



4 Regional Profile



DEMOGRAPHICS IN THE MONTACHUSETT REGION

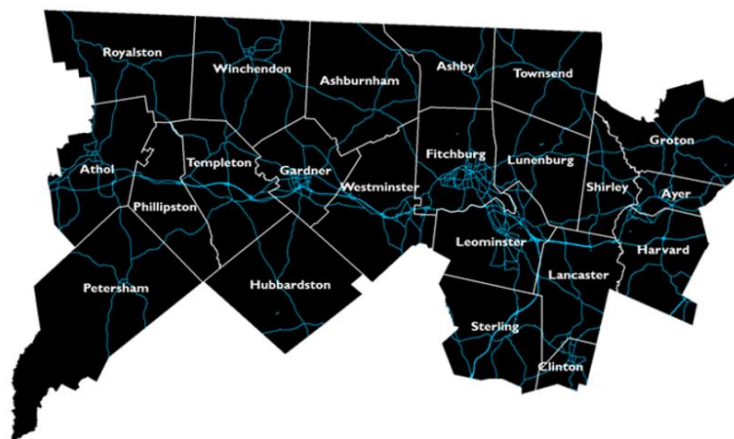
This following provides a profile of the Montachusett region through various sets of data, i.e. the U.S. Census and the American Community Surveys (ACS), as well as various MRPC reports developed in accordance with local studies and contracts.

Through the tables, charts and analyses presented, an understanding of the population that comprises the Montachusett region and its unique features and characteristics will be gained. The various data sets presented highlight the continued changing face of the region and help provide some background to the relationship that exists between the communities and their needs.

Background & History

The Region was settled as early as the 17th Century and began as small settlements that evolved from an era of agrarianism into the age of industrialization and now into the era of information and communications. The physical landscape is a mixture of compact urban centers and small rural communities containing “town commons”. Comprised of 22 communities located in north central Massachusetts, the region measures approximately 685 square miles in size. Of this area, approximately 654 square miles (or approximately 95%) is land.

The Montachusett Region’s earliest settlements were founded as trading outposts for the Massachusetts Bay



Colony. Lancaster and Groton were settled in the mid-1600's to ensure the flow of animal pelts from the interior to Boston. By the second half of the eighteenth century, most communities in the region were settled. Originally, local economies focused on agriculture but, since farming



provided a poor return, manufacturing quickly became the dominant economic force in the region.

Montachusett communities harnessed swift-flowing streams and rivers for water-powered manufacturing. The first mills were allied with agricultural production, but the nineteenth century saw the establishment of other industries, including paper, textile and woodworking industries. By the mid-nineteenth century, the production of lumber and wood products became the region's largest industry, and the City of Gardner was known internationally as a major center of chair manufacturing.

The growth of the region was accelerated by railroad connections enabling the easy transport of materials, goods and people. Communities with an industrial base prospered and expanded with the influx of migrants both foreign and US born. Smaller towns did not see widespread growth. However, their industrialized neighbors enjoyed a heyday during the end of the 19th Century.

The 20th Century saw a period of economic decline that was caused by the migration of industries to southern states and the Great Depression. The smaller industrialized communities suffered severely and recovered slowly. Today, the region's more urbanized communities are dominated by "mature" manufacturing industries, such as Gardner's surviving furniture mills and Leominster's surviving plastics companies. Other local economies, recognizing the instability of the region's industrial base, are undergoing a transition away from specialization in manufacturing industries. One foray into tourism has proven successful with the creation of Johnny Appleseed theme marketing and the Johnny Appleseed Trail Association, Inc. (JATA). The JATA offers a higher visibility to agritourism businesses in Phillipston and Leominster.

Regional Analysis

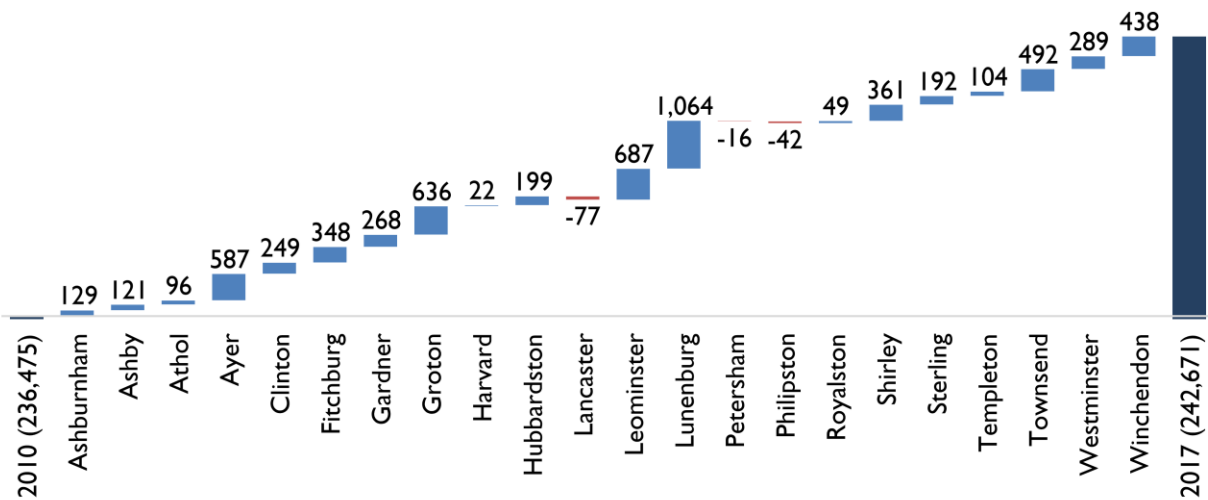
The following section identifies and highlights several key demographics that help to paint the picture that is the Montachusett Region. From a review of this information, a series of regional trends and developments are identified. These trends, combined with input from the general public and local officials, will help to establish the future growth of the Montachusett Region.



Population

The Montachusett Region witnessed a 2.6% increase in its population from 2010 to 2017, welcoming an estimated 6,196 new residents during this time (see Figure 4 -1). As of 2017, the Region boasts a population of 242,671 residents across its 22 communities.

Figure 4 - 1. Population Change in the Montachusett Region (2010 to 2017)

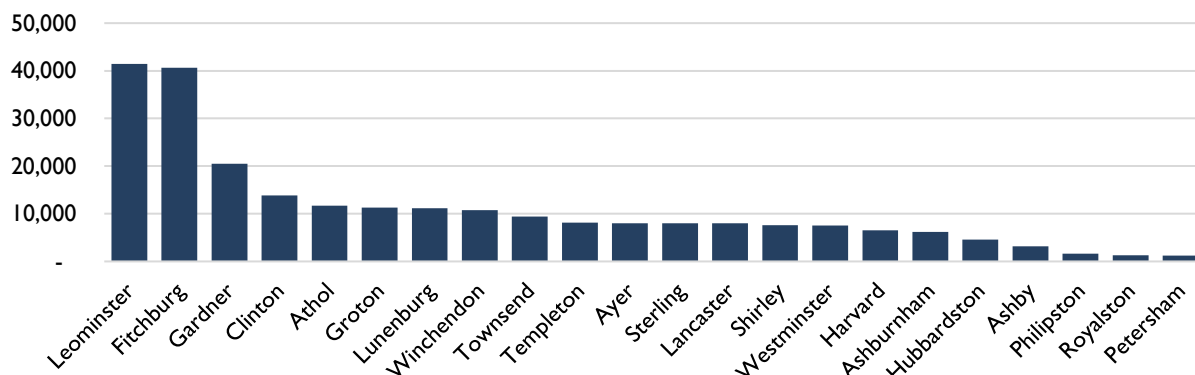


Source: US Census, American Community Survey (2013-2017) 5-Year Estimates

Lunenburg saw the largest population increase in recent years with approximately 1,064 new residents (a 10.6% increase from 2010). The majority of communities saw more modest population increases, while three communities – Lancaster, Petersham, and Phillipston – experienced a slight decline in population (-1%, -1.3%, and -2.5% respectively).



Figure 4 - 2. Population by Community



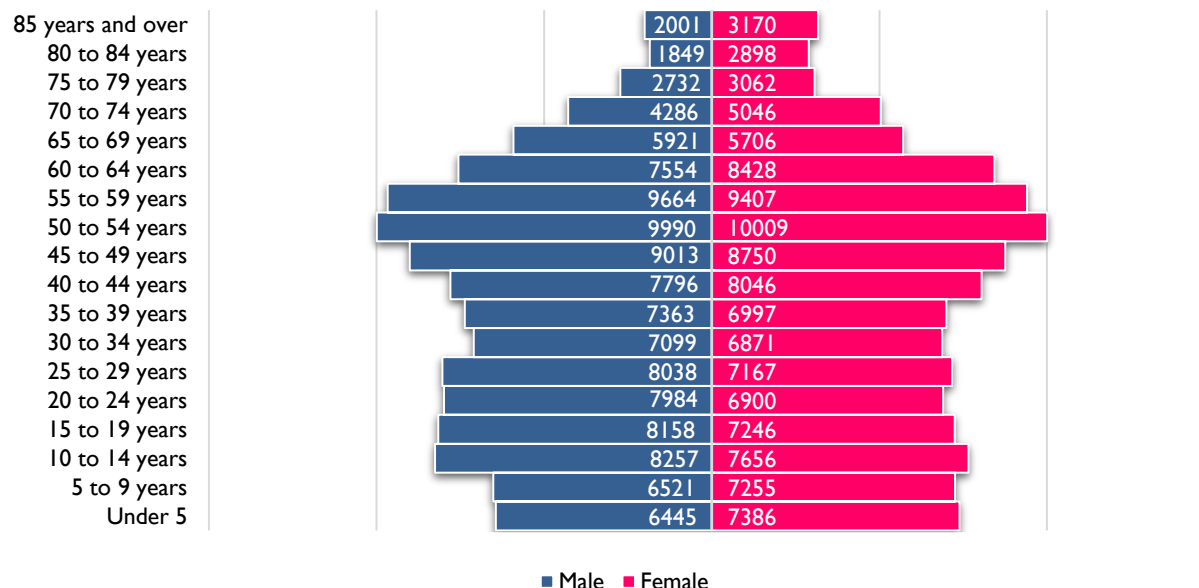
Source: American Community Survey (2013-2017) 5-Year Estimates

Age

The Montachusett Region is considerably older than the state or nation as a whole (see Figure 4 - 3), a trend that has been steadily rising in recent decades. In 2017, 19 of the Region's 22 communities had a higher median age than Massachusetts, up from just eight in 1990. According to the most recent data from the American Community Survey (ACS), nearly one-quarter (23.4%) of Montachusett residents are between the ages of 45 and 59 years old.



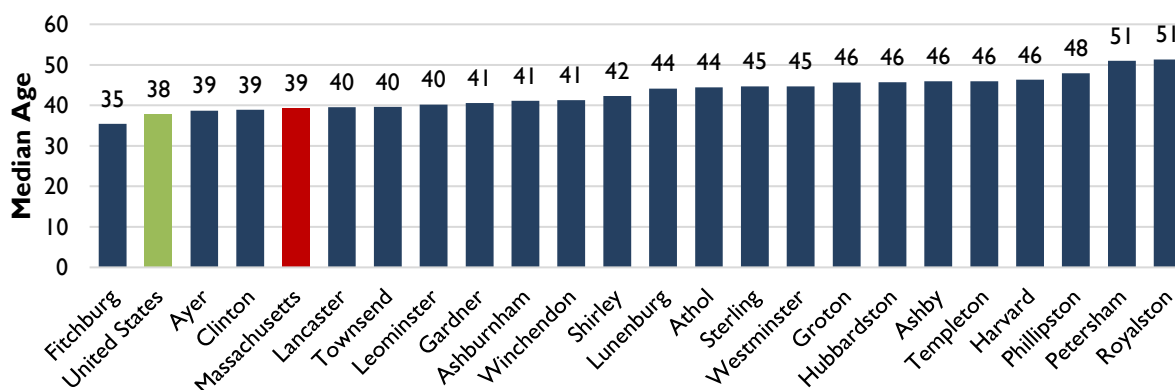
Figure 4 - 3. Age Distribution by Gender, Montachusett Region



Source: American Community Survey (2013-2017) 5-Year Estimates

The large proportion of residents nearing retirement age poses a number of planning challenges for the Region, including ensuring accessibility to health care services, public transportation, senior housing, as well as generational shifts in employment and succession in the workforce.

Figure 4 - 4. Median Age in Montachusett Communities Compared to Massachusetts and the US



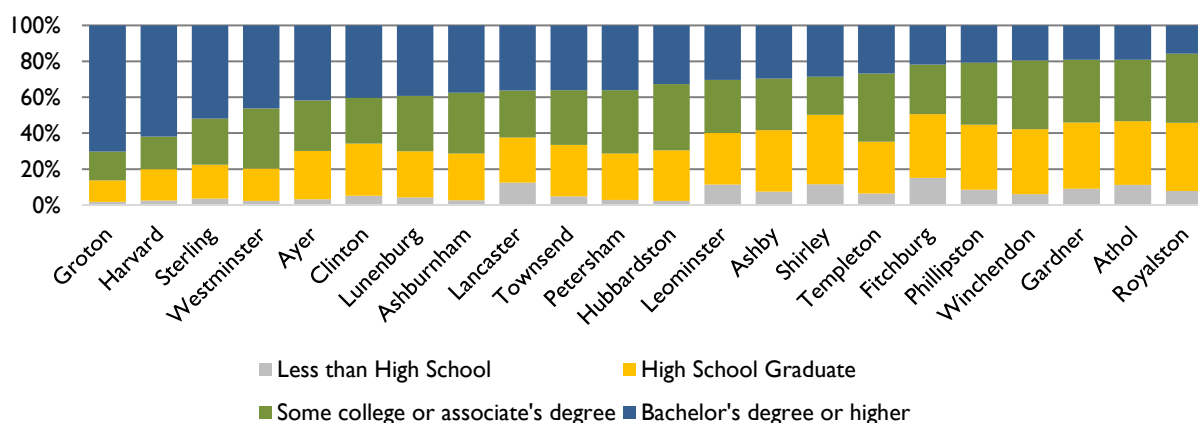
Source: American Community Survey (2013-2017) 5-Year Estimates



Educational Attainment

Montachusett communities range considerably in terms of highest level of educational attainment (see Figure 4 - 5).

Figure 4 - 5. Highest Level of Educational Attainment, Montachusett Region



Source: American Community Survey (2013-2017) 5-Year Estimates

Groton boasts the highest percentage of residents with a Bachelor's degree or higher with 70.3% of residents holding a Bachelor's or post-graduate degree (nearly 4.5 times that of Royalston).

In Table 4 - 1, we see increasing levels of educational attainment across the board for those aged 25 to 34 years old. Graduation rates between 2000 and 2017 grew for both males and females for both high school and bachelor's degrees and higher. Most significantly, we witnessed a 45% increase in the proportion of women aged 25 to 34 years old with a Bachelor's degree or higher.



Table 4 - 1. Highest Level of Educational Attainment (Aged 25 to 34 years)

Highest Level of Educational Attainment	Male		Female	
	2000	2017	2000	2017
High school degree or higher	85.3%	88.1%	90.7%	92.7%
Bachelor's degree or higher	21.2%	26.3%	27.3%	39.6%

Source: US Census, American Community Survey (2013-2017) 5-Year Estimates

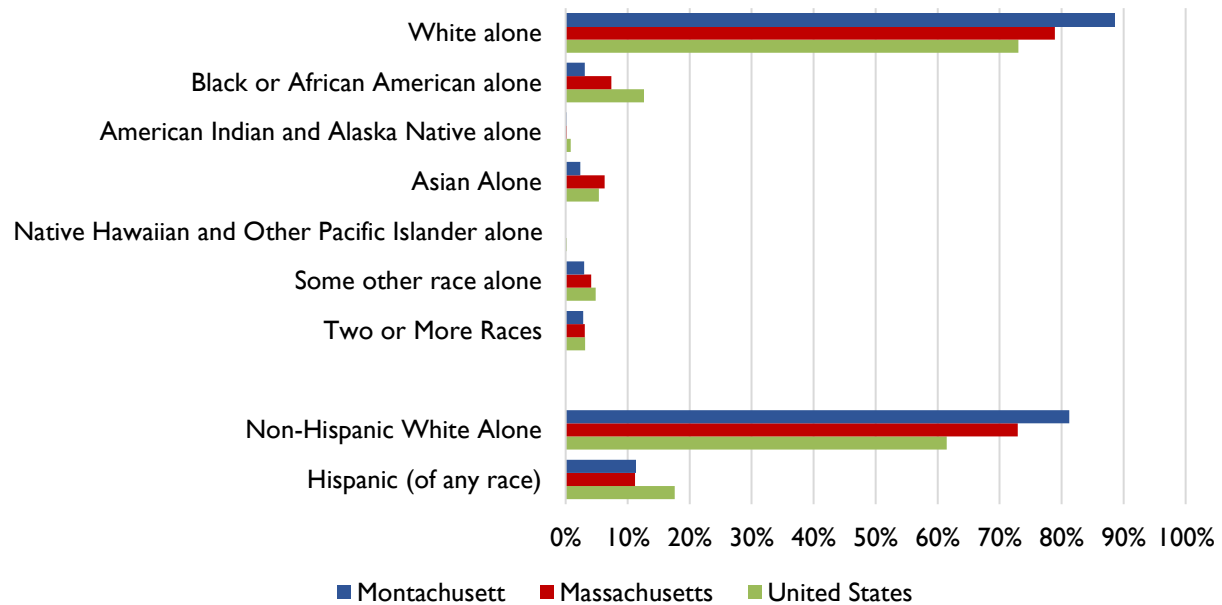
Still, educational attainment in the region remains lower than the state as a whole. In 2017, it was estimated that 92.1% of men and 94.4% of women aged 25 to 34 in Massachusetts received a high school degree or higher, while 46% and 55.8% received a bachelor's degree or higher. The trend toward having a more educated population is valuable as the economic sustainability of the region depends on ensuring a robust workforce that includes young professionals and careers to support their success.

Race

The Montachusett Region remains a predominantly white region but is trending toward increased diversity. The Region currently has a higher proportion of residents who identify as "white alone" when compared respectively to the state and nation as whole (see Figure 4 - 6).



