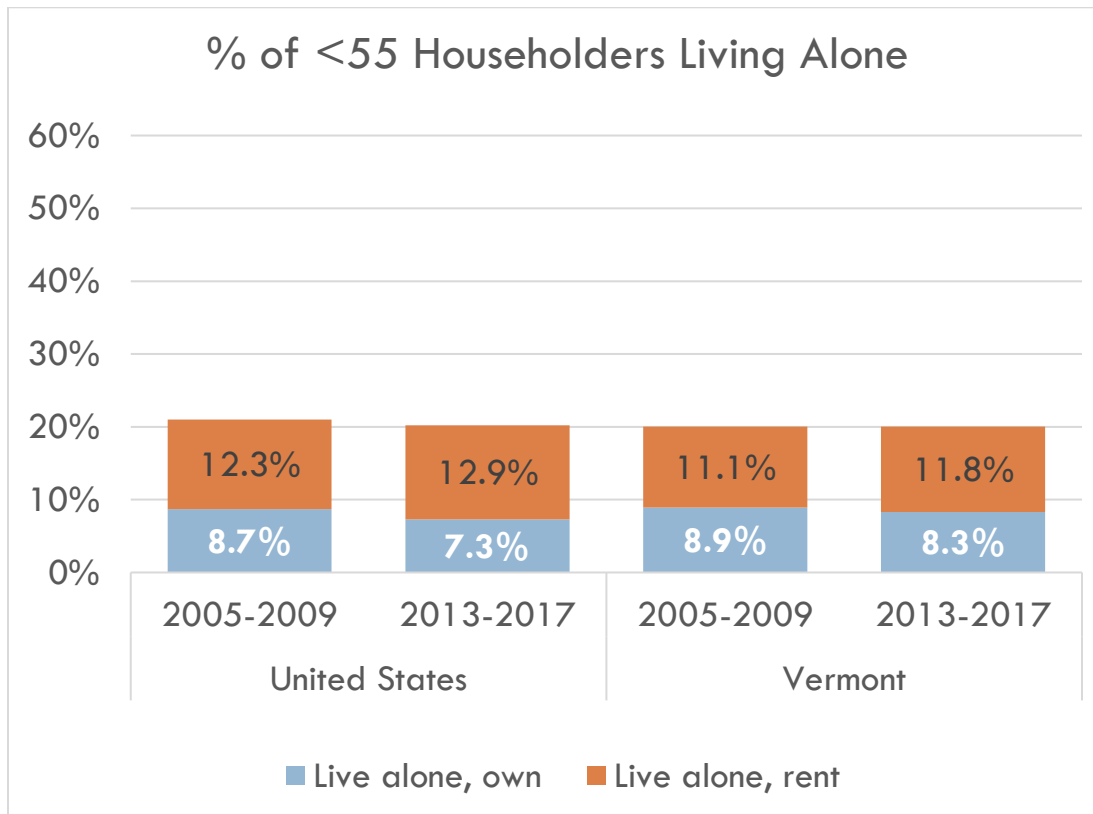


Figure 30. One-person Households as a Percentage of All Households Headed by a Person <55.

