Shaping
Our Region
From the Ground Up

Plan Central Vermont

Safe & Affordable Housing Element

FINAL DRAFT

TABLE OF CONTENTS

SAFE AND AFFORDABLE HOUSING

Housing is the foundation of the historic towns and villages that make up Central Vermont. Where we choose to live, the size of our homes, and what we pay for them shapes our communities. Housing is a force that impacts different aspects of the Region, including economic development, land use, and transportation, among others. Providing a range of options for a variety of income levels and lifestyles contributes to the strength and vitality of communities.

The Housing Element reviews the current housing stock in the Region, discusses land use as it pertains to housing, and considers affordability and the housing needs of Central Vermont's vulnerable populations. The chapter concludes with an outline of strategies to meet identified housing needs.

POPULATION AND HOUSEHOLDS

The 2010 Census showed that the population of the Central Vermont Region is just over 65,000 people. Estimates produced by the Vermont Agency of Commerce and Community Development indicate that the population will be close to 67,000 by 2020. While the United States has continued to see a consistent upward trend in population, the Central Vermont Region and Vermont have seen a slowing growth trend, with a slower growth rate regionally than in the state, as a whole.

Table 1: Population, Households and Household Size

	2000	2010	2020 Projection	Percent Increase 2000 - 2010
Total Population	63,276	65,034	66,963	2.7%
Total Households	25,675	27,268	Not Available	5.8%
Washington County Household Size[1]	2.55 Owner 1.96 Renter	2.34 Owner 1.19 Renter	2.29 Owner 1.07 Renter	-

Source: Census 2000, Census 2010, 2015 Washington County Housing Needs Assessment

One reason for the significant difference between population growth and household growth is more population is being distributed into a smaller number of individuals per home. Average household size is projected to remain small through 2020. Central Vermont has consistently had a smaller average household size than Vermont, as a whole, since 1990 (Population Profile). According to the American Community Survey 2013 Estimates, one and two-person households make up almost 68% of all households in Washington County.

[1] Washington County Housing Needs Assessment. Bowen National Research. Vermont Dept. of Housing & Community Development. http://accd.vermont.gov/sites/accd/files/Documents/strongcommunities/housing/18%20-%20Washington%2014-363.pdf. 2015.

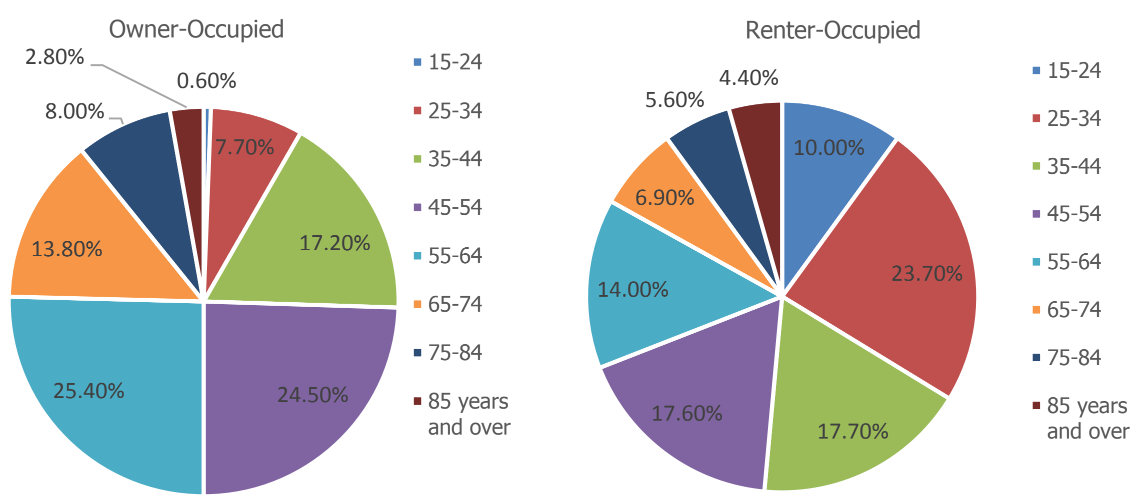
Table 2: Size of Household, Washington County

Household Size	Owner-Occupied (%)	Renter-Occupied (%)	Total Occupied (%)
1-Person	23.2	49.3	30.2
2-Person	41.7	27.5	37.9
3-Person	15.9	12.4	14.9
4 (or more) Person	16.9	10.7	16.9

Source: ACS 2009-2013 5 Year Estimates

The 2010 Census showed that in Washington County over 40% of all households had householders ages 65 and older. Over just the next five years, from 2015-2020, the 65 to 74 age cohort will increase significantly in size in the Central Vermont Region. It is projected to grow 23%, versus increases of <1% or decreasing numbers in all other age groups. This further illustrates the fact that the Region's population is aging.