Figure 4 - 6. Race in the Montachusett Region Compared to Massachusetts and the United States



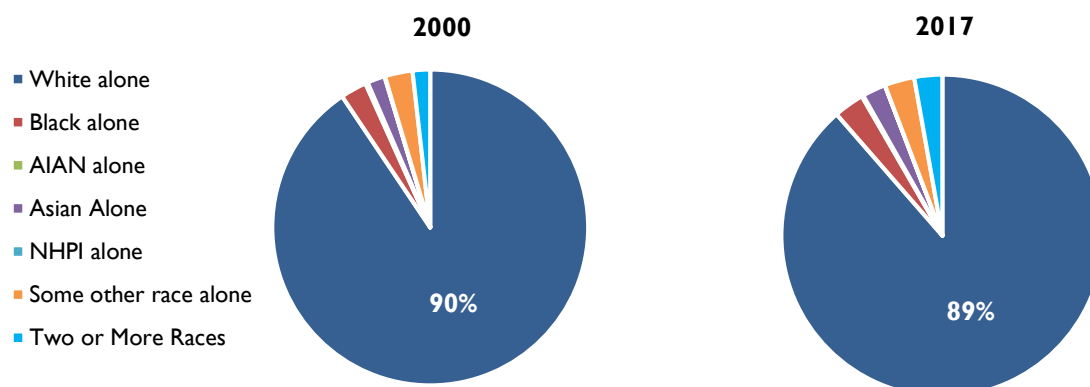
Source: American Community Survey (2013-2017) 5-Year Estimates

However, in the period between 2000 and 2017, we observed the following demographic changes as they pertain to race:

1. The number of Hispanic residents grew from 15,672 to 27,511 (+75.5%)
2. The number of residents who self-identified as Black or African American alone grew from 6,127 to 7,451 (+21.6%)
3. The number of Asian residents grew from 4,098 to 5,743 (+40.1%)
4. The number of residents who identified as two or more races increased from 4,127 to 6,828 (+65.4%)



Figure 4 - 7. Race in the Montachusett Region (2000 to 2017)



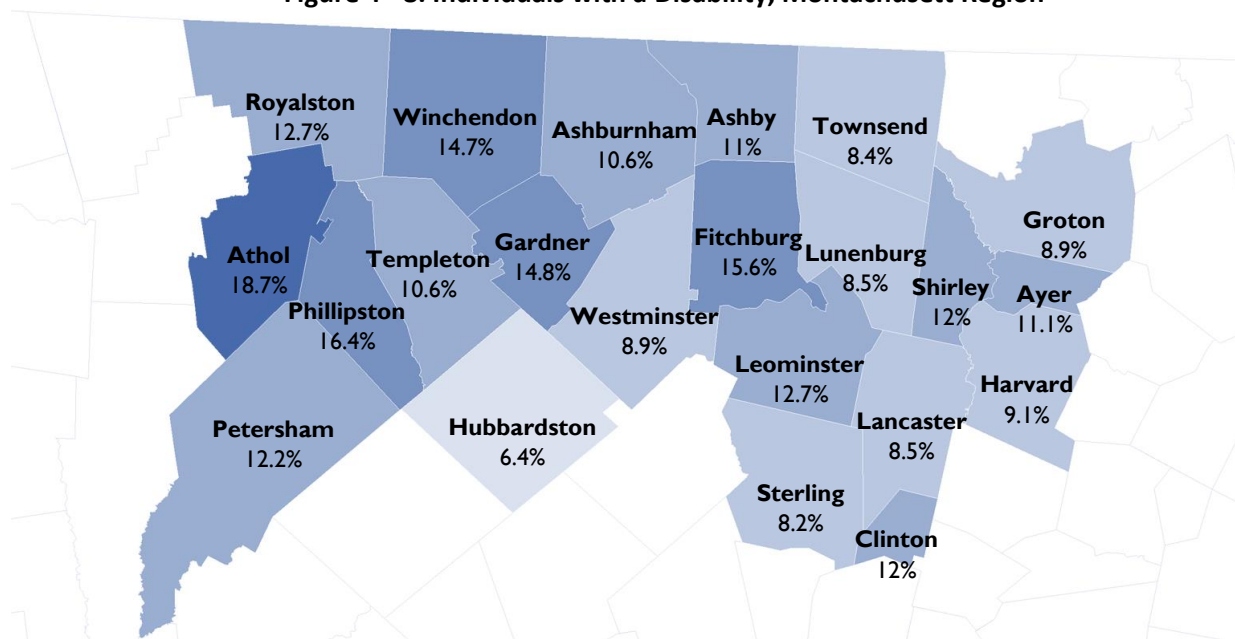
Source: US Census, American Community Survey (2013-2017) 5-Year Estimates

Disability

In Massachusetts, 11.6% of total individuals report having a disability (ACS 2017). A disability refers to difficulty hearing, vision, cognitive, ambulatory, self-care, and/or living independently. Ten Montachusett communities have a higher proportion of residents managing a disability than the state as a whole (Figure 4 - 8), with Athol, Phillipston, and Fitchburg topping the list. Among other important planning considerations, the comparatively high percentages of residents with disabilities, and a steadily aging population, emphasizes the importance of multimodal transportation access. Access to transportation services through the Montachusett Regional Transit Authority (MART) offers a vital lifeline for many to ensure equitable access to employment, education, as well as social and healthcare services.



Figure 4 - 8. Individuals with a Disability, Montachusett Region



Source: American Community Survey (2013-2017) 5-Year Estimates

MART currently offers ADA Eligible Paratransit Service to transportation-disabled individuals. Service is provided by lift-equipped vans and is available in the areas that MART provides fixed route bus service. Under the ADA regulations, there are three categories of persons who are eligible for ADA Paratransit Service:

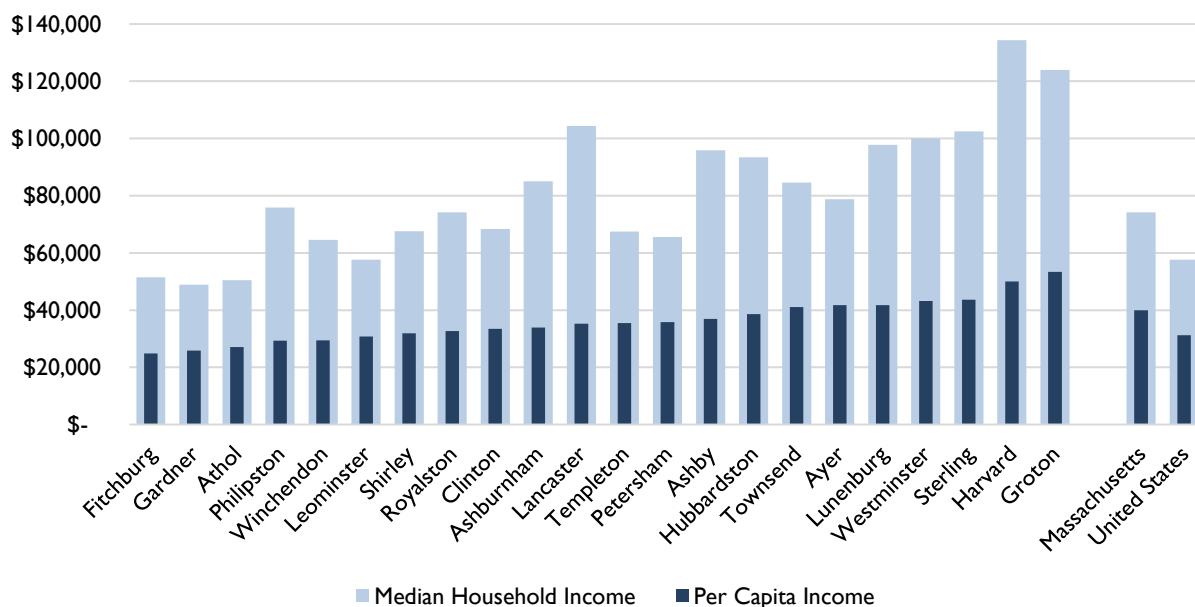
1. Is unable as a result of physical or mental impairment, to get on, ride, or get off an accessible vehicle on the public transit system: or
2. Needs the assistance of a wheelchair lift or other boarding assistance device and is able, with such assistance to get on, ride and get off an accessible vehicle, but such vehicle is not available on the route when the individual wants to travel; or
3. Has specific impairment-related condition including vision, hearing or impairments causing disorientation which prevents travel to or from a station or stop on the system.



Income

The ACS collects income and poverty data, and presents both across a range of different categories, including age, gender, race, family structure, occupation, etc. The ACS defines per capita income as the mean money income received in the past 12 months computed for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years old and over in a geographic area by the total population in that area. (Note: income is not collected for people under 15 years old, even though those people are included in the denominator of per capita income. This measure is rounded to the nearest whole dollar.). In addition to per capita income, median household income is presented here in Figure 4 - 9 for each Montachusett community, as well as the state and nation.

Figure 4 - 9. Per Capita Income and Median Household Income



Source: American Community Survey (2013-2017) 5-Year Estimates

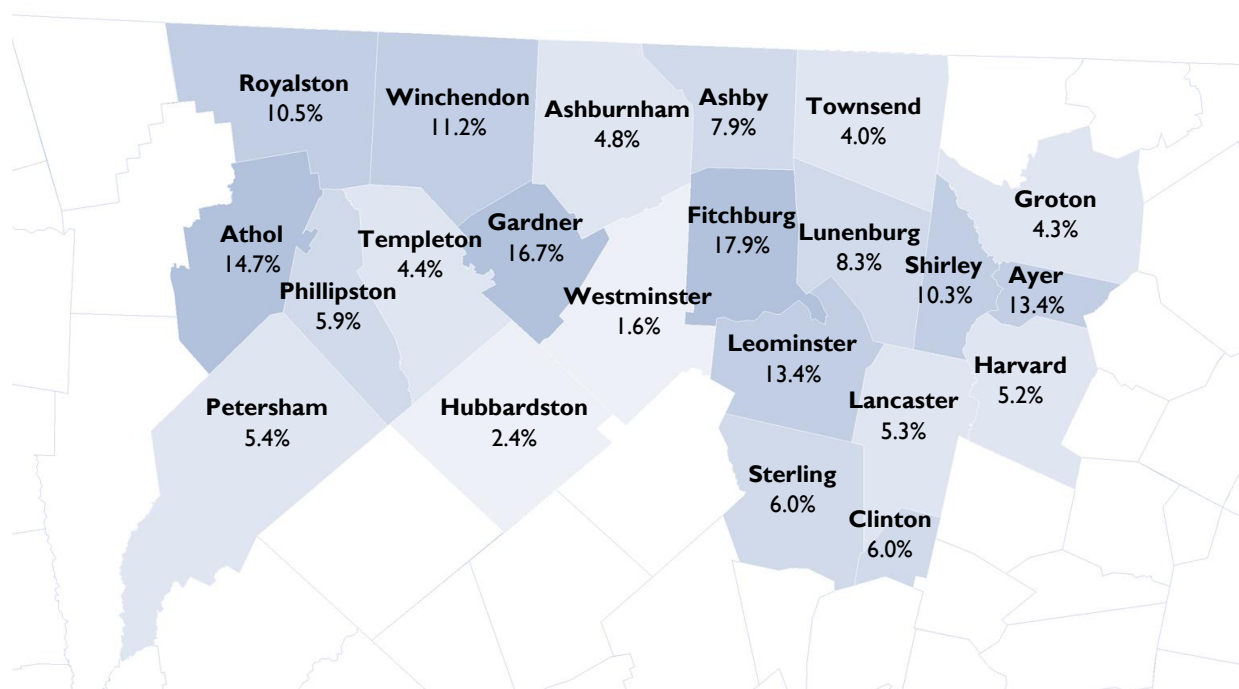
Fifteen (15) of the region's 22 communities have a lower per capita income than the state (\$39,913), while nine rank below the state when examining median household income (Figure 4 - 9).



Poverty

Poverty is calculated as a percentage of the population below the poverty threshold. The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, that family and every individual in it is considered to be in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

Figure 4 - 10. Individuals Living in Poverty, Montachusett Region



Source: American Community Survey (2013-2017) 5-Year Estimates

An estimated 11.1% of individuals are living in poverty within the Commonwealth of Massachusetts. Six Montachusett communities have a higher concentration of poverty than the state as a whole, with Fitchburg (17.9%), Gardner (16.7%), and Athol (14.7%) also exceeding the



national poverty rate of 14.6% (Figure 4 - 10). Between 2016 and 2017, poverty rates declined in the region at a quicker pace than both the state and nation (Table 4 - 2).

Table 4 - 2. Poverty Rates

Area	2016	2017	1-Year Change
Montachusett Region	11.9%	10.8%	-1.1%
Massachusetts	11.4%	11.1%	-0.3%
United States	15.1%	14.6%	-0.5%

Source: American Community Survey 5-Year Estimates

Title VI and Environmental Justice (EJ)

Transportation and social equity through Title VI and Environmental Justice (EJ) all play a key role in the quality of life in the region by shaping access to jobs, housing, services and recreational opportunities and is essential to addressing poverty, unemployment and other equal opportunity goals. It is based on the principle that all people have a right to be protected from harmful or burdensome investments/projects, to live in and enjoy a clean and healthful environment and ensure that these identified communities do not bear a disproportionate burden of obtrusive projects and also share in positive and beneficial investments.

Transportation and social equity are a civil and human rights priority and major goal for the Montachusett Region. It requires making investments that provide all residents - regardless of age, race, color, national origin, income or physical agility - with opportunities to work, shop, be healthy, and play.

Title VI was enacted as part of the landmark Civil Rights Act of 1964 and prohibits discrimination on the basis of race, color, sex and national origin in programs and activities receiving federal financial assistance. In 1994, Executive Order 12898 was issued by President Clinton. Its purpose



is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The order is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities' access to public information and public participation. The order also directs each agency to develop a strategy for implementing environmental justice.

Massachusetts Executive Order 552 was issued on November 25th, 2014 requiring state Secretariats to take action in promoting environmental justice (EJ). "Environmental Justice is based on the principle that all people have a right to be protected from environmental pollution, and to live in and enjoy a clean and healthful environment. Environmental justice is the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits" (www.mass.gov) .

Annually, during the development of the Transportation Improvement Program (TIP) and the Unified Planning Work Program (UPWP), an analysis is conducted on projects and work tasks to assess burdens and benefits on identified Title VI and EJ communities. For these analyses, the 2013-2017 American Community Survey 5-year estimates were utilized. For some of the data, census estimates were only available at the Census Tract level. This data dealt with Foreign Born, Disabilities and Non-English Spoken at Home. The remaining census data estimates were available at the Block Group level. The tables below list the ACS data sources as well as whether they were broken down to the Census Tract or Block Group level. These tables, therefore, were used to determine Environmental Justice (EJ) and Title VI designated areas.



Table 4 - 3. ACS Table Sources

**Source: 2013-2017 ACS 5-Year Estimates
By Block Group**

Variable	2013-2017 ACS Table No.
Total Population	B03002
Majority Population	B03002
Poverty Determined Population	B17021
Below Poverty Population	B17021
Population 65 Years or Older Population	B09020
Median Household Income	B19013
Limited English Proficiency (LEP)	C16002
Households	

**Source: 2013-2017 ACS 5-Year Estimates
By Census Tract**

Variable	2013-2017 ACS Table No.
Total Population	B05002
Foreign Born	B05002
Individuals with Disabilities	S1810
Percent Household Limited English Proficiency (LEP)	S1602
Percent Language Spoken at Home – Non-English	DP02

Environmental Justice (EJ) and Title VI populations are defined differently by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). In addition, EJ analysis is based on different criteria, ex. poverty based on the statewide median income rather than the regional median income. The tables below define the Title VI and EJ criteria utilized in the regional analysis.

Table 4 - 4. Environmental Justice and Title VI Definitions for Analysis

Environmental Justice Block Groups	Analysis Criteria
1. Block group whose annual median household income is equal to or less than 65 percent (%) of the statewide median (\$74,167 in 2017);	Statewide Median Income: \$74,167 65% of Median Household Income: \$48,209 Geography: Block Group
2. Twenty-five percent (25%) or more of the residents identifying as minority;	Minority Population Equal or Greater Than 25% Geography: Block Group
3. Twenty-five percent (25%) or more of the households having no one over the age of 14 who speaks English as their primary language or have a limited ability to read, speak, write, or understand English - Limited English Proficiency (LEP).	Limited English Proficiency Equal or Greater Than 25% Geography: Block Group

FTA Title VI Communities	Analysis Criteria
1. Minority – Percent of population including Hispanic or Latino of any race that is considered non-white and is higher than the regional average	Regional Average: 12.24% Geography: Block Group
2. Low Income - Percent estimated below poverty level that is higher than the regional average	Regional Average: 10.85% Geography: Block Group



FHWA Title VI Communities	Analysis Criteria
1. Elderly – Percent of Total Population > 65 that is higher than the regional average	Regional Average: 15.11% Geography: Block Group
2. Individuals with Disabilities – Percent of population with a disability that is higher than the regional average	Regional Average: 12.03% Geography: Census Tract
3. Minority – Percent of population including Hispanic or Latino of any race that is considered non-white and is higher than the regional average	Regional Average: 12.24% Geography: Block Group
4. Foreign Born – Percent of population that is Foreign Born and is higher than the regional average	Regional Average: 8.12% Geography: Census Tract
5. Language – Percent of Population Spoken Language Other than English that is higher than the regional average	Regional Average: 14.42% Geography: Census Tract

Table 4 - 5 summarizes the populations for the Montachusett Region as a whole for the defined Title VI and EJ communities.

Table 4 - 5. Title VI and EJ Populations – Montachusett Region

		EJ Block Groups			FTA Title VI Block Groups		FHWA Title VI Block Groups		FHWA Title VI Census Tracts		
		Income	Minority	LEP HH	Minority	Low Income	Elderly	Minority	Disabilities	Foreign Born	Language
1	Total Regional Population	242,671	242,671	91,041 (HH)	242,671	233,995	242,671	242,671	242,671	242,671	242,671
2	Total Regional EJ/Title VI Population	N/A	29,695	2,322 (HH)	29,695	25,377	36,671	29,695	29,194	19,710	34,985
3	Percent of Total Regional EJ/Title VI Population vs. Total Regional Population	N/A	12.24%	2.55%	12.24%	10.85%	15.11%	12.24%	12.03%	8.12%	14.42%

NOTE: Figures listed as N/A due to the different criteria used by FTA and FHWA to define Low Income populations. Thus, a specific count cannot be calculated. The FTA definition is based on a regional average while FHWA is based on the statewide median income.