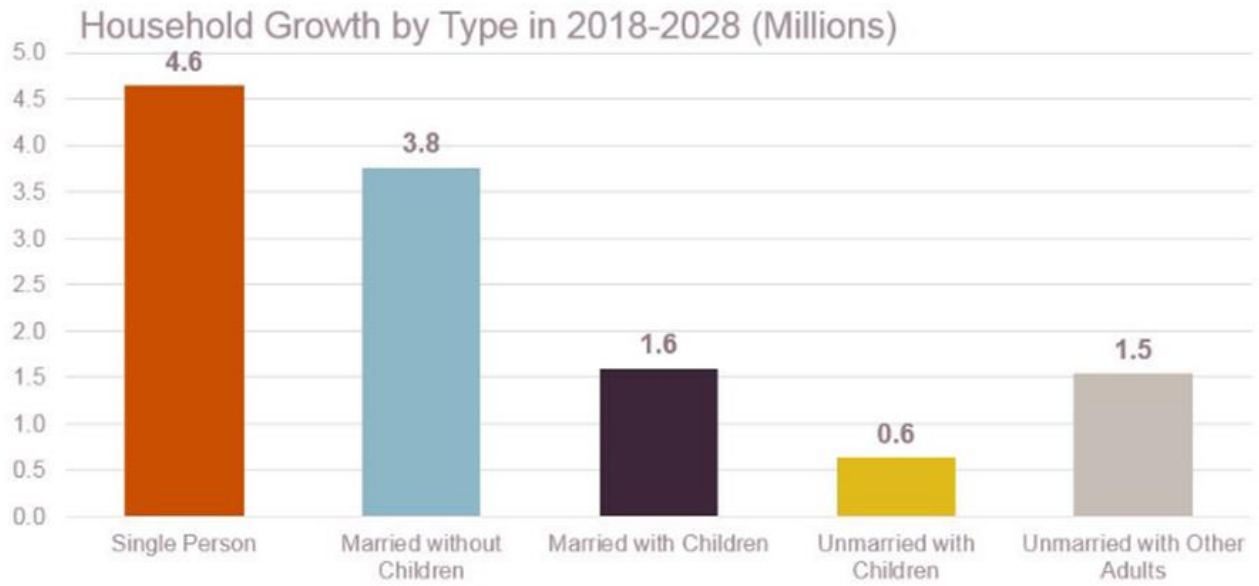
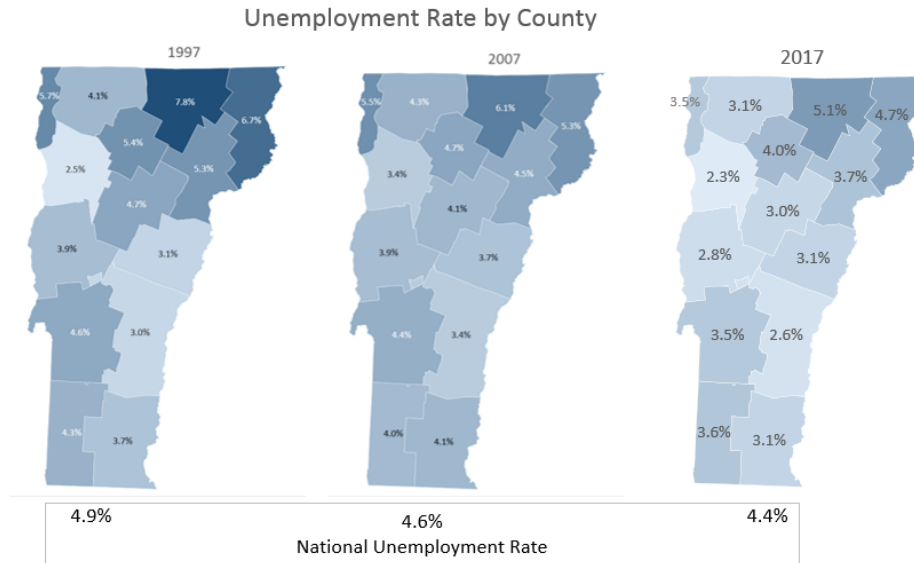


Figure 31. Harvard's Joint Center for Housing Studies (JCHS) expects growth in one and two-person households nationally to far outpace other compositions over the coming decade. Graph from JCHS.

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## Appendix E – Income Tax (Bonus Tables and Graphs)

Every county had a lower unemployment rate in 2017 than in 2007, and all but two counties had a rate lower than the national average...



Source: Employment data from U.S. Bureau of Labor Statistics Local Area Unemployment Statistics Home Page, <https://www.bls.gov/lau/>.

Figure 32. Unemployment rate by Vermont county, 1997, 2007, 2017.