Figure 1: Age of Householder, Washington County



Source: 2010 Census

The housing life cycle is described as the changes in demanded housing types as an individual ages. This entire process operates in a cycle as younger individuals with families purchase the homes of aging people. The continued cycle of this process allows for continued demand for different types of housing in the market.

Table 3: General Housing Demand by Age Group

Age Group	Characteristics	Housing Demand
20s	• Lower incomes • High mobility • Small households	• Apartments
30s	• Beginning families • Small children • Low savings • Growing income	• 1st time homebuyer • Mobile homes • Condos

Age Group	Characteristics	Housing Demand
40s	• Growing families • Growing income	• Larger house and/or additions • Home Improvements
50s	• Stable housing • Empty nest • Income peak	• Live in existing homes • Renovate and improve housing
60s	• End of income producing years	• Begin "downsizing"
70s	• Retirement • Reduced income • Risk of frailty	• Smaller homes or Condos • Retirement developments
80s/90s	• Risk of frailty or dementia • More single (widowed) households	• Assisted living • At risk of institutional care

Source: VT Dept. of Housing & Community Affairs VT 2005 Housing Needs Assessment

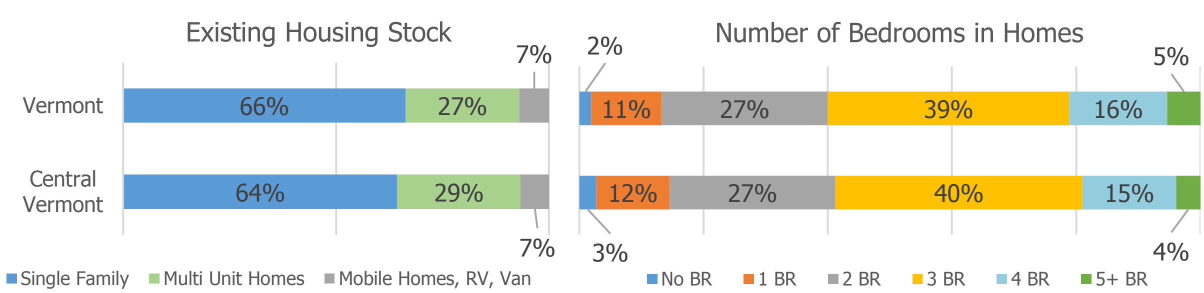
Each age group has different housing demands depending on their lifestyle characteristics.

HOUSING STOCK

Type and Number of Units

The majority of residential structures in Central Vermont are single family homes (Figure 2). Multi-unit homes are made up of condominiums, two family homes and apartment buildings.

Figure 2: Trends in Housing



Source: Census, 2010

The majority of existing housing stock in Central Vermont consists of single family units with more than 3 bedrooms (Figure 2). Populations trends indicate decreasing household size and in the short term, an aging population. The majority of existing stock in the Region to does not match up with population trends. To meet these changing demographics, smaller homes and multi-unit homes are needed. Just under 60 percent, or about 19,000 units, are this size. One and two bedroom units make up the most of the remaining stock, totaling 12,500 units.

Over the past 15 years, the number of new, small (less than 1,400 sq feet) single-family homes sold in the Northeast Region of the US has been decreasing. Estimates from the US Census Survey of Construction show that in 1999, sales of new small homes made up 10.5% of new home sales that year in the Northeast. In 2008 they made up 5.7% of new home sales and in 2014 that dropped to 3.6% of new home sales.

This trend stands in contrast to annual new home sales of "large" single family homes, (2,400-3,999 sq ft). In 1999, large single family homes made up 34.2% of total new home sales. In 2008 they made up 40% of sales and in 2014 they made up 42.9% of sales.