Housing Characteristics

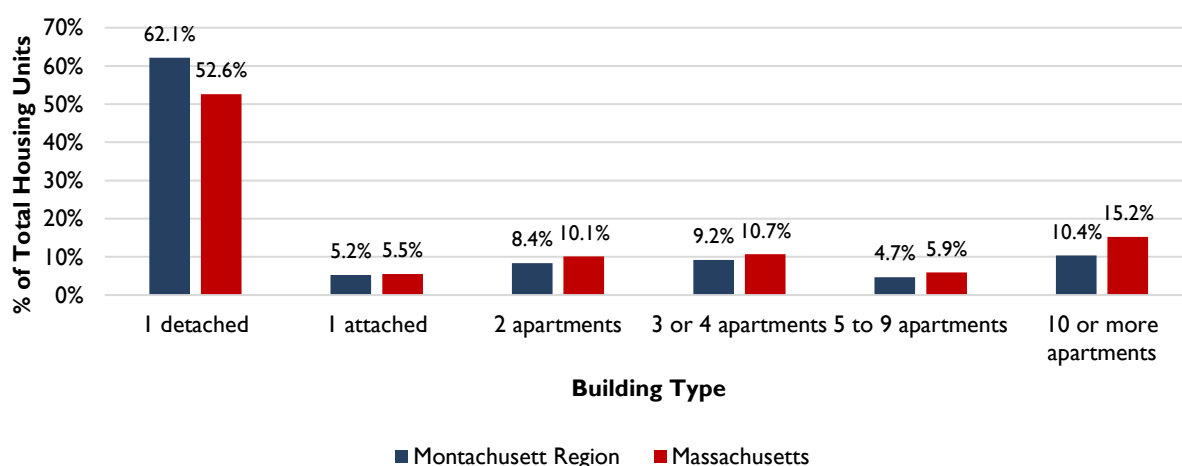
To serve their aging populations as well as attract young professionals and working families, Montachusett communities will need to offer a variety of housing options. For many individuals, housing needs changes over a lifetime as household size and income decreases. Ensuring



available housing near importance services (e.g. healthcare facilities, public transit, grocery stores) becomes more important as the ability and willingness to drive may decrease as well. Balancing the housing needs of seniors, students, and working families and individuals of all ages represents an ongoing challenge for each of our 22 communities.

Like the state as a whole – but to an even further degree – the majority of housing units in the Montachusett Region are single detached units (Figure 4 - 11).

Figure 4 - 11. Housing Units by Building Type

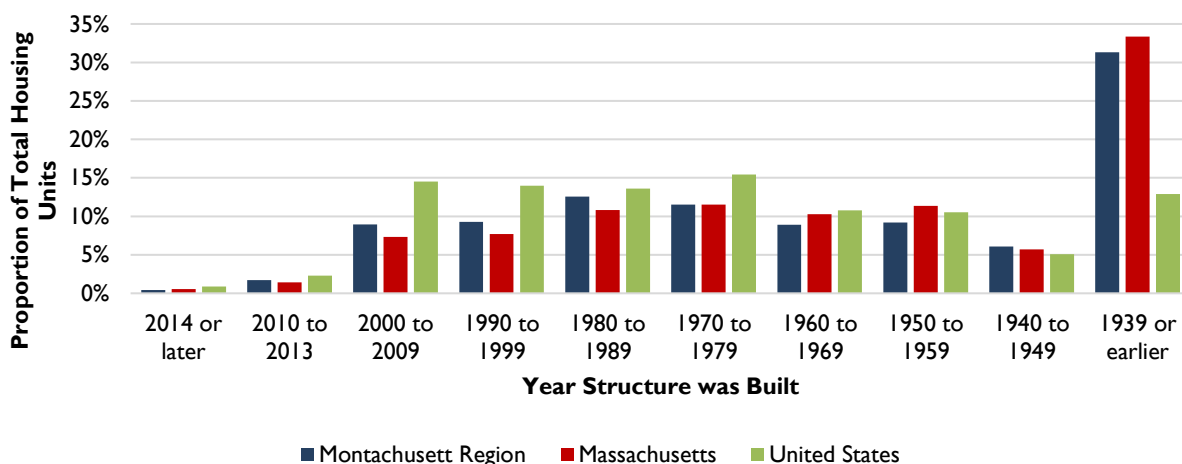


Source: American Community Survey (2013-2017) 5-Year Estimates

The ages of homes in the Montachusett Region are akin to much of New England, with nearly a third of all homes having been built prior to the second World War (Figure 4 - 12). All homes built prior to 1978 (when lead-based house paint was discontinued in the United States) are likely to contain some levels of lead. Today, the Massachusetts Lead Law requires the removal or covering of lead paint hazards in homes built before 1978 where any children under six live, regardless of their blood lead level.



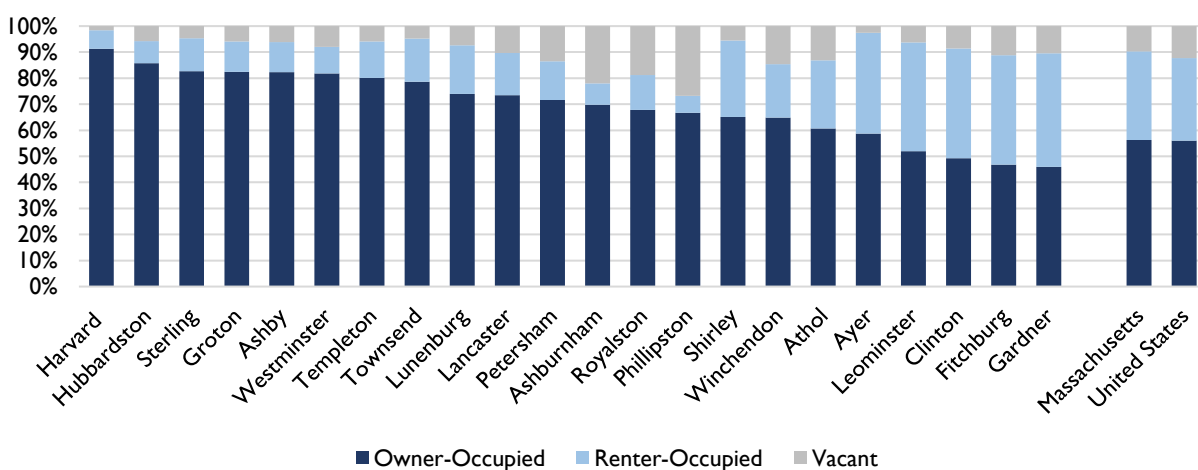
Figure 4 - 12. Proportion of Total Housing Units by Year Structure Was Built



Source: American Community Survey (2013-2017) 5-Year Estimates

Housing occupancy is highly variable between communities in the region (Figure 4 - 13), with homeowner occupancy ranging from as high as 91% in Harvard to as low as 46% in Gardner (compared to 56% in both the state and the nation).

Figure 4 - 13. Housing Occupancy Status

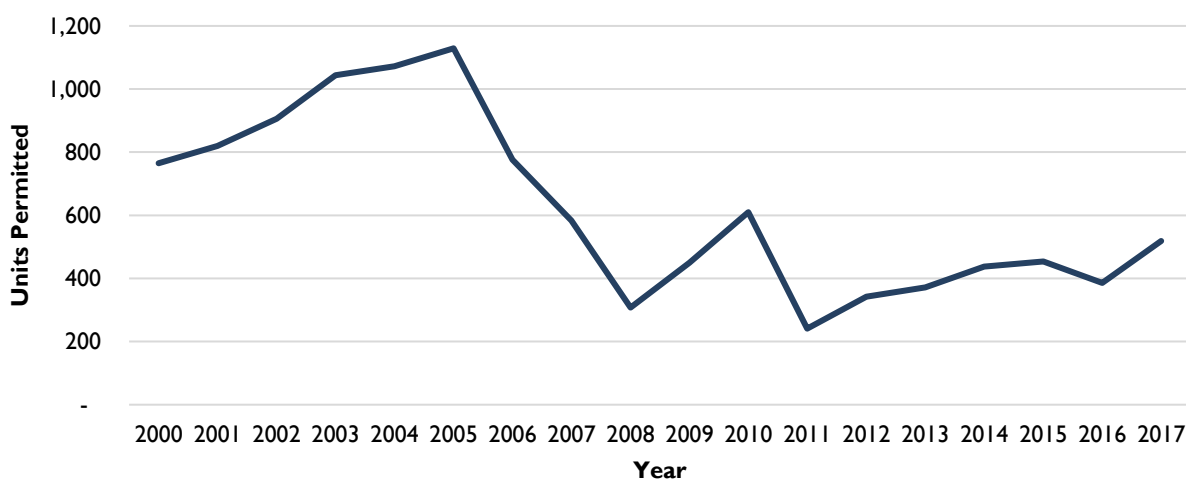


Source: American Community Survey (2013-2017) 5-Year Estimates



In 2010, the region witnessed a spike in housing production which helped break the trend of declining construction which began in 2005 (Figure 4 - 14).

Figure 4 - 14. Number of Housing Units Permitted in the Montachusett Region (2000 to 2017)



Source: US Census Bureau – Annual Building Permit Survey

More than half of the building units permitted in 2010 were concentrated in the community of Lunenburg who supported the production of 308 units that year (of the total 610 in the entire region), including seven housing complexes with an estimated 186 total housing units.

It is generally accepted that a household can afford a home valued up to 30% of the household's annual income before becoming "cost burdened". Those households who pay a higher percentage of their income on housing may – according to the US Department of Housing and Urban Development – "have difficulty affording necessities such as food, clothing, transportation, and medical care". An estimated 19,464 owner-occupied households and 12,866 renter-occupied households are cost burdened throughout the Montachusett Region (Table 4 - 6).



Table 4 - 6. Cost Burden Severity by Community and Housing Occupancy

Community	Number of owner-occupied households that are cost burdened	% of owner-occupied households that are cost burdened	Number of renter-occupied households that are cost burdened	% of renter-occupied households that are cost burdened
Ashburnham	762	38.3	32	26.2
Ashby	352	35.1	23	42.6
Athol	927	27.8	634	52.5
Ayer	621	33.6	689	51.2
Clinton	1,132	32.2	911	42.3
Fitchburg	3,016	35.8	3,433	56.4
Gardner	1,480	34.1	1,464	43.8
Groton	908	27.1	121	26.8
Harvard	499	28.5	65	55.6
Hubbardston	314	23.1	135	93.1
Lancaster	578	29.6	168	47.6
Leominster	2,945	31.8	3,466	48.9
Lunenburg	1,144	32.5	280	46.7
Petersham	121	30	25	54.4
Phillipston	151	25.9	5	100
Royalston	107	26.8	15	32.6
Shirley	636	42.2	275	41.9
Sterling	709	28.9	205	71.9
Templeton	602	25.6	173	41.1
Townsend	792	29.4	238	41.4
Westminster	775	31.9	114	33.8
Winchendon	893	30.2	395	42.1

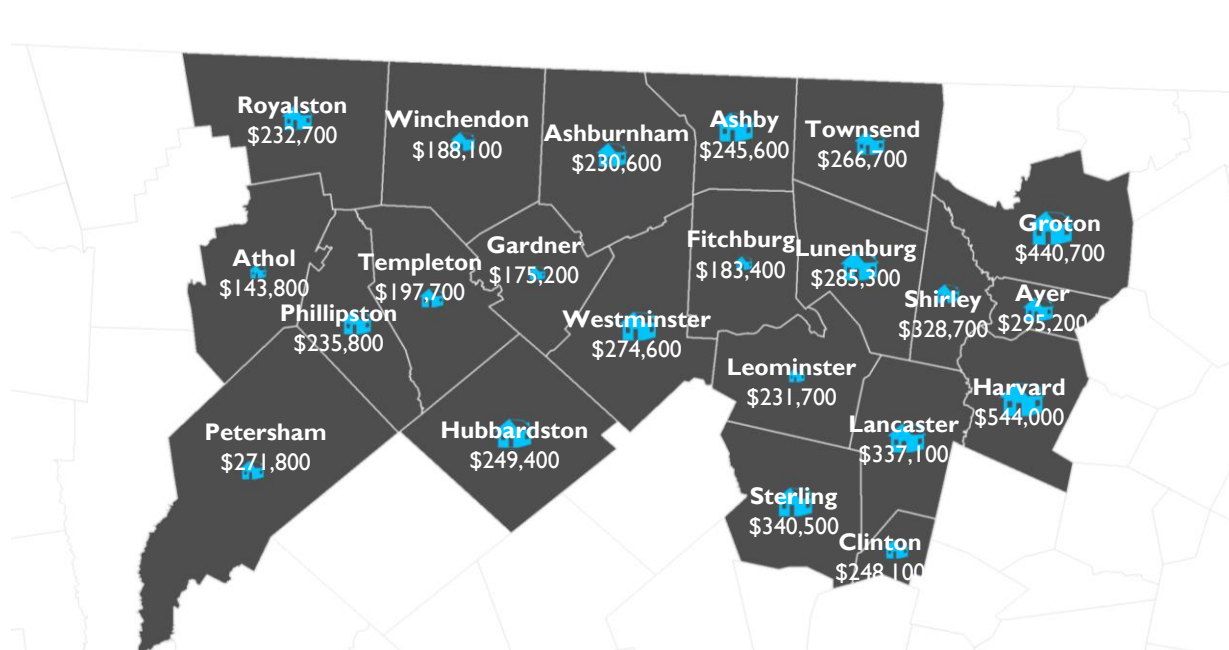
Source: Housing.MA

Almost twenty-eight percent (27.9%) of owner-occupied households are considered cost-burdened throughout Massachusetts; all but six communities in the Montachusett region exceed this figure. Although fewer total renters experience being cost burdened when compared to homeowners, their rate of burden is significantly higher. Specifically, 47.4% of renter-occupied households spend more than 30% of their income on living expenses across the state, while 10 of 22 Montachusett communities exceed this rate.

Another indicator of housing affordability is the median home value of the region. As a general trend, housing values are highest along the eastern edge of the Montachusett Region in those communities with greatest accessibility to Boston and major employment centers (Figure 4 - 15).



Figure 4 - 15. Median Household Value for Owner-Occupied Households

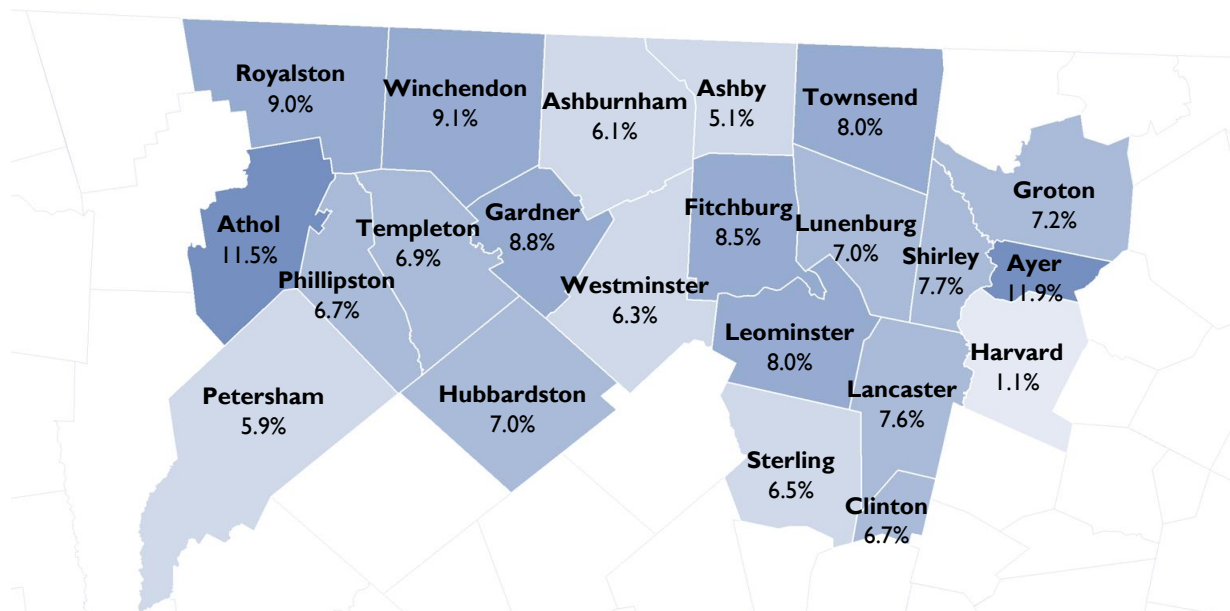


Source: American Community Survey (2013-2017) 5-Year Estimates

To project future household values, Zillow.com compiles the past six years of home sales data and forecasts ahead a single year (Figure 4 - 16). Housing values are projected to increase in every Montachusett community over the next year; in particular, Ayer (11.9%) and Athol (11.5%) are expected to see dramatic changes in their housing markets in the near future.



Figure 4 - 16. One-Year Household Value Projections



Source: Zillow Research 2019

Labor Force and Employment

Labor force and employment data were collected and compared across multiple sources, including American Community Survey estimates, ESRI's Business Analyst Online (BAO), and Massachusetts Office of Labor and Workforce Development. Overall, despite significant disruptions since before 2000, manufacturing remains the largest (NAICS 2-digit) employment sector in the region (17% of total employees) and integral to the economic health of many communities.