...Yet Vermont’s workforce grew in only two counties (both in the Burlington Metro Area) in the last decade, after growing statewide in the prior decade

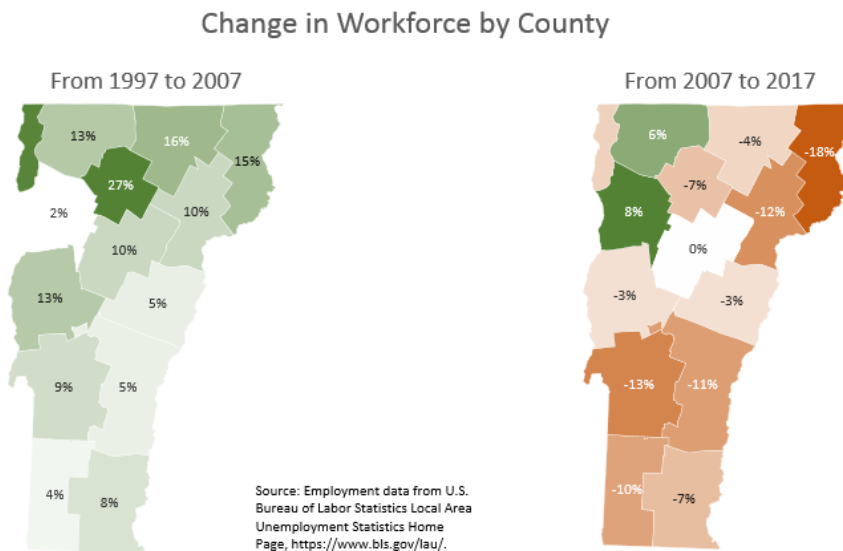
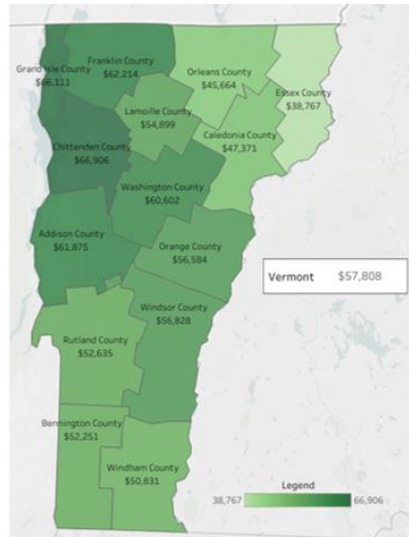


Figure 33. Change in workforce by Vermont county, 1997-2007 and 2007-2017.

The three counties in the Burlington Metro Area have the highest incomes in the state. Two contiguous counties are above the state median. The other nine counties are below the state median.

Median Household Income, 2017

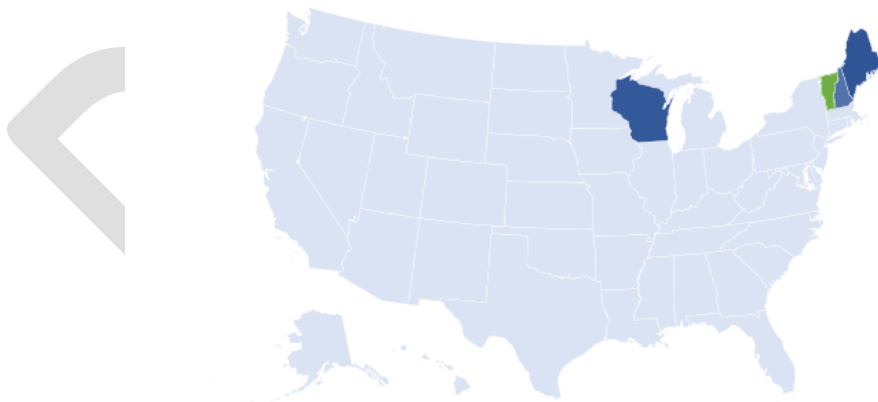


Source: Data from Census Bureau, 2017. Map from <https://www.housingdata.org/profile/>

Figure 34. Median household income by county.

Vermont is the **only** state that ranks in **both** the ten highest employment rates and ten slowest growing populations. Three other states rank in the top 15 in both categories. Two are Vermont's northern New England neighbors.

States Ranking in Both Lowest 15 Population Growth and Highest 15 Employment Rates



Source: Employment data from U.S. Bureau of Labor Statistics Local Area Unemployment Statistics, <https://www.bls.gov/lau/>. Population data from U.S. Census Bureau, County Population by Characteristics: 2010-2017, <https://www.census.gov/data/tables/2017/demo/popest/counties-detail.html>

Figure 357. States ranking in both highest employment and slowest population growth.