In the Central Vermont Region, the total number of housing units increased 6.2% from 2000-2010, a slower growth rate than Vermont (9.6%). While total housing increased by about 2,500 units, occupied housing only increased by just fewer than 1,600 with an increase in vacant housing of nearly a thousand units. Greater increase in units could indicated the construction of unneeded units. The construction of housing units during the housing bust could have led to an increase in unneeded units, rather than an increase in vacancy. In Central Vermont there were slightly more vacant units in 2010 than in 2000, an increase from 14% vacant units to 16%. Both of these figures, however, are lower than the State vacancy rate of 20% in 2010 and include seasonal housing.

Looking at the change in housing units by municipality from 2000 to 2010, every municipality saw an increase in total housing units. Differences in the rate of growth of housing units is occurring between municipalities. This is discussed in further detail in the Residential Development Patterns section.

As the 15-year trend has indicated, average household size for both renter-occupied and owner-occupied units is declining. An aging population and decline in household size indicates a possible demand for units with fewer bedrooms.

Quality of Housing Stock

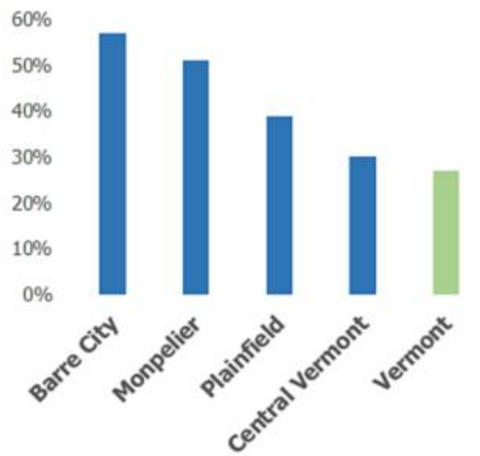
To adequately house the region's residents, ensuring the quality of stock both protects the safety of occupants and provides long term homes worth investment. There are limited ways to measure quality and condition of housing stock, but one factor to consider is the age of the structure.

Tracking incomplete kitchen and plumbing facilities also helps illustrate the quality of housing stock. These two measures are tracked by the U.S. Census and were used to determine levels of substandard housing. The 2015 Washington County Housing Assessment aggregates those two measures together to determine totals for substandard housing. Definitions for incomplete kitchen and plumbing can be found in the Definitions section.

Lead paint was banned in 1978, all homes before then are likely to contain some lead-based paint.

66%

of homes in Central Vermont were built before 1978.



Percent of Homes Built before 1940

In Washington County, just above 1 percent of stock is substandard, comprised of 80 renter occupied units and 199 owner-occupied units (Washington County Housing Needs Assessment 2015).

More than 1.5% of units in Barre City and Montpelier are lacking complete kitchen facilities.

0.9% of units in Central Vermont and 0.9% of units in Vermont are lacking complete kitchen facilities.

Barre City has the largest amount of units lacking complete plumbing facilities at 46 units or 1% of their total housing stock.

1.5% of existing housing stock in Duxbury, Roxbury, Middlesex and Calais are lacking complete plumbing facilities.

0.7% of units in Central Vermont and 0.6% in Vermont are lacking complete plumbing.

24 V.S.A. § 4302 states one of the purposes of municipal and regional planning and development is "to ensure the availability of safe and affordable housing for all Vermonters". As the Central Vermont Region strives to provide safe and affordable housing to its residents, "safe" must be defined to inform the policies of CVRPC. While "safe" is not defined by the state, state and municipal building codes guide the framework of which a home is deemed suitable for its residents. The Town Health Officer Rental Housing Inspection Checklist outlines safety guidelines taken from the Rental Housing Health Code, Fire and Building Safety Code, Department of Environmental Conservation Environmental Protection Rules and the Vermont Statute Chapter 38: Lead Poisoning. Barre City and Montpelier also have local Fire and Building Safety codes that apply to residential buildings in their municipalities. For the purpose of this document, safe housing is defined as such that complies with state and municipal building codes and provides complete plumbing and kitchen facilities to its inhabitants.

OCCUPANCY

Rental Occupancy

Within the Region, 28.8% of occupied units were renter-occupied in 2010, compared to 29.3% in Vermont as a whole. The municipalities with the greatest percentage of rental housing in 2010 were Barre City and Montpelier (53% and 45% respectively), the two city centers within the Region. Northfield and Waterbury were the only other municipalities with greater than 30% renter occupied units. In Northfield, this could be due in part to Norwich University. All four of the municipalities with greater than 30% rental occupancy have overall occupancy rates of more than 90%, partially due to their lack of seasonal units relative to other municipalities within the Region.