Table 4 - 7. Businesses and Employment by Industry (ESRI BAO 2019)

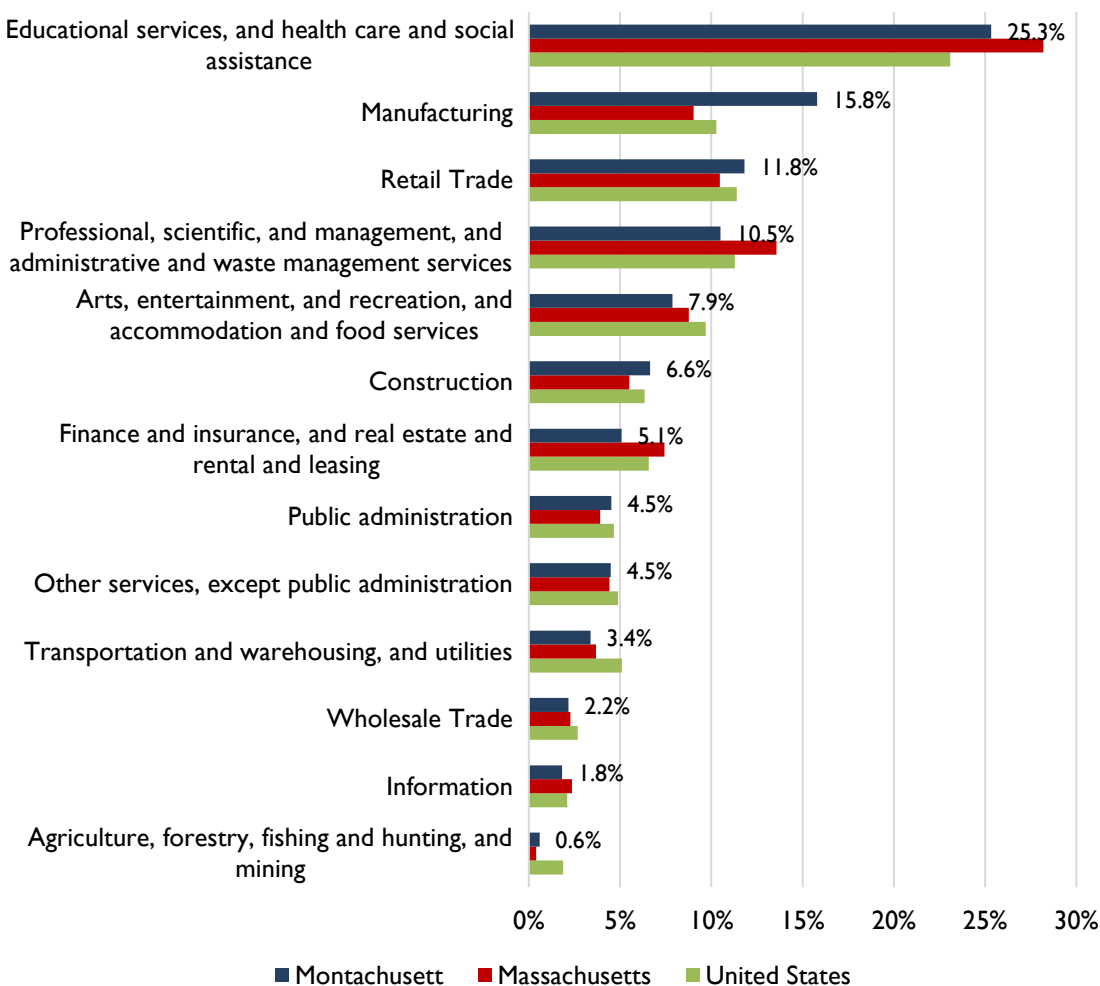
Industry By NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Manufacturing	450	5.3%	16,175	17.0%
Health Care & Social Assistance	635	7.4%	13,826	14.5%
Retail Trade	1,155	13.5%	12,577	13.2%
Educational Services	273	3.2%	9,688	10.2%
Accommodation & Food Services	510	6.0%	8,192	8.6%
Public Administration	533	6.2%	5,808	6.1%
Other Services (except Public Administration)	1,316	15.4%	5,240	5.5%
Wholesale Trade	342	4.0%	4,924	5.2%
Construction	797	9.3%	3,910	4.1%
Professional, Scientific & Tech Services	611	7.1%	3,167	3.3%
Finance & Insurance	274	3.2%	2,228	2.3%
Transportation & Warehousing	155	1.8%	1,931	2.0%
Administrative & Support & Waste Management & Remediation Services	309	3.6%	1,850	1.9%
Real Estate, Rental & Leasing	389	4.5%	1,806	1.9%
Information	181	2.1%	1,514	1.6%
Arts, Entertainment & Recreation	149	1.7%	1,237	1.3%
Agriculture, Forestry, Fishing & Hunting	60	0.7%	297	0.3%
Utilities	25	0.3%	287	0.3%
Management of Companies & Enterprises	9	0.1%	227	0.2%
Unclassified Establishments	369	4.3%	154	0.2%
Mining	9	0.1%	104	0.1%
Total	8,551	100.0%	95,142	100.0%

Source: ESRI Business Analyst Online (BAO) 2019

When aggregated (as is done for the American Community Survey estimates), educational services, and health care and social assistance together represent the largest employing industry in the Montachusett Region, as we see in the state and nation as a whole.



Figure 4 - 17. Employment by Industry

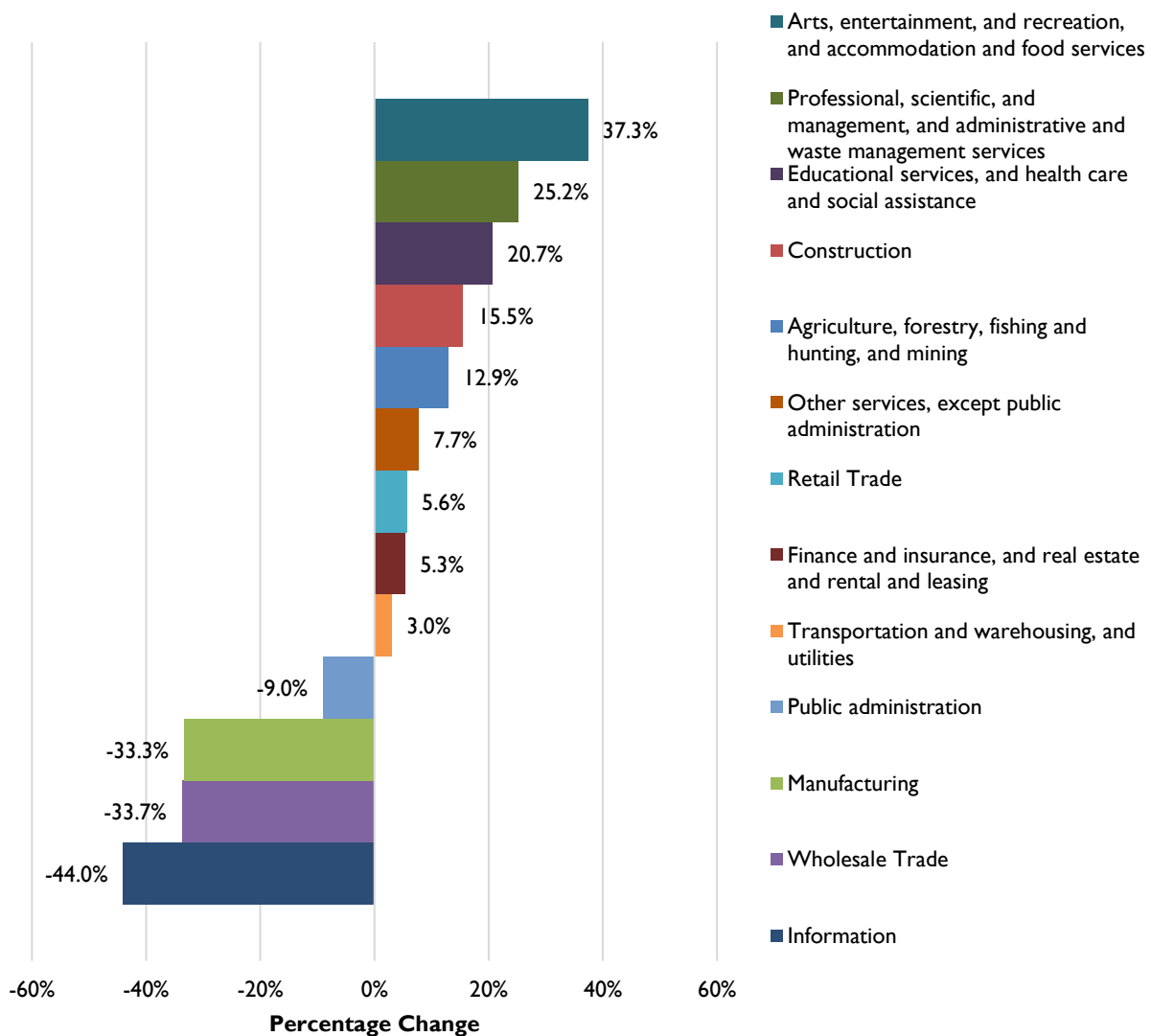


Source: American Community Survey (2013-2017) 5-Year Estimates

The level of manufacturing-based employment – despite declines in recent decades – continues to dwarf that of both the state and country. While efforts continue toward diversifying the regional economy into other growing sectors of the economy, including service sectors, the region’s comparative advantage of an experienced manufacturing workforce and legacy industrial space will ensure manufacturing is maintained as a cornerstone in the region’s economy.



Figure 4 - 18. Shift in Employment by Industry as a Share of the Regional Economy, Montachusett Region (2000 to 2017)



Source: US Census, American Community Survey (2013-2017) 5-Year Estimates

Between 2000 and 2017, the region witnessed some notable shifts in the total employment share by each industry. Arts, entertainment, and recreation, and accommodation and food services – although still modest in its total employment, with 9,544 jobs in 2017 – has increased its share of total employment in the region by 37.3% since 2000. Other industries which witness such a boost included professional, scientific, and management, and administrative and waste management services (25.2%); educational services, and health care and social assistance (20.7%); and construction (15.5%).



While the greatest declines in total employment share occurred in the information (-44%) and wholesale trade (-33.7%) sectors, together these sectors are responsible for less than 4% of jobs in the region in 2017. Manufacturing, on the other hand, accounts for an estimated 15.8% of the region's employment and is down from 23.7% in 2000 (and a net loss of 7,063 jobs during that time).

According to the Massachusetts Executive Office of Labor and Workforce Development, the fastest growing occupation in the Montachusett Region is heating, air conditioning, and refrigeration mechanics and installers (see Table 4 - 8). Home health aides and personal care aides are also going to be needed in higher supply to help continue to meet the care needs of the region's growing senior population.

Table 4 - 8. Fifteen (15) Fastest Growing Occupations in the Montachusett Region

Title	Employees 2016	Projected Employees 2026	Numeric Change	Percent Change	2017 Mean Annual OES Wage
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	122	156	34	27.9%	\$50,272
Home Health Aides	232	292	60	25.9%	\$30,609
Personal Care Aides	1,924	2,404	480	24.9%	\$28,198
Software Developers, Applications	210	252	42	20.0%	\$95,582
Nonfarm Animal Caretakers	210	252	42	20.0%	\$27,317
Market Research Analysts and Marketing Specialists	179	213	34	19.0%	\$62,777
Mental Health and Substance Abuse Social Workers	180	214	34	18.9%	\$36,639
Combined Food Preparation and Serving Workers, Including Fast Food	1,020	1,205	185	18.1%	\$25,361
Financial Managers	296	345	49	16.6%	\$93,419
Farmers, Ranchers, and Other Agricultural Managers	244	284	40	16.4%	–
Plumbers, Pipefitters, and Steamfitters	300	346	46	15.3%	\$63,347
Self-Enrichment Education Teachers	128	147	19	14.8%	\$39,451
Nurse Practitioners	161	184	23	14.3%	\$128,176
Residential Advisors	352	399	47	13.4%	\$31,980
Loan Officers	750	842	92	12.3%	\$84,574

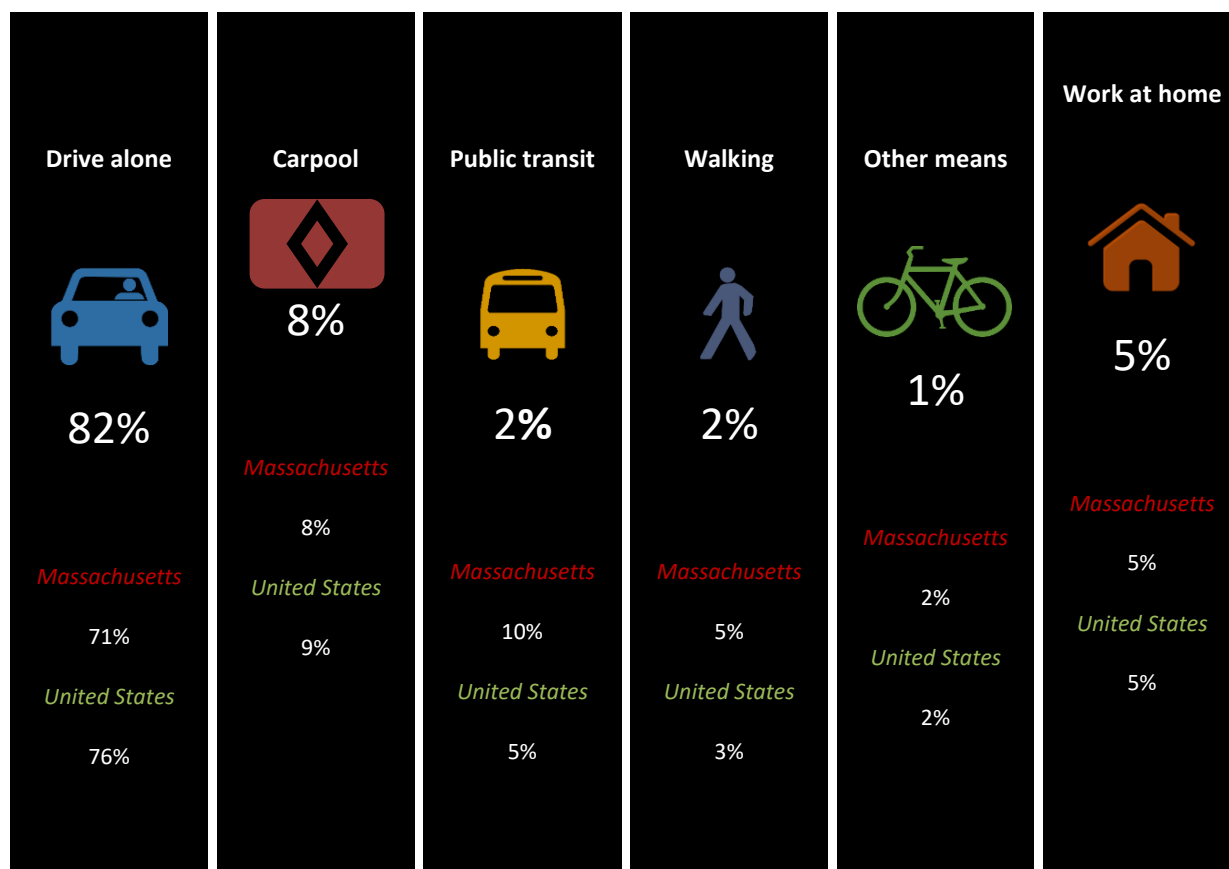
Source: Massachusetts Executive Office of Labor and Workforce Development 2018



Travel Means & Times

This section provides commuting information for workers aged 16 or over. This data comes from the American Community Survey (ACS) from the US Census Bureau.

Figure 4 - 19. Means of Travel to Work, Montachusett Region

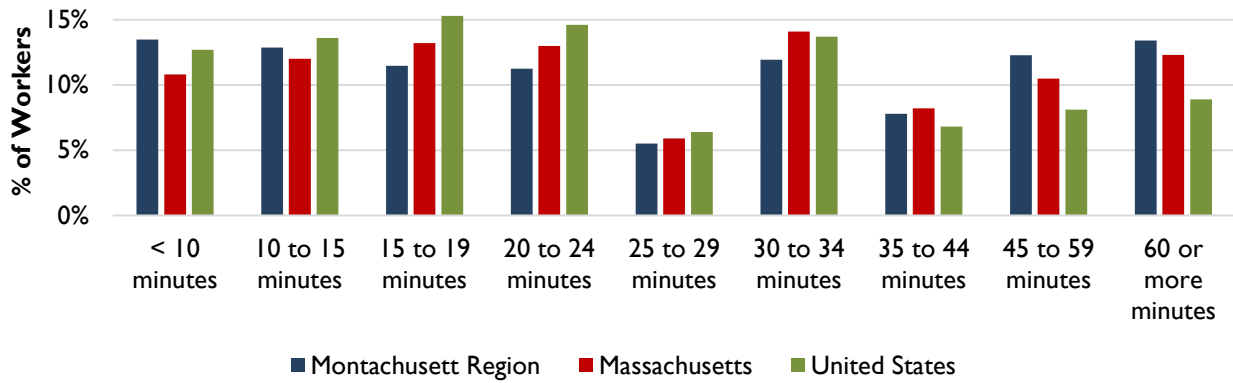


Source: American Community Survey (2013-2017) 5-Year Estimates

Montachusett Region commuters are more auto-reliant for than the state or nation, with 90% of workers either driving alone or carpooling to work (compared to 78% of workers in Massachusetts, and 85% of workers in the country). We also recognize Montachusett residents are significantly less reliant upon public transit and a few residents are able to walk to their place of employment.



Figure 4 - 20. Travel Time to Work

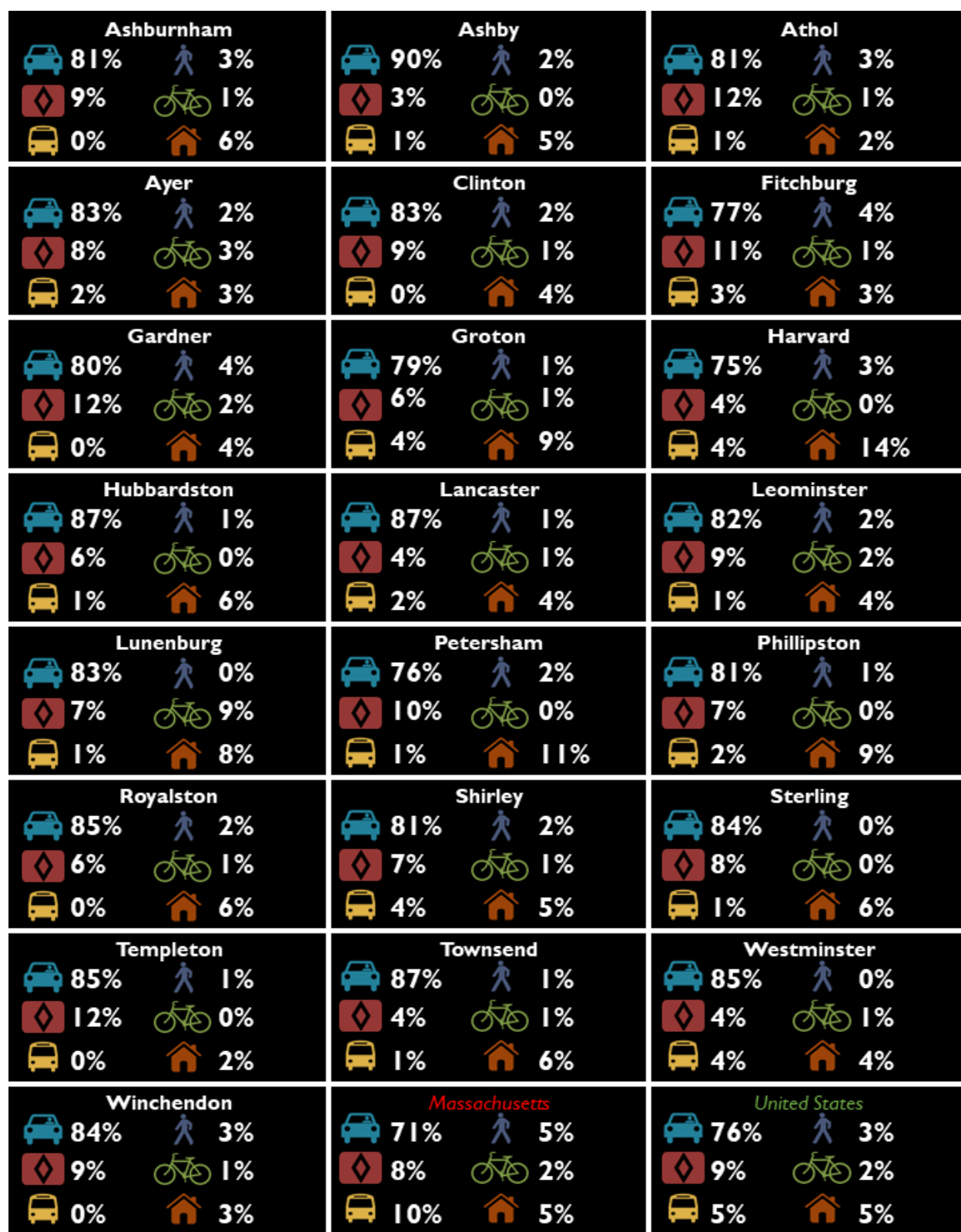


Source: American Community Survey (2013-2017) 5-Year Estimates

Interestingly, a higher proportion of Montachusett residents have *both* less than a 10-minute and more than a 45-minute commute to their place of employment when compared to Massachusetts and the US.