**Appendix F – Tax Breaks Related to Seniors**

	State Taxes and Tax Breaks Related to Seniors						
	CT	ME	MA	NH	NY	RI	VT
<b>Military pensions</b>	100% exempt	100% exempt	100% exempt	N/A (only taxes dividend and interest income)	100% exempt	\$15,000 of federally taxable exempt if income up to \$100,000 married jointly (\$80,000 for single), threshold adjusts with inflation	Not exempt
<b>Other pensions</b>	Not exempt. As of 2018, requires pension payers to withhold income tax	\$10,000 exempt (this deduction is reduced by any social security and railroad benefits, but not impacted by military pensions)	MA state and local government pensions 100% exempt; pensions from other state and local governments that don't tax MA public pensions are also 100% exempt		New York state and local pensions 100% exempt; out-of-state pensions, private pensions and retirement plans qualify for \$20,000 exclusion		
<b>Defined Contribution Plans (e.g. 401(k))</b>	Not exempt		Not exempt				
<b>IRAs</b>	Not exempt		Not exempt				
<b>Social Security (also see next table)</b>	Additional exemption for all plus income-based exemption	100% exempt	100% exempt		100% exempt		

<p><b>Property Tax Breaks</b></p>	<p>Property tax credits up to \$1,250 if &gt;=65 with income up to \$43,000 for married jointly (\$1,000 and \$35,300 for singles)</p>	<p>Property tax credits up to \$1,200 if &gt;=65 with income up to \$54,167 for married jointly (\$34,167 for singles), compared to \$750 if &lt;65; in addition, not senior-specific, the homestead exemption provides a reduction of up to \$20,000 in the value of home for property tax purposes</p>	<p>Homeowner and renter credit up to \$1,100 if &gt;=65 with income up to \$88,000 married jointly (\$58,000 single, 73,000 HoH); &gt;60 can also reduce property taxes up to \$1,000 through volunteer work; in addition, not senior-specific, some municipalities offer residential exemptions that can reduce property tax by varying amounts (e.g. up to \$2,709 in Boston)</p>	<p>Elderly exemption off assessed home value with income and asset thresholds set by municipality at three tiers: 65-74, 75-79, 80+; Separate program for education property tax relief based on income (20-100%) for property owners with income up to \$40,000 for married and HoH(\$20,000 for singles)</p>	<p>Enhanced School Tax Relief (STAR) for &gt;=65 with income &lt;=\$86,300 and is based on first \$68,700 of home value. &gt;=65 with income &lt;\$38,000 (higher in NYC) also qualify for reduction in taxable assessment, depending on municipality. By comparison, Basic STAR has income limit of \$500,000 and no age limit and is based on first \$30,000 of home value.<sup>27</sup></p>	<p>Elderly exemption off assessed home value with income, length of ownership, and residency thresholds set by municipality</p>	<p>Not senior specific, but up to \$8,000 in Property Tax Adjustment for incomes up to ~\$136,000 (based on income for all ages); Up to \$3,000 in Renter Rebate for portion of rent paid that exceeds 2-5% (depending on income) of household income for incomes up to \$47,000</p>
<p><b>Other Taxes or Tax Breaks</b></p>	<p>Gift tax ranges from 7.2% to 12% when agg. value of gifts to an individual since 2005 exceeds \$2M</p>						<p>Tax credit worth 24% of Elderly or Perm. Totally Disabled Tax Credit</p>

<sup>27</sup>New York State Department of Taxation and Finance (2019). "Types of STAR."

In addition to the categories above, railroad retirement benefits are exempt from state taxation in all 50 states, per the Railroad Retirement and Railroad Unemployment Insurance Acts.

Table 5. Northeastern State Tax Breaks Related to Seniors

<b>Federal Treatment of Social Security Income</b>		
<b>If combined income* is:</b>		<b>SS Benefits are:</b>
<b>Single/Separate/HoH/Widow(er)</b>	<b>Married Joint</b>	
<\$25,000	<\$32,000	100% exempt
\$25,000-\$34,000	\$32,000-\$44,000	up to 50% taxable
>\$34,000	>\$44,000	up to 85% taxable

Table 6. Federal exemption for social security income. Combined income is non-social security income (including tax-exempt interest) plus 1/2 of social security benefits.