The majority of renter-occupied units were within Barre City and Montpelier in 2010, with a total of 3,876 units, accounting for 49% of the regional share. Including units from Waterbury (687), Northfield (664), and Barre Town (490), these five towns accounted for 73% of the total rental units within the Region.

Overall, there was a net gain of 114 rental units in the Region between 2000 and 2010. While Barre City had the greatest number of units in 2010, the City experienced a loss of 106 units during this period, which is not substantial relative to the total number of units in Barre City. In this same period, there was significant growth in the rental market in Northfield with 89 additional units, Waterbury with 84 new units, and Williamstown with 57. These towns all experienced population growth within this period, as well, with 416 new residents in Northfield, 149 in Waterbury, and 164 in Williamstown.

The municipalities with the greatest increase in population from 2000-2010 were Northfield (416), and Barre Town (322). The increase in rental units in Northfield without a significant increase in overall housing suggests that new residents are renters. Meanwhile Barre Town saw a decrease in rental units and an increase in homeowners.

Vacant and Seasonal Housing Units

Within Central Vermont, 84% of housing units (including seasonal units) were occupied in 2010. Looking at overall housing vacancy by municipality, including seasonal units, Warren, Fayston, and Woodbury had the highest vacancy rates with Fayston just over 50% and Warren around 65%.[2] The most significant overall housing growth happened in Fayston, which also has one of the highest vacancy rates, suggesting that the majority of growth was in seasonal housing. Nine of the municipalities have total occupancy rates over 90%, including the larger municipalities of Barre City, Barre Town, Montpelier, and Waterbury.[3] This trend could be related to the high rate of rental units in these towns, as well as low rates of seasonal units.

A survey done for the 2015 Washington County Housing Needs Assessment found that, of surveyed apartment rentals, the majority were built between 1970 and 1979 and had a relatively low vacancy rate of 1.4%. Multifamily rental units built after 2000 had an even lower vacancy rate of 1.0%, indicating higher demand for these units. A vacancy rate of around 5% is typical in a healthy housing market.

In the Region, around 11% of housing units were seasonal in 2010, compared to just fewer than 16% in Vermont. Municipalities with the largest percent of seasonal housing were Warren (with 60% of total housing units seasonal), Fayston (47%) and Woodbury (40%). Together, they comprise 60% of the region's seasonal units. [4] The larger municipalities of Barre City, Barre Town and Montpelier had the lowest percentages of seasonal housing in 2010. Between 2000 and 2010, seasonal housing increased by 11.4% within the Region, compared to a 16.6% increase in Vermont. There was a significant increase in the percentage of seasonal housing in Berlin, Barre Town and Waterbury, relative to their small percentages of seasonal housing overall. Berlin saw an increase of 22 units, Barre Town 14 units and Waterbury 29 units.

Vacant seasonal housing units are a way to measure the secondary housing market. From 2000 to 2010, all municipalities saw an increase in vacant seasonal units except for Woodbury, Plainfield and Calais. Fayston, Warren and Waitsfield, municipalities near the ski resorts of Sugarbush and Mad River Glen, all saw significant growth in vacant seasonal units. Fayston saw the most significant increase, with an additional 165 seasonal units. Calais, Plainfield and Woodbury all saw a decline in seasonal units over this period; the most significant being a loss of 28 units in Woodbury.

[2] U.S. Census Bureau, 2010 Census, H5 - VACANCY STATUS
[3] U.S. Census Bureau, 2010 Census, H3 - OCCUPANCY STATUS
[4] U.S. Census Bureau, 2010 Census, H5 - VACANCY STATUS