Figure 4 - 21. Means of Travel to Work by Community



Source: American Community Survey (2013-2017) 5-Year Estimates



PROJECTIONS FOR THE MONTACHUSETT REGION

MassDOT worked with the UMass Donahue Institute (UMDI) to update and revised population, households and employment projections for the Commonwealth's MPOs for use in their 2020 RTP and the Statewide Transportation Planning Model developed and run by Central Transportation Planning Staff (CTPS) of the Boston Region MPO. Working with a Projection Advisory Committee that included UMDI, MassDOT, CTPS and the state's Regional Planning Agencies (RPAs), these projections were developed over a series of months.

As stated by UMDI in their report, *Massachusetts Population Projections by Regional Planning Area, Projections Methodology*:

"It is important to note that modeled projections cannot and do not purport to predict the future, but rather may serve as points of reference for planners and researchers. Like all forecasts, the UMDI projections rely upon assumptions about future trends based on past and present trends which may or may not actually persist into the future. It is also a demographically-based model, assuming that population change is driven by births, deaths, and the persistence of historic migration rates into the future."

For a more detailed discussion regarding the development and methodology employed by UMDI to develop these demographic projections, please contact the MRPC.

Methodology

The following summarizes the methodology employed by UMDI and reviewed by the Projections Advisory Committee. It is derived from a presentation conducted by UMDI entitled "Long-Term Population Projections for Massachusetts Regions - Method Overview, Recent Updates, and the Components of Change in Massachusetts, September 2018."

The following steps were conducted:

1. Massachusetts Population Growth
2. Population Projections Method Overview

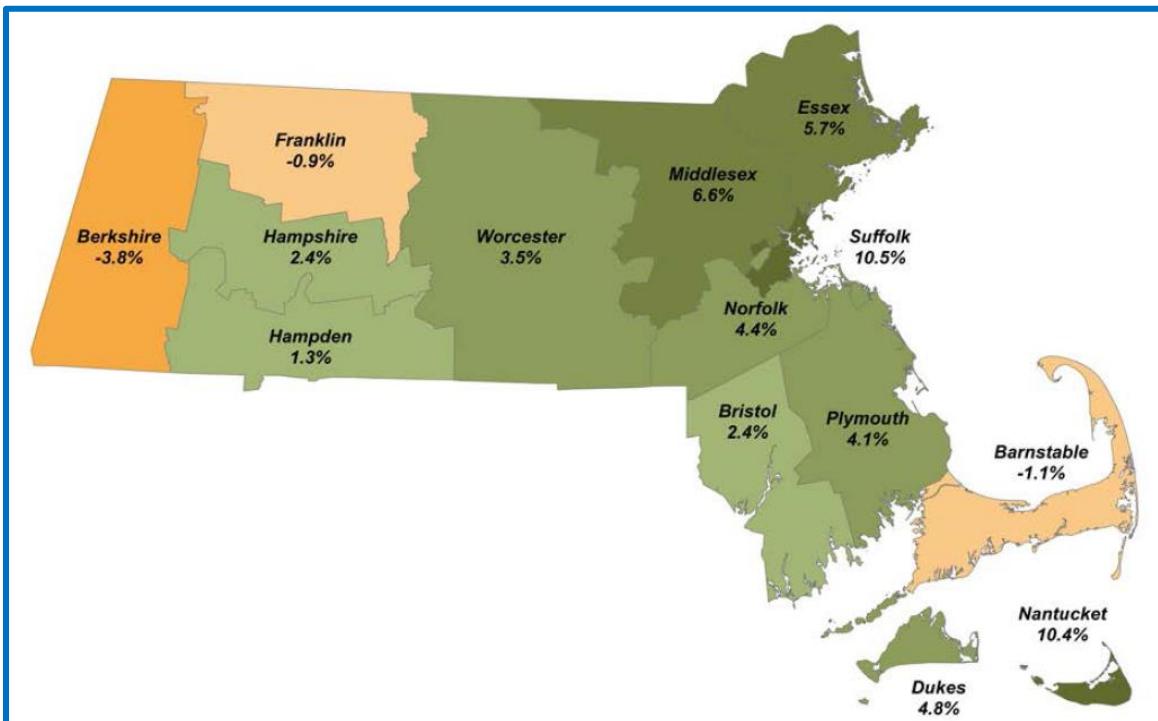


3. Updating the Model
4. Results by MPO Region
5. Regional Variation
6. Statewide Results Summary

Massachusetts Population Growth Snapshot

- Massachusetts has been growing twice as fast this decade compared to last.
 - 0.3% average annual growth between 2000 and 2010
 - 0.7% average annual growth between 2010 and today
- From 2000 to 2010, Massachusetts population increased by 198,516 –or 3.1% total.
- Since Census 2010, Massachusetts population has already increased by 312,011, or 4.8% cumulatively.

Figure 4 - 22. Estimated Percent Change in Population by Massachusetts County April 1, 2010 to July 1, 2017



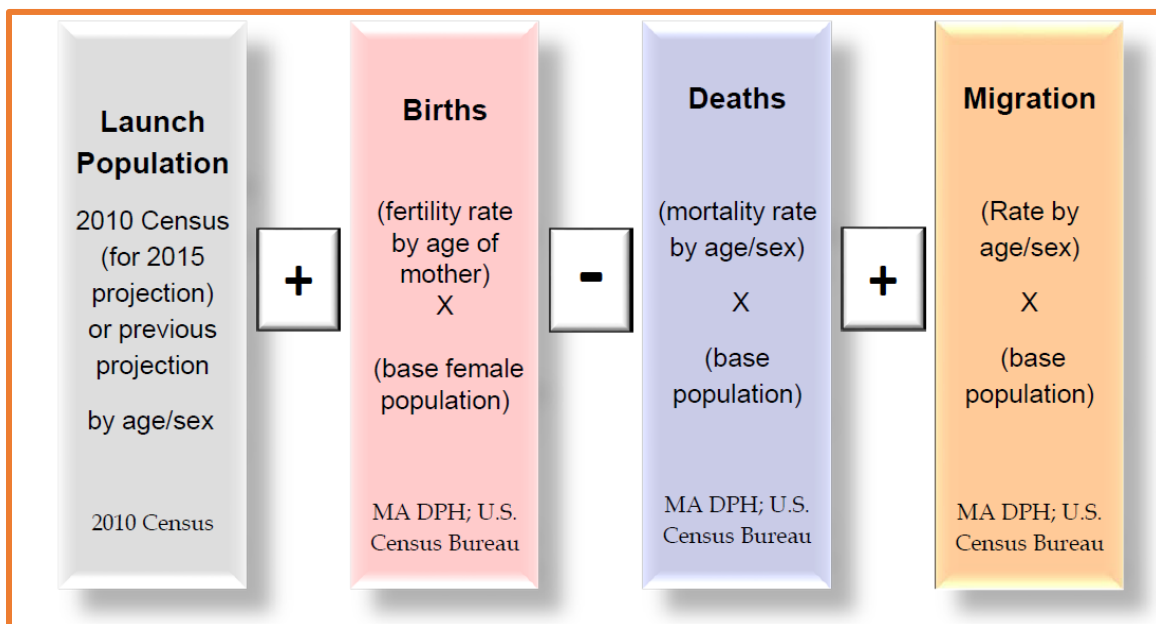
Source: Long-Term Population Projections for Massachusetts Regions, UMDI



Population Projections Method Overview

- Cohort-Component Method
 - A demographic accounting framework for modelling population change
 - For each age/sex/geography cohort:

Figure 4 - 23. Cohort Projection Methodology

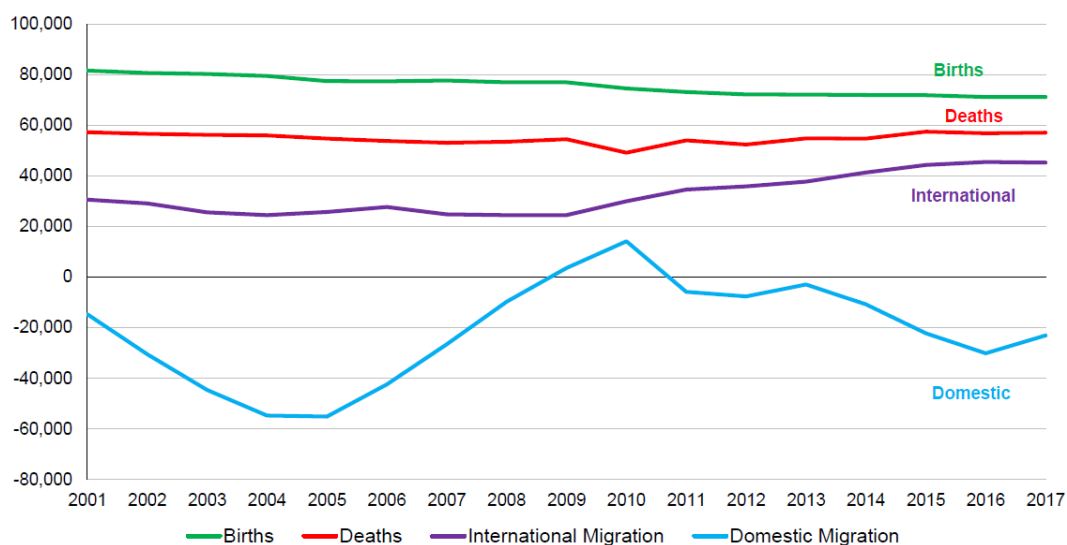


“Cohort” refers to age/sex group for a particular geography, for example, the number of 5-9 year old females in Cambridge.

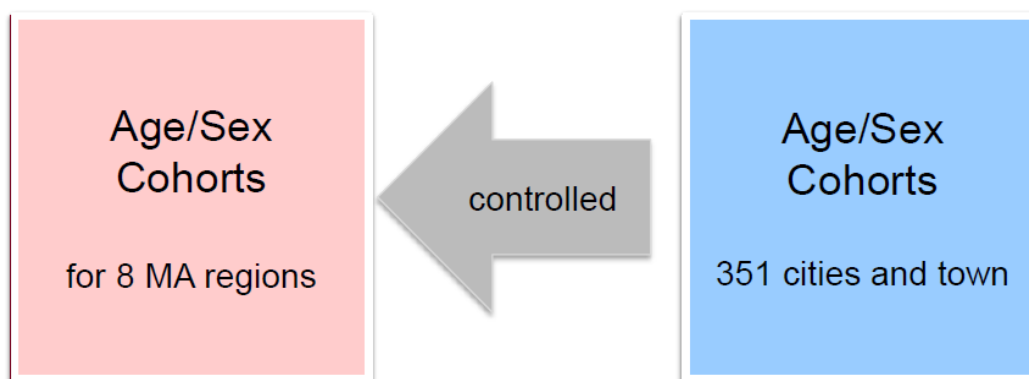
- Components of Change



Figure 4 - 24. Massachusetts Components of Change 2000-2017



- Method Overview
 - Population projections developed at 2 levels



- Both levels are estimated using a *cohort component* approach.
- Difference is in how migration is modelled.

Population Projections Method Overview

- Updates to UMDI V2015 Population Projections
 - **Reset the 2015 launch populations** to align with Census Bureau's 2017 released population estimates by age/sex/county for 2015



- **Fertility rates:** Updated regional rates-by-age according to percentage change observed in state rates-by-age from old period (2005-2009) to latest period (2011-2015)
- **Death rates:** Updated regional rates-by-age according to percentage change observed in state rates-by-age from old period (2005-2009) to latest period (2011-2015)
- **Migration:** In and out migration rates by UMDI region maintained from 2005-2011 ACS data, with 2015 launch refreshed. (Because of issues with new MIGPUMA boundaries).