<b>Additional Exemption of Social Security Income by Northeastern States</b>							
Most state income taxes are based off federal Adjusted Gross Income (AGI), meaning that the portion of social security benefits that is exempt from federal tax is also exempt from state income tax. In addition, most states provide additional exemptions.							
	<b>CT</b>	<b>ME</b>	<b>MA</b>	<b>NH</b>	<b>NY</b>	<b>RI</b>	<b>VT</b>
Single/ Separate/ HoH <sup>^</sup> / Widow(er) <sup>^*</sup>	AGI up to \$75,000 <sup>^</sup> : SS benefits are 100% exempt  >\$75,000: 75% exempt	100% exempt	100% exempt	N/A (only taxes dividend and interest income)	100% exempt	up to \$80,000*: 100% exempt	up to \$45,000: 100% exempt
						>\$80,000: No exemption	\$45,000-\$55,000: Phased out exemption
							>\$55,000: No exemption
Married Joint	AGI up to \$100,000 <sup>^</sup> : SS benefits are 100% exempt  >\$100,000: 75% exempt	100% exempt	100% exempt	N/A (only taxes dividend and interest income)	100% exempt	up to \$100,000*: 100% exempt	up to \$60,000: 100% exempt
						>\$100,000: No exemption	\$60,000-\$70,000: Phased out exemption
							>\$70,000: No exemption

## Appendix G – Housing (Bonus Tables and Graphs)

### Housing is the factor making Burlington more expensive than other metro areas, including Portland

As discussed in the housing chapter of this paper (Chapter 10), data from the U.S. Bureau of Economic Analysis (BEA) show the cost of goods and services in Vermont are very close to the national average. Vermont's costs are particularly close to Maine and Rhode Island in these categories, but diverge markedly in terms of housing, as rents fall below the national average in the other two states but are higher in Vermont.

This dynamic also holds true when comparing Vermont's one metro area to Maine's largest metro area. While goods and services cost slightly less in the Burlington-South Burlington metro area than in the Portland-South Portland metro area, rents and owner-equivalent rents are much higher in Vermont's metro area (Figure 68).

One result is that, while per capita income is more than \$1,000 higher in Vermont's metro, residents of Maine have a higher real per capita income because their dollars buy more housing (Figure 69).

#### The Maine-Vermont cost comparison can be extended to the metro areas.

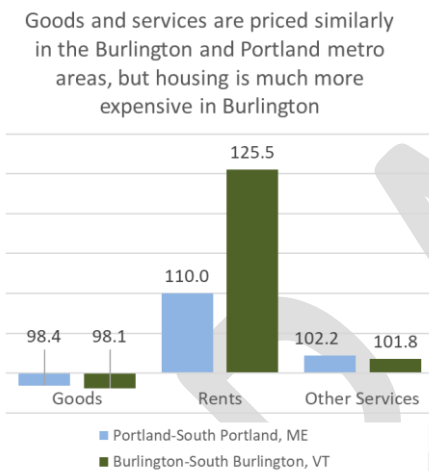


Figure 36. Relative cost of goods, rents, and other services by metro area (100= national average). Data from U.S. Bureau of Economic Analysis.

As a result, the Burlington metro has lower real per capita personal income

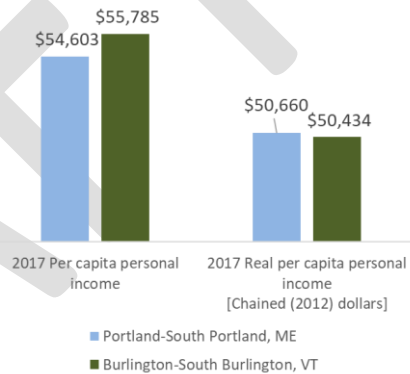


Figure 37. Per capita income and real per capita income adjusting for price parity (100= national average). Data from U.S. Bureau of Economic Analysis.