HOUSING COSTS

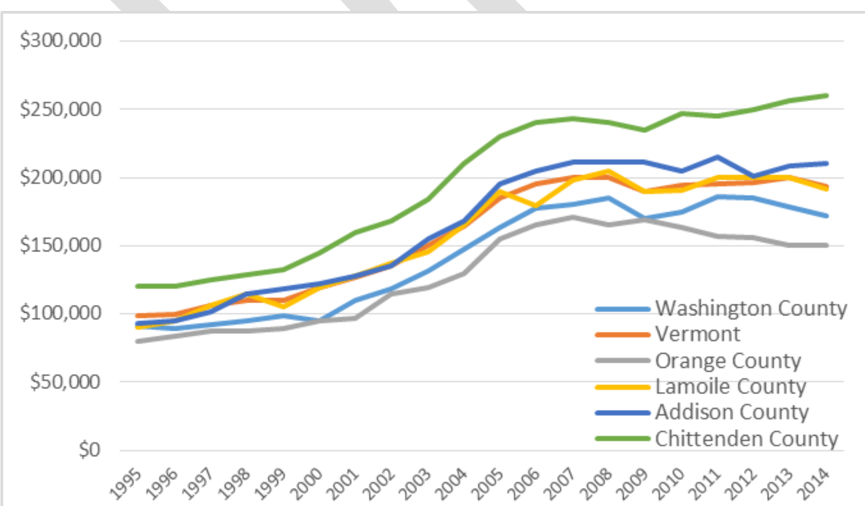
Homeownership/Median Home Value

In Washington County, the median housing value of owner-occupied units in 2013 was $205,000 and in Orange County it was $183,900. These values were both slightly below the $216,800 median value in Vermont as a whole. Compared to the surrounding counties, both Washington and Orange Counties were below Chittenden, Addison, and Lamoille Counties to the west but greater than Caledonia County to the northeast, which had a median home value of $164,300 in 2013. These values suggest that something other than owner-occupied housing value is driving a lack of population growth in the Region.

The municipalities with the highest median home values in 2013 were Waitsfield and Fayston, with median housing values of $341,500 and $319,400 respectively. These towns also had high rates of seasonal units. The towns with the lowest median housing values were Barre City ($143,300), Roxbury ($145,400), and Williamstown ($154,100). This trend differs slightly from the median mortgage payments by town, with higher monthly costs in Barre City ($1,407) and lower housing value. Woodbury, on the other hand, had one of the lowest median mortgage payments ($1,354) with a slightly higher median home value ($224,500).

Sales of Residences

In 2013, 570 primary residences were sold in Washington County, with a median price of $178,500, and 230 sold in Orange County, with a median price of $151,200. There has been a slight decline since 2012 when the median prices of primary residences sold were $185,200 in Washington County and $156,000 in Orange.

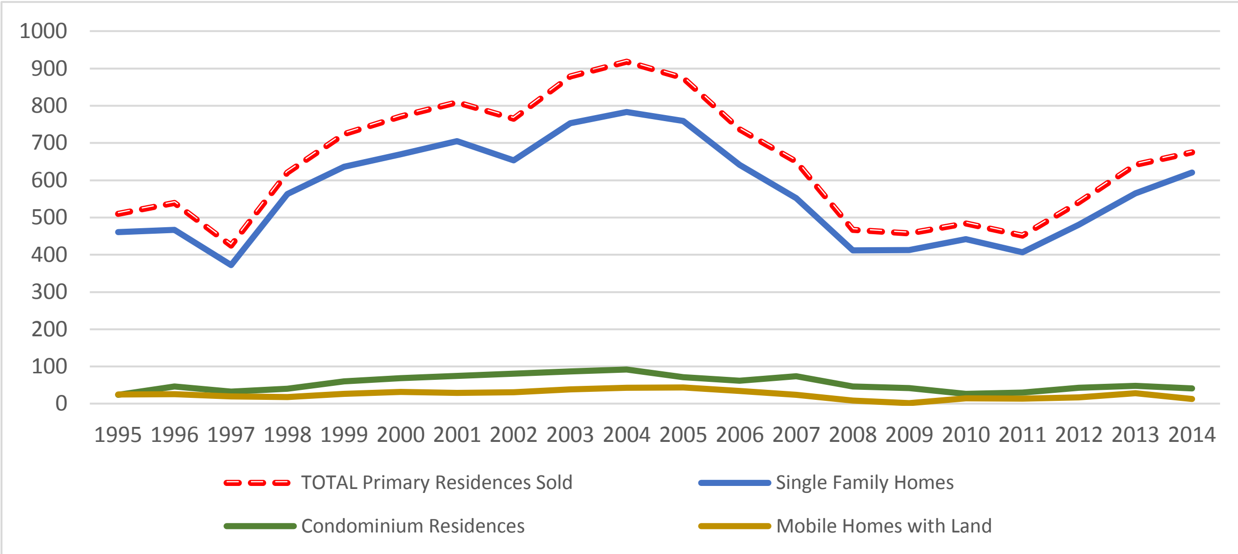


Source: Housingdata.org

Figure 3: Median Price of Primary Residences Sold

Median prices of primary residences sold in Washington County can be seen in Figure 3. Washington County median homes prices sit above Orange County but below other neighboring counties and Vermont as a whole.