Results by MPO Region

Figure 4 - 25. Population Change by RPA Region 2010-2020

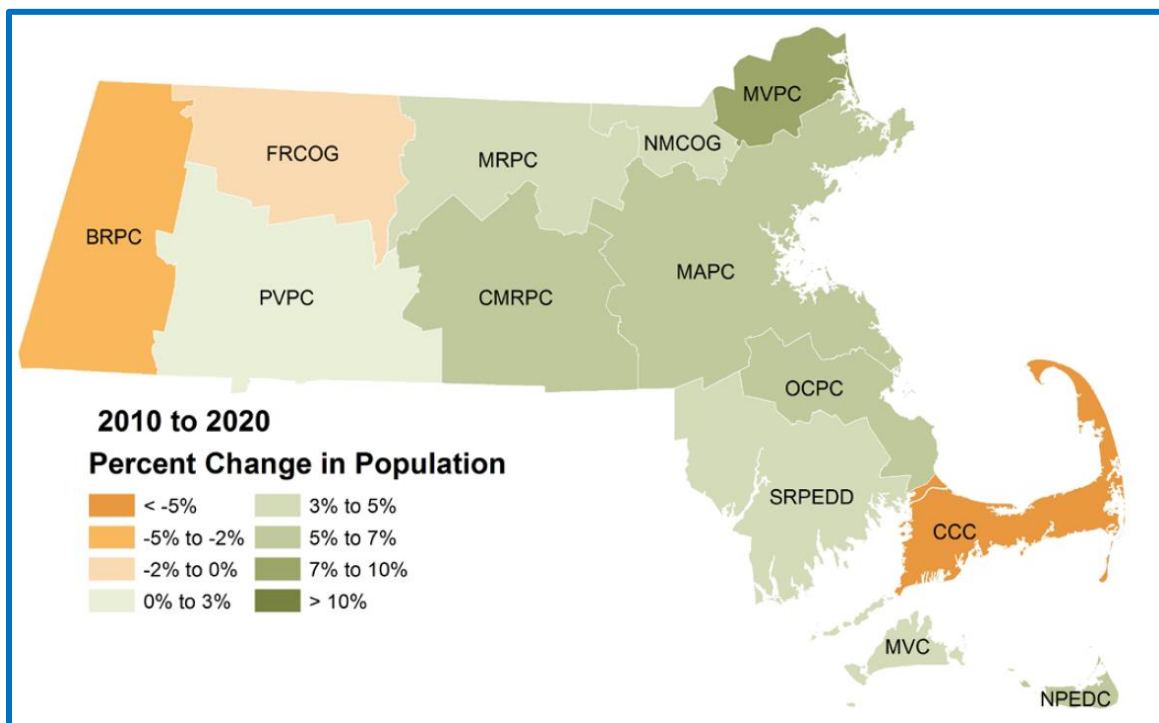




Figure 4 - 26. Population Change by RPA Region 2020-2030

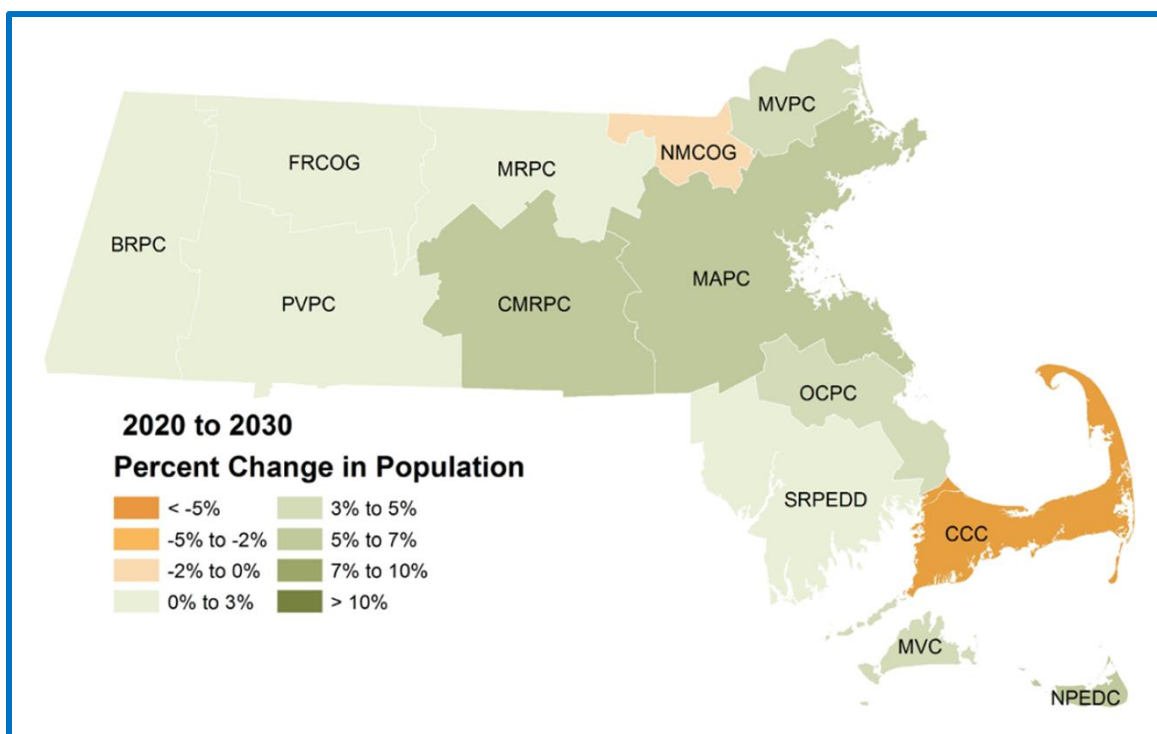
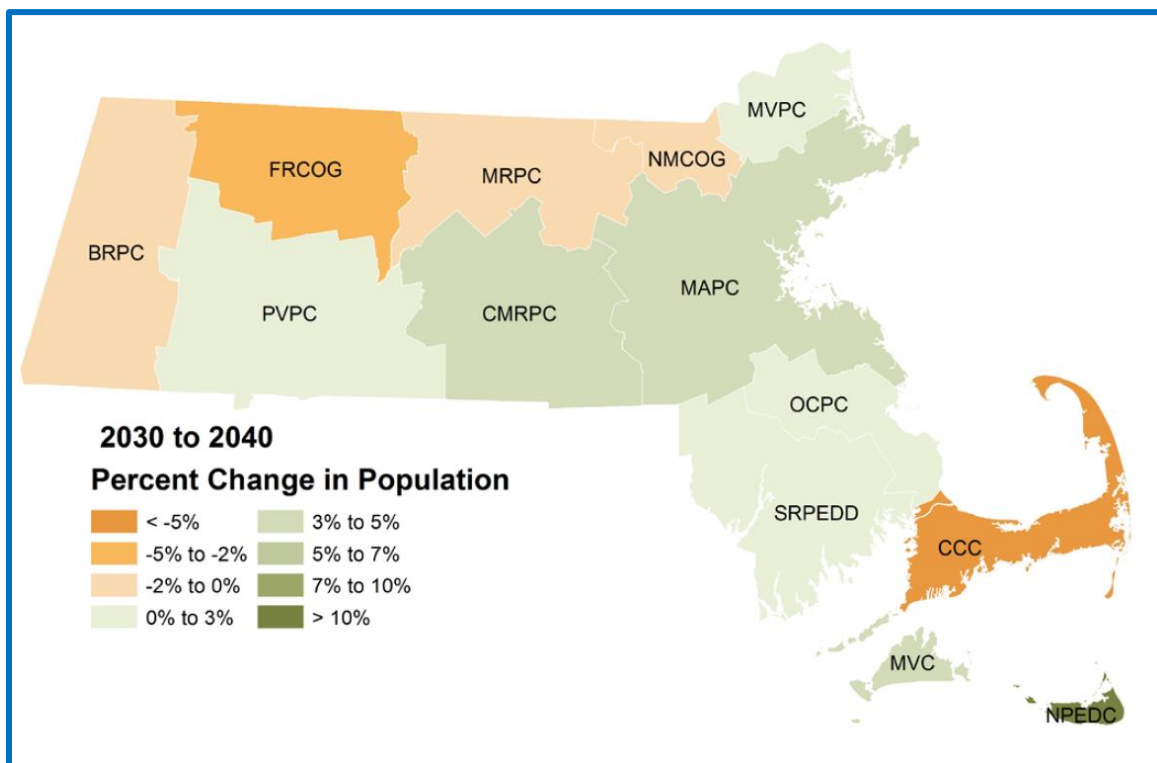


Figure 4 - 27. Population Change by RPA Region 2030-2040





Regional Variation

- Major Factors Influencing Regional Variation
 - Recent trends in migration by region are picked up in the model.
 - Age profile of each region varies considerably
 - Diversity varies around the state and relates to age profile, thus natural increase
 - In seasonal areas, most of the recent housing unit growth is confined to seasonal use, not adding resident population.
- Diversity and Age
 - A higher percentage of Hispanic population generally relates to a lower median age. •In Massachusetts the median age of the Hispanic population is 27.9 compared to 41.5 for the Non-Hispanic population.
 - At the county level, we see that Barnstable and Dukes County are the two oldest in Massachusetts in terms of median age and are also the two counties with the lowest percentage of Hispanic population.
 - The “youngest” county, Suffolk, has the second highest percentage of Hispanic population in Massachusetts.
 - Half (50.4%) of the nation’s children younger than five belonged to a minority population in 2016, with 25.8% identifying as Hispanic.
 - In Massachusetts, 41.0% of children younger than five belonged to a minority population and 20.4% were Hispanic.



Figure 4 - 28. Estimated Minority Population

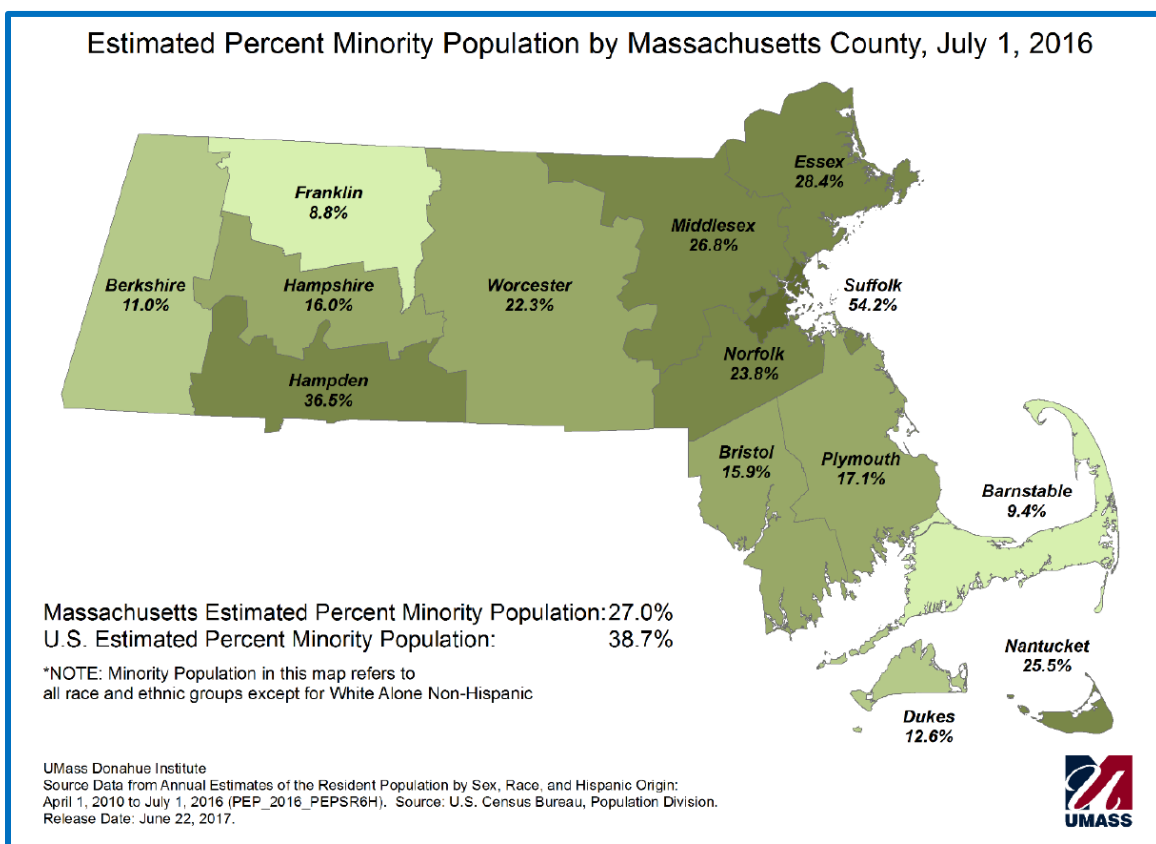
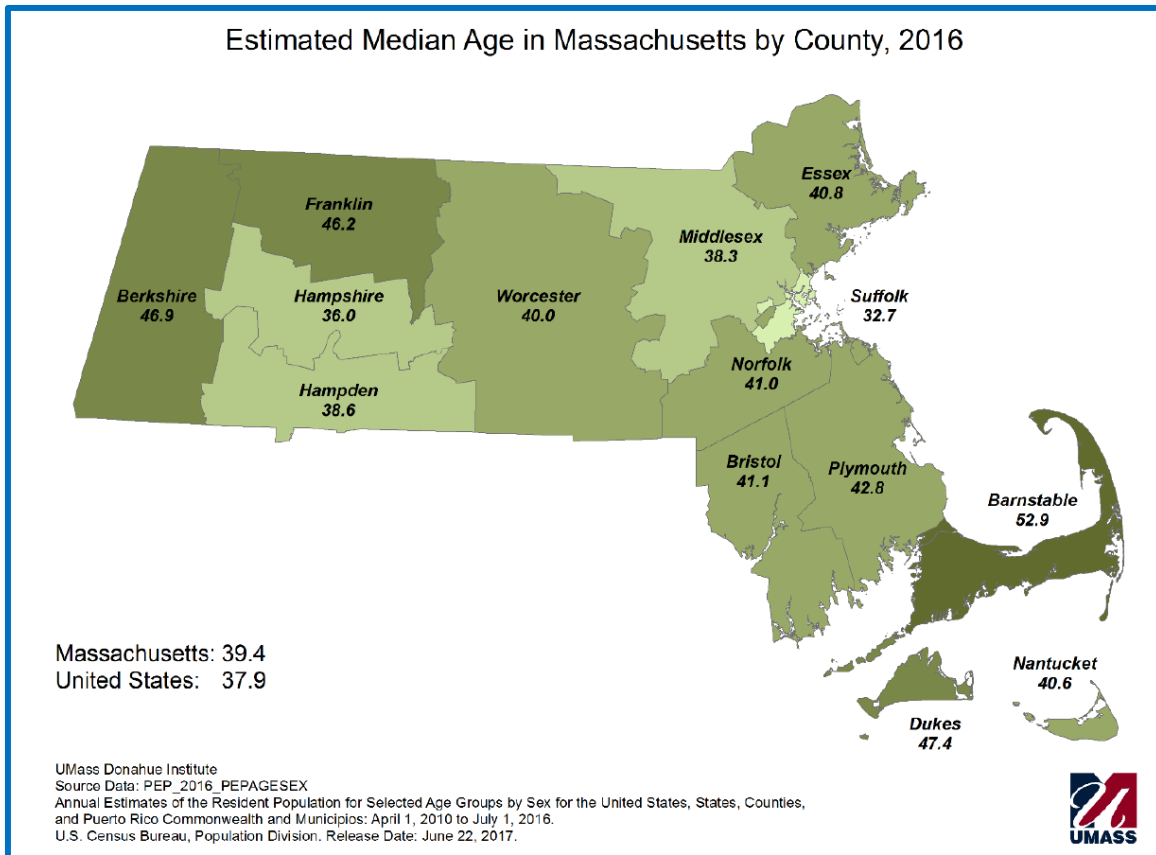




Figure 4 - 29. Estimated Median Age

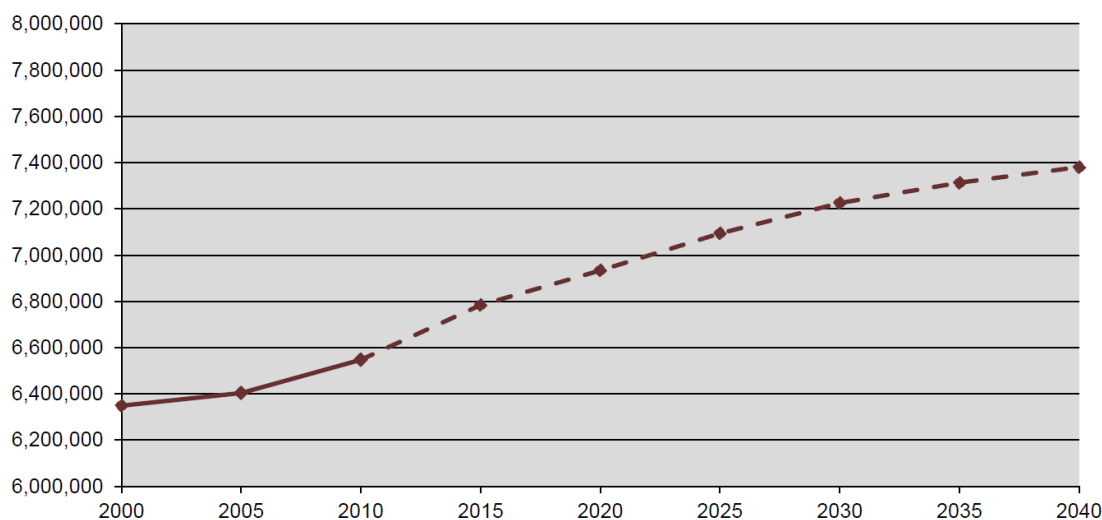


Statewide Summary

- Total State Population

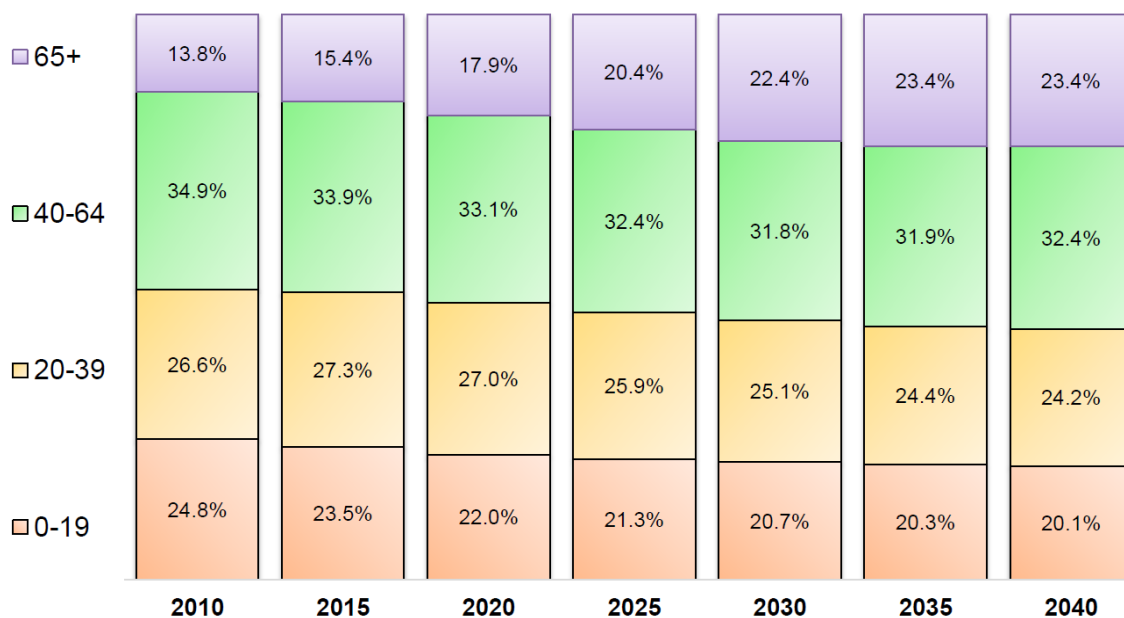


Figure 4 - 30. Massachusetts Actual and Projected Population, 2000-2040



- Population by Age Group: Shifting Ratios

Figure 4 - 31. Massachusetts Projected Population Distribution by Age Group 2010-2040



Source Data: U.S. Census Bureau, 2010 Census Summary File 1; UMass Donahue Institute Population Projections 2018

Montachusett Region Projections

Based upon the work conducted by UMDI and MassDOT as outlined above, a series of projections were calculated for the Montachusett Region. These projections were provided as regional totals



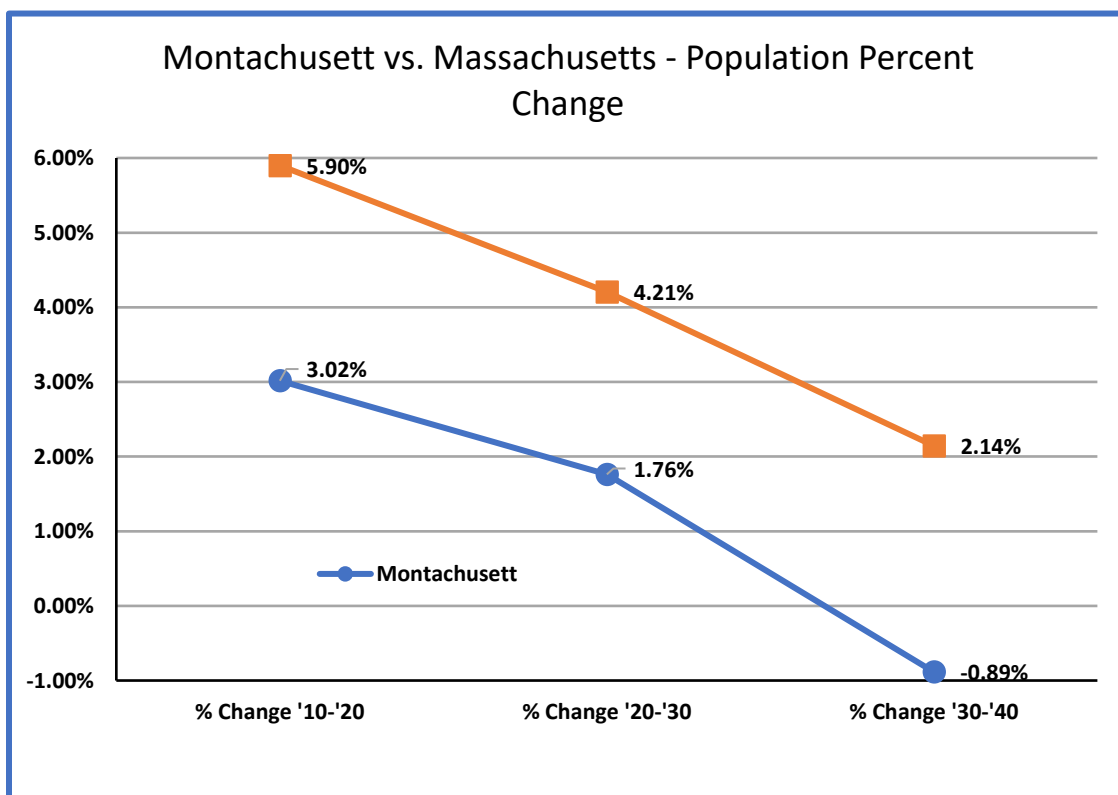
and then disaggregated to the 22 communities that comprise the region. This process was based upon past census data for the communities as well as local review and feedback.