### Incidence of housing cost-burden varies by income, mortgage status, and region – and doesn't account for transportation costs which might be high due to lack of housing options

Also as discussed in Chapter 10, Vermont has more households – both owners and renters – that meet the federal definition of being housing cost-burdened than the rest of northern New England and the nation. Cost-burdened Vermont owners span a variety of situations but tend to have lower or middle incomes and to have a mortgage (Figure 70). They're also more likely to live in Chittenden County, though it should be noted that transportation costs are related to housing cost-burden but not included in the statistics. Transportation is typically a household's second largest direct expense (after housing) and households in car-dependent areas spend more on transportation costs.<sup>28</sup> A Vermonter who works in Burlington could have the same combined housing-transportation costs if they live in Chittenden County and Franklin County but not be considered

<sup>28</sup> Bureau of Transportation Statistics (2018). "Household Spending on Transportation."

“housing cost-burdened” in Franklin County because their housing portion would be less and transportation more.

**The likelihood of being cost-burdened is impacted by both income level and mortgage status. For example , a Vermonter with a mortgage earning \$50-\$75K is more likely to be cost-burdened than a Vermonter with no mortgage earning \$20-\$35K.**

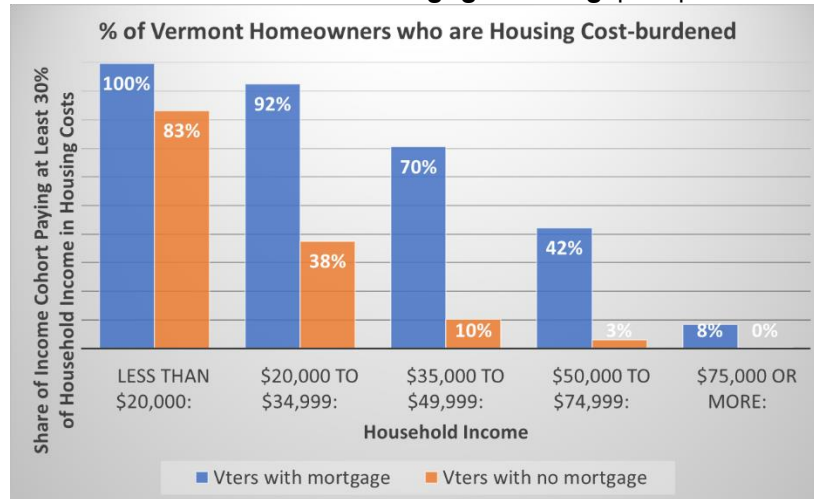


Figure 38. Relative cost of goods, rents, and other services by state (100= national average). Data from U.S. Bureau of Economic Analysis.

**Share of Vermonters with very low housing costs greater than New Hampshire but less than Maine**

Because housing cost-burden is a function of income and housing costs, the distribution of housing costs is relevant, not just medians and averages. Just over one in ten Vermonters pay less than \$500 in monthly housing costs, which is a higher ratio than New Hampshire but less than Maine (Figures 71,72).

**Mainers are about twice as likely as Vermonters to have monthly housing costs under \$500**

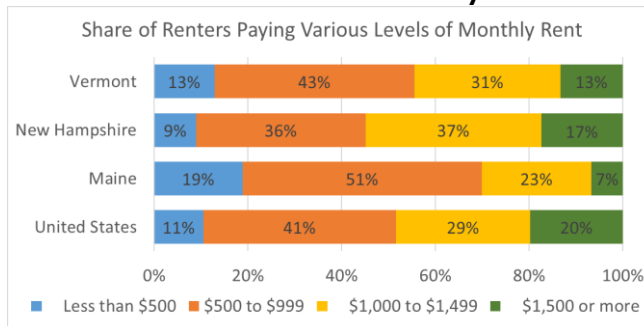


Figure 71. Share of Renters Paying Various Rents. .Data from U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

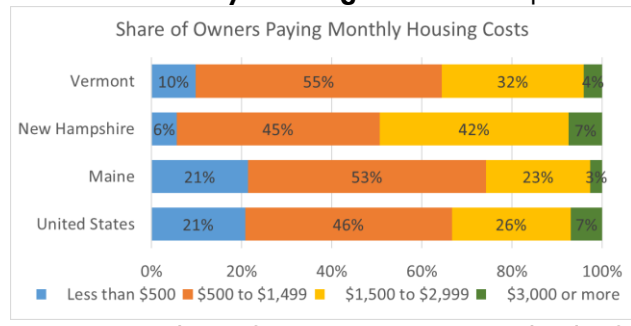


Figure 392. Share of owners paying various levels of housing costs. .Data from U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

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