Population

When compared with the Commonwealth as a whole, the population of the Montachusett region is expected to grow at a lower rate until 2040 (Refer to the following Figure 4 - 32). The change in the Montachusett population is expected to lag from approximately 2.5 to 3.0 percentage points behind the state. By 2040, the expected population growth rate for the region from 2010 is projected at 3.90% while Massachusetts is projected at 12.72%.

When compared to the other 12 RPA's in Massachusetts, Montachusett is 1 of 11 regions anticipated to see positive growth in population over the 2010 to 2040 time period. (See Table 4 - 9). Two of the regions that are expected to see a decline in population over this same period are located west of Montachusett, i.e. Franklin Regional Council of Government (FRCOG) and the Berkshire Regional Planning Commission (BRPC).

Figure 4 - 32. Montachusett vs Massachusetts Population Percent Change





The following tables provide a breakdown of Population, Employment and Household projections by the 13 Regional Planning Areas in the state of Massachusetts. These regional totals were provided to the RPA's by MassDOT and UMDI and represent the control totals for the region in question and the state as a whole. RPA staff then distributed these regional control totals to their member municipalities based on local input, data and knowledge.



Table 4 - 9. RPA Projection Totals for Population, Employment and Households – 2010, 2020, 2030 and 2040

RPA	Census 2010	Population 2020	Population 2030	Population 2040	% Change '10-'20	% Change '10-'40	Jobs 2010	Jobs 2020	Jobs 2030	Jobs 2040	% Change '10-'20	% Change '10-'40
BRPC	131,219	127,986	128,548	128,063	-2.5%	-2.4%	60,150	59,772	57,864	57,639	-0.6%	-4.2%
CCC	215,888	210,930	199,466	176,007	-2.3%	-18.5%	88,596	88,953	81,880	75,299	0.4%	-15.0%
CMRPC	556,698	588,141	619,815	641,260	5.6%	15.2%	224,059	238,486	240,984	244,265	6.4%	9.0%
FRCOG	71,372	70,804	70,925	69,477	-0.8%	-2.7%	25,684	26,055	25,163	24,622	1.4%	-4.1%
MAPC (97)	3,087,975	3,356,151	3,568,967	3,704,533	8.7%	20.0%	1,823,515	1,993,310	2,041,465	2,084,667	9.3%	14.3%
MRPC	236,475	243,607	247,899	245,705	3.0%	3.9%	77,199	80,996	79,726	79,098	4.9%	2.5%
MVC	16,535	18,156	19,584	19,793	9.8%	19.7%	7,731	8,256	8,349	8,362	6.8%	8.2%
MVPC	333,748	357,622	370,611	380,912	7.2%	14.1%	145,374	158,793	159,763	161,742	9.2%	11.3%
NMCOG	286,901	299,617	298,889	295,061	4.4%	2.8%	119,332	128,420	127,398	127,359	7.6%	6.7%
NPEDC	10,172	11,206	11,804	12,212	10.2%	20.1%	5,699	6,227	6,256	6,212	9.3%	9.0%
OCPC	362,406	379,936	391,583	396,418	4.8%	9.4%	140,572	149,986	149,870	150,406	6.7%	7.0%
PVPC	621,570	632,012	647,277	656,992	1.7%	5.7%	252,156	261,527	260,253	260,838	3.7%	3.4%
SRPEDD	616,670	637,719	650,104	653,966	3.4%	6.0%	229,400	242,461	242,848	243,002	5.7%	5.9%
MA	6,547,629	6,933,887	7,225,472	7,380,399	5.9%	12.7%	3,199,467	3,443,242	3,481,819	3,523,509	7.6%	10.1%

RPA	Census 2010	Households 2020	Households 2030	Households 2040	% Change '10-'20	% Change '10-'40
BRPC	56,091	58,453	60,341	60,055	4.2%	7.1%
CCC	95,755	97,410	93,355	82,313	1.7%	-14.0%
CMRPC	210,870	234,781	256,845	270,061	11.3%	28.1%
FRCOG	30,462	32,675	34,478	34,427	7.3%	13.0%
MAPC (97)	1,216,543	1,377,472	1,505,119	1,582,644	13.2%	30.1%
MRPC	89,816	98,864	105,522	107,413	10.1%	19.6%
MVC	7,368	8,368	9,180	9,359	13.6%	27.0%
MVPC	123,577	140,546	152,363	159,348	13.7%	28.9%
NMCOG	104,022	116,271	121,559	122,740	11.8%	18.0%
NPEDC	4,229	4,644	4,787	4,780	9.8%	13.0%
OCPC	129,490	143,521	152,908	156,069	10.8%	20.5%
PVPC	238,629	255,326	270,293	278,094	7.0%	16.5%
SRPEDD	240,223	261,815	277,728	284,421	9.0%	18.4%
MA	2,547,075	2,830,145	3,044,477	3,151,722	11.1%	23.7%



Population growth in the region is expected to peak in 2030 to 247,899 persons but slightly decrease by -0.89% (or -2,194 persons) by 2040.

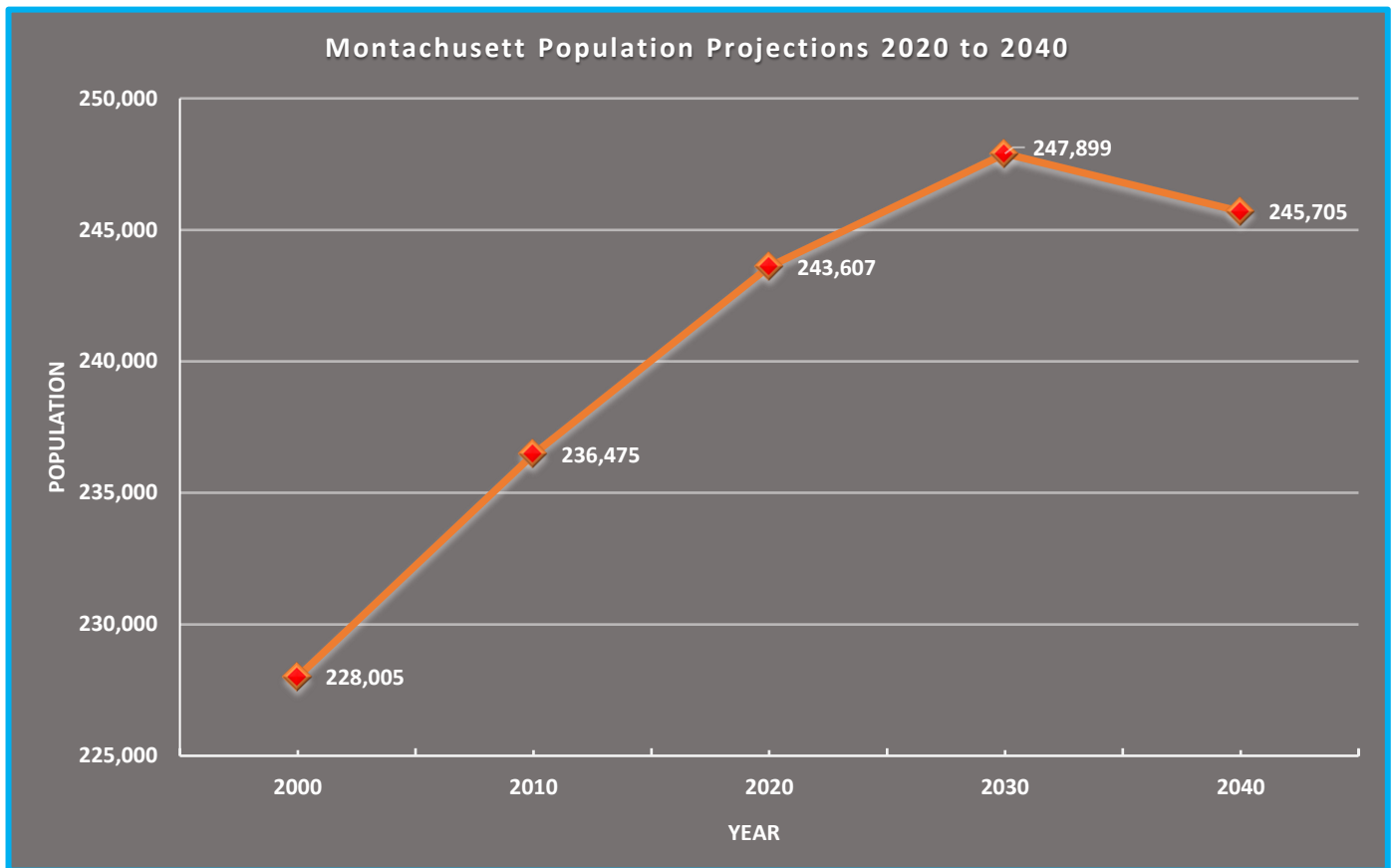
Within the communities of the Montachusett region, population changes from 2010 to 2040 will vary from an increase of 42% (3,269 persons) in Harvard to a decrease of -11% (-129 persons) in Royalston. Of the three cities of Fitchburg, Gardner, and Leominster, Fitchburg and Gardner are projected to gain population at a 6.67% and 4.81%, respectively. Leominster it is projected to decrease by -1.13% (or 1,003 persons). See Table 4 - 10 for population projections for each Montachusett region community.

Table 4 - 10. Population Projections – Montachusett Region

TOWN	COUNTY	Census 2000	Census 2010	2020	2030	2040	% Change '10-'20	% Change '20-'30	% Change '30-'40	% Change '10-'40
Ashburnham	Worcester	5,546	6,081	6,142	6,250	6,195	1.00%	1.76%	-0.88%	1.87%
Ashby	Middlesex	2,845	3,074	3,111	3,166	3,138	1.20%	1.77%	-0.88%	2.08%
Athol	Worcester	11,299	11,584	12,185	12,399	12,290	5.19%	1.76%	-0.88%	6.09%
Ayer	Middlesex	7,287	7,427	7,578	7,712	7,644	2.03%	1.77%	-0.88%	2.92%
Clinton	Worcester	13,435	13,606	13,848	13,732	13,351	1.78%	-0.84%	-2.77%	-1.87%
Fitchburg	Worcester	39,102	40,318	42,640	43,391	43,007	5.76%	1.76%	-0.88%	6.67%
Gardner	Worcester	20,770	20,228	21,639	22,021	21,200	6.98%	1.77%	-3.73%	4.81%
Groton	Middlesex	9,547	10,646	11,340	12,090	12,773	6.52%	6.61%	5.65%	19.98%
Harvard	Worcester	5,981	6,520	7,439	8,869	9,250	14.10%	19.22%	4.30%	41.87%
Hubbardston	Worcester	3,909	4,382	4,777	5,232	5,497	9.01%	9.52%	5.06%	25.45%
Lancaster	Worcester	7,380	8,055	8,025	8,166	8,094	-0.37%	1.76%	-0.88%	0.48%
Leominster	Worcester	41,303	40,759	40,577	40,046	40,300	-0.45%	-1.31%	0.63%	-1.13%
Lunenburg	Worcester	9,401	10,086	10,275	10,456	10,364	1.87%	1.76%	-0.88%	2.76%
Petersham	Worcester	1,180	1,234	1,270	1,293	1,281	2.92%	1.81%	-0.93%	3.81%
Phillipston	Worcester	1,621	1,682	1,723	1,697	1,628	2.44%	-1.51%	-4.07%	-3.21%
Royalston	Worcester	1,254	1,258	1,223	1,210	1,125	-2.78%	-1.06%	-7.02%	-10.57%
Shirley	Middlesex	6,373	7,211	6,989	7,112	7,049	-3.08%	1.76%	-0.89%	-2.25%
Sterling	Worcester	7,257	7,808	7,817	7,746	7,108	0.12%	-0.91%	-8.24%	-8.97%
Templeton	Worcester	6,799	8,013	7,766	7,903	7,833	-3.08%	1.76%	-0.89%	-2.25%
Townsend	Middlesex	9,198	8,926	8,970	8,606	8,350	0.49%	-4.06%	-2.97%	-6.45%
Westminster	Worcester	6,907	7,277	7,457	7,607	7,420	2.47%	2.01%	-2.46%	1.97%
Winchendon	Worcester	9,611	10,300	10,816	11,195	10,808	5.01%	3.50%	-3.46%	4.93%
REGION		228,005	236,475	243,607	247,899	245,705	3.02%	1.76%	-0.89%	3.90%
Massachusetts		6,349,097	6,547,629	6,933,887	7,225,472	7,380,399	5.90%	4.21%	2.14%	12.72%



Figure 4 - 33. Montachusett Population Projections 2020 to 2040



Households

The number of households in the region is expected to generally follow the same projected growth pattern as projected population growth. However, the number of households does not peak in 2030 as population is expected to do but rather continues to increase slightly by 1.79% (1,891 households) by 2040 (Figure 4 - 34).

Within the communities of the Montachusett region, household changes from 2010 to 2040 will vary greatly. As with population projected growth, households in Harvard will have the greatest growth at 74.56%, a total increase of 1,411 households. Sterling is projected to see an increase of 5.47% over the 2010-2040 time frame, the smallest in the region. Overall, all 22 communities are expected to see growth in households over the 30-year period. This is a trend seen in the decade numbers from 2010 to 2020 and 2020 to 2030. It is not until 2040 that any community is expected to see a decline in households and then in only six municipalities (Athol (-0.54%),



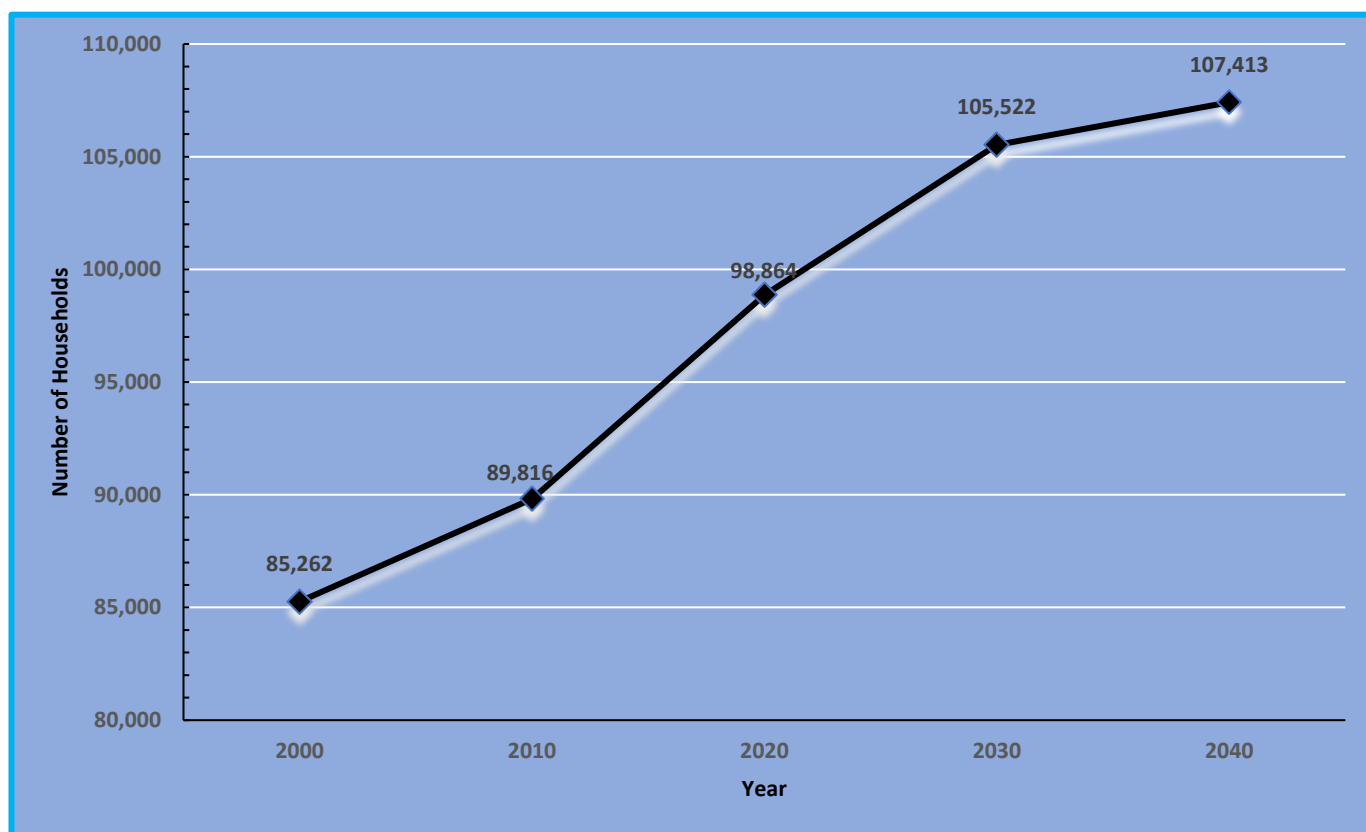
Clinton (-1.10%), Gardner (-0.92%), Sterling (-6.56%), Templeton (-0.14%) and Westminster (-1.02%). See Table 4-11 for household projections for each Montachusett region community.

Table 4 - 11. Household Projections – Montachusett Region

TOWN	COUNTY	Census 2000	Census 2010	2020	2030	2040	% Change '10-'20	% Change '20-'30	% Change '30-'40	% Change '10-'40
Ashburnham	Worcester	1,929	2,148	2,316	2,432	2,443	7.82%	5.02%	0.45%	13.73%
Ashby	Middlesex	978	1,105	1,184	1,247	1,265	7.14%	5.32%	1.46%	14.48%
Athol	Worcester	4,487	4,656	5,156	5,428	5,399	10.73%	5.28%	-0.54%	15.95%
Ayer	Middlesex	2,982	3,118	3,405	3,715	3,897	9.20%	9.11%	4.91%	24.99%
Clinton	Worcester	5,597	5,831	6,134	6,290	6,221	5.19%	2.55%	-1.10%	6.69%
Fitchburg	Worcester	14,943	15,165	16,850	17,648	17,859	11.11%	4.74%	1.19%	17.76%
Gardner	Worcester	8,282	8,224	9,311	9,933	9,842	13.22%	6.68%	-0.92%	19.67%
Groton	Middlesex	3,268	3,753	4,597	5,333	5,881	22.49%	16.01%	10.27%	56.70%
Harvard	Worcester	1,809	1,893	2,341	2,998	3,304	23.65%	28.09%	10.21%	74.56%
Hubbardston	Worcester	1,308	1,566	1,900	2,252	2,448	21.36%	18.51%	8.71%	56.35%
Lancaster	Worcester	2,049	2,409	2,616	2,821	2,854	8.60%	7.84%	1.16%	18.47%
Leominster	Worcester	16,491	16,767	17,666	18,261	18,843	5.36%	3.37%	3.19%	12.38%
Lunenburg	Worcester	3,535	3,835	4,180	4,480	4,521	8.99%	7.19%	0.90%	17.88%
Petersham	Worcester	438	493	554	602	606	12.33%	8.76%	0.57%	22.86%
Phillipston	Worcester	580	633	725	785	808	14.55%	8.32%	2.85%	27.62%
Royalston	Worcester	449	498	554	601	604	11.26%	8.55%	0.38%	21.23%
Shirley	Middlesex	2,067	2,264	2,433	2,727	2,857	7.47%	12.07%	4.76%	26.17%
Sterling	Worcester	2,573	2,810	3,038	3,172	2,964	8.13%	4.39%	-6.56%	5.47%
Templeton	Worcester	2,411	2,882	2,939	3,087	3,082	1.96%	5.04%	-0.14%	6.95%
Townsend	Middlesex	3,110	3,240	3,659	3,773	3,788	12.92%	3.13%	0.39%	16.92%
Westminster	Worcester	2,529	2,716	2,943	3,139	3,107	8.34%	6.69%	-1.02%	14.41%
Winchendon	Worcester	3,447	3,810	4,365	4,795	4,820	14.57%	9.86%	0.52%	26.52%
REGION		85,262	89,816	98,864	105,522	107,413	10.07%	6.73%	1.79%	19.59%
Massachusetts		2,443,580	2,547,075	2,830,145	3,044,477	3,151,722	11.11%	7.57%	3.52%	23.74%



Figure 4 - 34. Montachusett Household Projections 2020 to 2040



Employment

Employment growth in the region is expected to peak in 2020 to 80,996 persons but slightly decrease -1.57% (-1,269 persons) in 2030 and an additional -0.79% in 2040. This follows an anticipated slowdown in employment statewide as growth in the ten-year periods of 2010 to 2020, 2020 to 2030 and 2030 to 2040 are projected at 7.62%, 1.12% and 1.20%, respectively.



Table 4 - 12. Employment Projections – Montachusett Region

TOWN	COUNTY	DET 2000	DET 2010	2020	2030	2040	% Change '10-'20	% Change '20-'30	% Change '30-'40	% Change '10-'40
Ashburnham	Worcester	1,008	1,006	1,055	1,039	1,031	4.92%	-1.57%	-0.79%	2.46%
Ashby	Middlesex	229	278	292	287	285	4.92%	-1.57%	-0.79%	2.46%
Athol	Worcester	3,708	3,352	3,517	3,462	3,434	4.92%	-1.57%	-0.79%	2.46%
Ayer	Middlesex	6,006	4,821	5,058	4,979	4,940	4.92%	-1.57%	-0.79%	2.46%
Clinton	Worcester	4,886	4,915	5,157	5,076	5,036	4.92%	-1.57%	-0.79%	2.46%
Fitchburg	Worcester	14,738	12,668	13,291	13,083	12,980	4.92%	-1.57%	-0.79%	2.46%
Gardner	Worcester	8,434	8,032	8,427	8,295	8,230	4.92%	-1.57%	-0.79%	2.46%
Groton	Middlesex	2,988	4,371	4,586	4,514	4,479	4.92%	-1.57%	-0.79%	2.46%
Harvard	Worcester	1,041	2,722	2,856	2,811	2,789	4.92%	-1.57%	-0.79%	2.46%
Hubbardston	Worcester	597	477	500	493	489	4.92%	-1.57%	-0.79%	2.46%
Lancaster	Worcester	2,823	1,973	2,070	2,038	2,022	4.92%	-1.57%	-0.79%	2.46%
Leominster	Worcester	18,896	17,514	18,375	18,087	17,945	4.92%	-1.57%	-0.79%	2.46%
Lunenburg	Worcester	2,385	2,211	2,320	2,283	2,265	4.92%	-1.57%	-0.79%	2.46%
Petersham	Worcester	142	124	130	128	127	4.92%	-1.57%	-0.79%	2.46%
Phillipston	Worcester	175	170	178	176	174	4.92%	-1.57%	-0.79%	2.46%
Royalston	Worcester	157	125	131	129	128	4.92%	-1.57%	-0.79%	2.46%
Shirley	Middlesex	2,114	2,271	2,383	2,345	2,327	4.92%	-1.57%	-0.79%	2.46%
Sterling	Worcester	2,061	2,338	2,453	2,415	2,396	4.92%	-1.57%	-0.79%	2.46%
Templeton	Worcester	1,692	1,674	1,756	1,729	1,715	4.92%	-1.57%	-0.79%	2.46%
Townsend	Middlesex	2,249	2,030	2,130	2,096	2,080	4.92%	-1.57%	-0.79%	2.46%
Westminster	Worcester	3,641	2,514	2,638	2,596	2,576	4.92%	-1.57%	-0.79%	2.46%
Winchendon	Worcester	1,843	1,613	1,692	1,666	1,653	4.92%	-1.57%	-0.79%	2.46%
REGION		81,813	77,199	80,996	79,726	79,098	4.92%	-1.57%	-0.79%	2.46%
Massachusetts		3,227,286	3,199,467	3,443,242	3,481,819	3,523,509	7.62%	1.12%	1.20%	10.13%



Figure 4 - 35. Montachusett Employment Projections 2020 to 2040

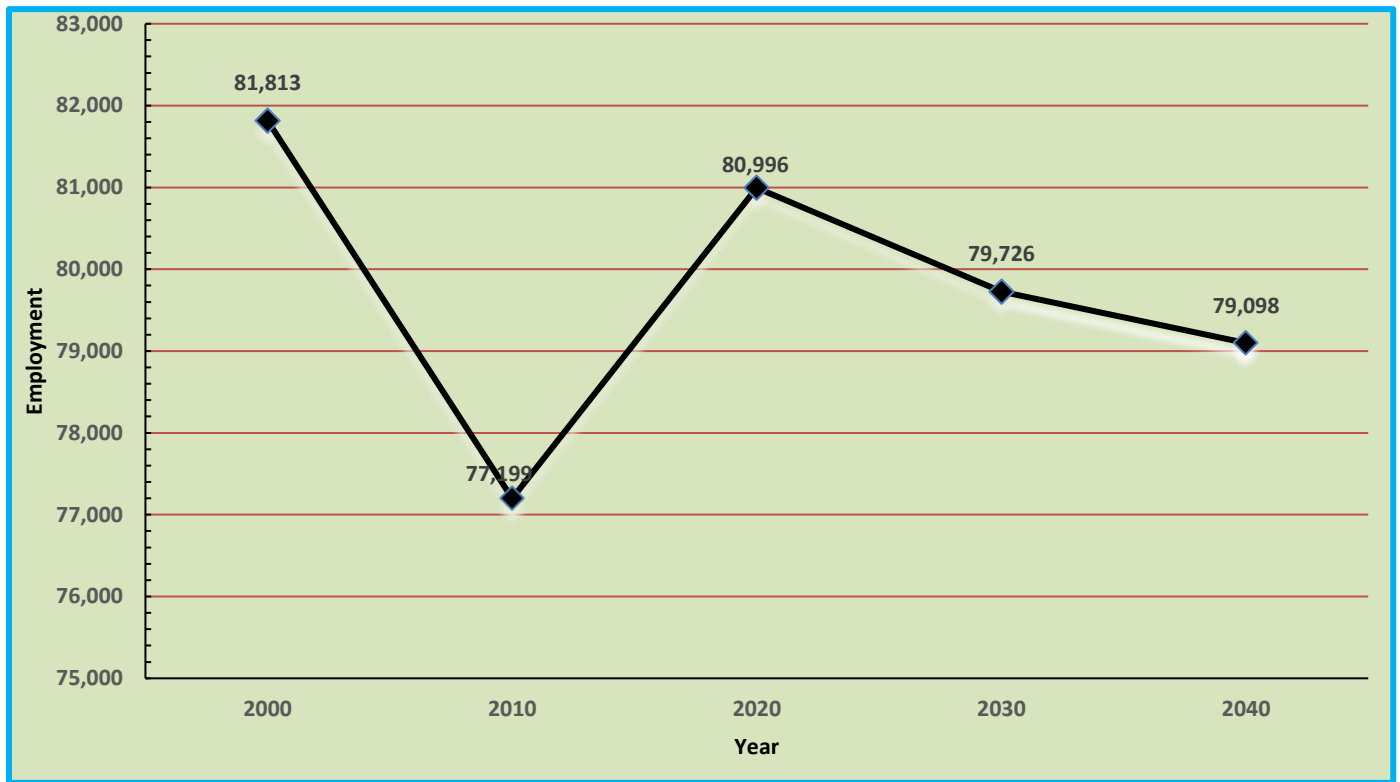
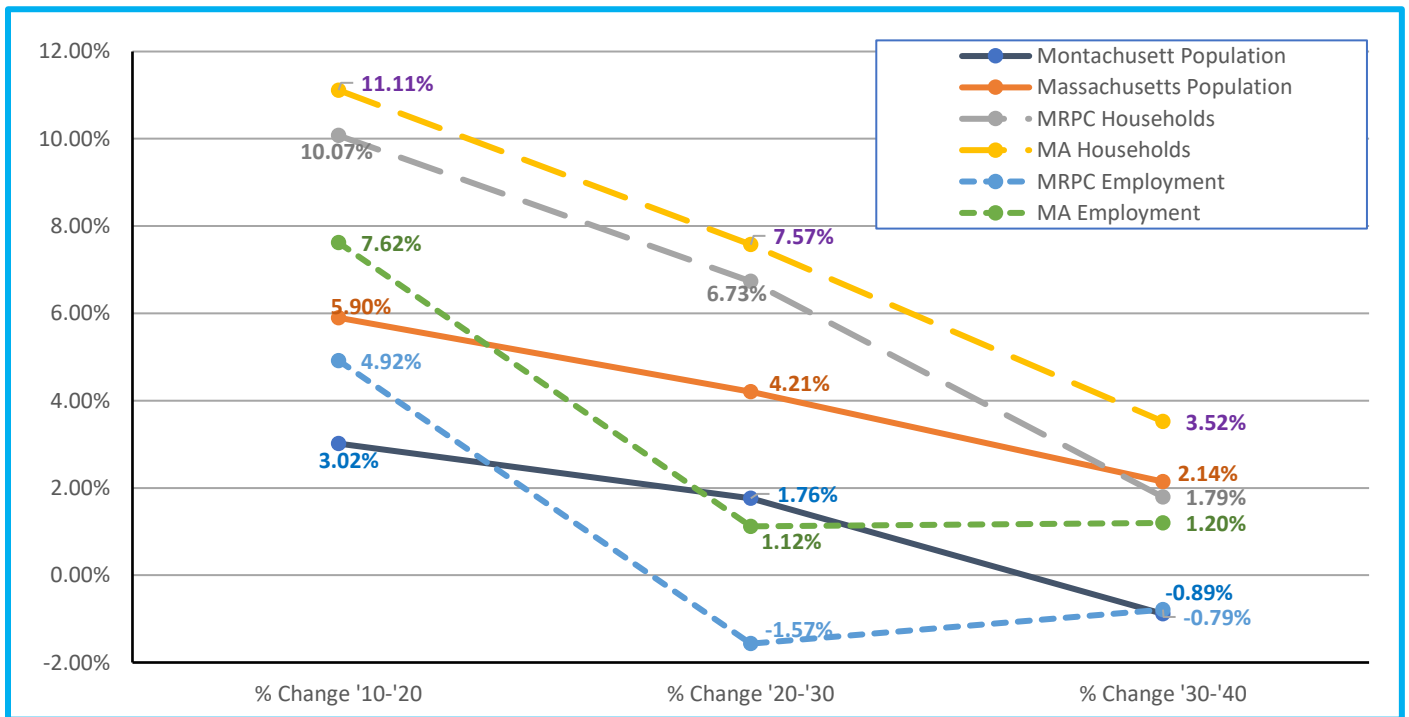


Figure 4 - 36. Montachusett vs Massachusetts - Percent Change Comparison





Trends

Through the development and analysis of the demographics and projections for the Montachusett region, the following trends were identified and noted. Following these trends, a series of recommendations are presented for the region.

- Current growth expected to continue but future projections anticipate a slowdown and gradual decline.
- The population in the region is aging faster than in the state or nation. This trend is also reflected in the 2020, 2030 and 2040 projections where the overall growth in the population of the region is expected to slow and decline. This aging of a large proportion of the population poses a number of planning challenges for the Region, including accessibility to health care and elderly services, public transportation, senior housing. In addition, there will be generational shifts in employment sectors and the workforce.
- Educational attainment rates are increasing in the regions male and female populations. However, they still remain lower than state averages. Efforts are needed in the Region to retain this increasing educated population and subsequently help to address shifts in the employment sectors.
- Ten Montachusett communities have a higher proportion of residents with a disability than the state as a whole. Athol, Phillipston, and Fitchburg top the list. Among other planning considerations, the high percentages of residents with disabilities, coupled with a steadily aging population, only help to emphasize the importance of multimodal and functional transportation network.
- Fifteen (15) of the region's 22 communities have a lower per capita income than the state (\$39,913), while nine rank below the state when examining median household income.
- An estimated 11% of individuals are living in poverty within the Commonwealth of Massachusetts. Six Montachusett communities have a higher concentration of poverty than the state as a whole, with Fitchburg (17.9%), Gardner (16.7%), and Athol (14.7%) also exceeding the national poverty rate of 14.6%. Between 2016 and 2017, poverty rates declined in the region at a quicker pace than both the state and nation. In order to reverse these trends, additional opportunities to create a more diverse employment sector is



needed. Along with this, is the need for improved access to these jobs at a reasonable cost for those in the lower income strata.

- Based on an analysis of current and past transportation and highway projects versus identified Environmental Justice and Title VI populations, there does not appear to be an undo benefit or burden on these populations.
- Housing in the region trends toward single family homes. This along with a rising median home values can affectively price individuals out of the Montachusett Region. This can be especially harmful to younger, more highly educated individuals, which in turn can exasperate the aging population situation. In order to serve the regions changing population characteristics, i.e. aging, diversified, and low income, affordable housing units (either as single or multiple units) need to be an emphasis for the region's officials. Additionally, where appropriate direct tie ins to available transportation options should be a major factor for local officials in this area.
- Manufacturing continues to remain the largest employment sector in the region (17% of total employees) and integral to the economic health of many communities. The level of manufacturing-based employment, despite the decline in recent decades, continues to out strip that of both the state and country. While efforts continue toward diversifying the regional economy into other growing sectors, including the service sectors, the region's comparative advantage of an experienced manufacturing workforce and industrial space will help keep manufacturing as a cornerstone in the region's economy.
- Montachusett Region commuters are more auto-reliant than in the state or the nation. Ninety percent (90%) of workers either drive alone or carpool to work as compared to 78% of workers in Massachusetts, and 85% of workers in the country. Montachusett residents are also significantly less reliant upon public transit. The longer commute times and distances of Montachusett individuals tend to put more emphasis on the traditional commuter roads in the region, i.e. Route 2, I-190, Route 117, Route 119, Route 140, Route 12, etc. The potential for increased public transit usage exists if expansion and costs can be implemented in a reasonable fashion. In addition, these segments of commuters are also likely to be impacted by technological changes in travel modes, i.e. autonomous



vehicles, rideshare options and alternative energy vehicles. With a greater demand or usage of these technologies, critical support infrastructure is needed from long term parking areas for autonomous vehicles, to charging stations, to incentive programs.

Recommendations

The following is a series of recommendations based upon the identified trends related to the demographic profile of the Montachusett Region. It should not be viewed as a complete and finite list but rather a starting point for the continued review of the needs of the region.

1. The aging of the region's population requires that several issues be addressed:
 - a. Expanded transit options to vital services for elderly. Expansion to needed services such as medical and shopping should remain a priority. Additionally, connections between communities should be examined and implemented where feasible.
 - b. Upgrades, expansion and improvements to the pedestrian network in the core centers of communities and in and around identified service areas, i.e. medical facilities, shopping centers, etc. Safer sidewalks and pedestrian corridors will also serve other segments of the population beyond the elderly.
 - c. Safety improvements along the road and pedestrian/bicycle networks need to be expanded and prioritized to help deal with the aging population as well as assisting with other segments with their activities.
2. Identification and prioritization are needed for projects that assist the disabled community throughout the region. This would include better sidewalks, improved access to transit options, and eliminating gaps in the network that prevent or discourage usage (ex. incomplete or non-existing sidewalks on fixed route transit lines).
3. Expansion of employment opportunities are needed in order to retain and expand the regional workforce. As the educational level continues to rise in the region, without adequate employment options, the population will continue to age as younger individuals seek better paying jobs outside of the region. Network improvements are needed to



assist and encourage employers to remain in the region. This would involve infrastructure improvements to support industries, multiple travel options to bring employees to and from work, and expansion of outreach efforts to all segments of the population. Continued emphasis on maintaining pavement conditions and reducing bridge deficiencies will allow for greater marketing by municipalities of available industrial and commercial areas.

4. Expansion of mode options for commuters needs to also be a priority for the region. This would also involve the region's trail/pedestrian/bicycle networks. These systems can be improved and expanded in order to provide additional walking and biking mode options.
5. Additional planning is needed to address future technological advances in transportation as they occur and become more and more feasible. This would include issues such as:
 - a. Autonomous vehicles. Where will they "park" when riders have reached their destinations? Is there a need for special lots or facilities? Are there potential congestion issues at the start and end of work shifts? Will "peak hours" increase because the autonomous vehicle may be making additional trips to desired locations (i.e. one trip in and one trip out in both the AM and PM (4 trips) as opposed to a driver that has one trip in and one trip out in the AM and PM (2 trips))?
 - b. Alternative energy vehicles. Where should charging stations be located? How many facilities exist and do they adequately serve the population now? Environmentally, are there any drawbacks associated with batteries, etc., that need to be addressed?
 - c. Ride share options. Can these systems be expanded to address the needs of the elderly, low income and disabled populations? Can the systems expand to the more rural communities to serve these areas without viable transit options?
6. The population is getting more and more diverse in terms of minority populations and language. Additional efforts are needed to draw these individuals into the transportation planning process to ensure adequate representation and service.