Figure 4: Central Vermont Home Sales (Primary Residence)



Source: Housingdata.org

Historic trends in Property Transfer Tax Records show a drop in home (primary residence) sales starting around 2004, leveling off between 2008 and 2011, and increasing again after 2011.

Housing Payments

Comparatively, median housing costs within Washington County were lower than in Vermont and in the United States as a whole in 2013, with a slightly more significant difference in median rental unit payments. Overall, the difference was not substantial.

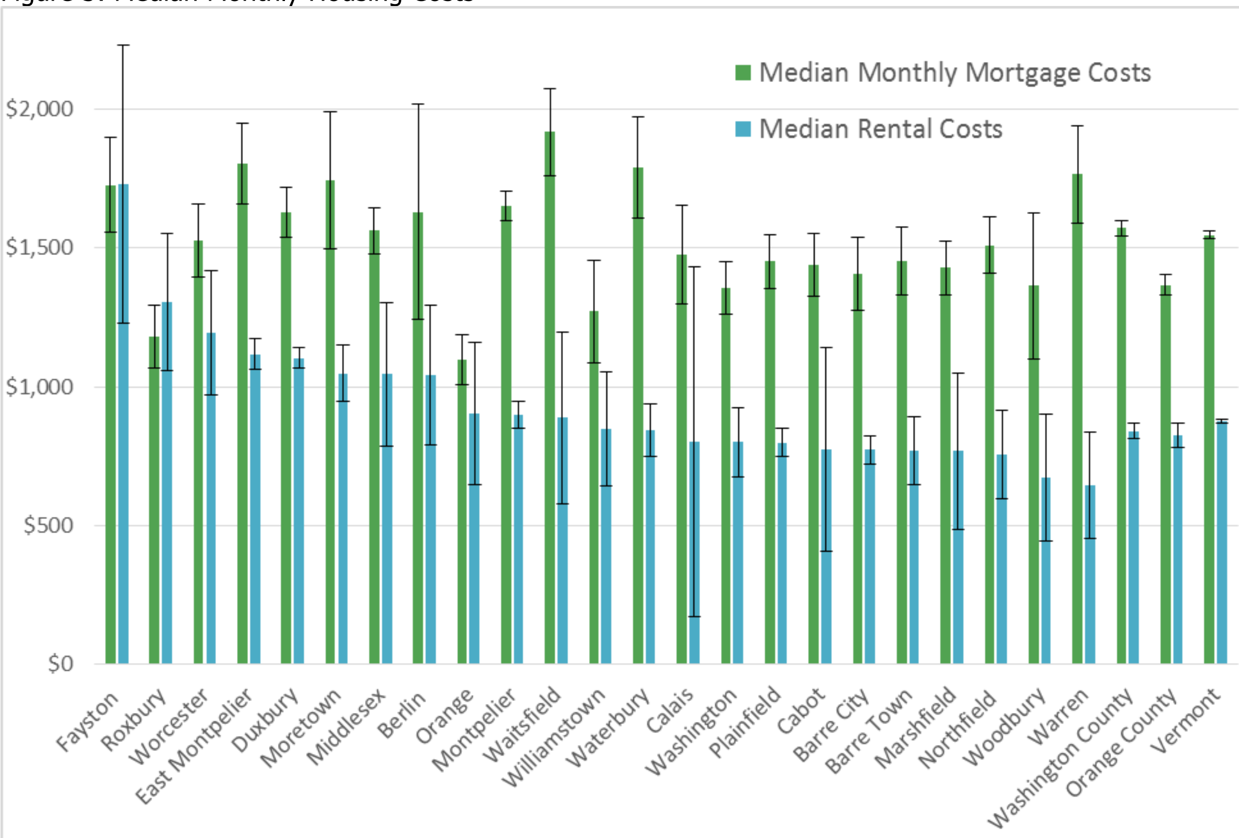
A chart of median monthly mortgage costs and median rental costs can be seen in Figure 5 below. In 2013 estimated median gross rent in Washington County was $840 and median mortgage payments was $1,571.

The median rental costs in the towns with the greatest number of rental units, Barre City, Montpelier, Waterbury, Northfield, and Barre Town all sit within the mid-range of regional rental pricing.

As shown in Figure 5 below, and factoring in margin of error, the large majority of towns have median mortgage costs higher than rental costs. In Fayston and Roxbury however it is likely that median rental costs are equal or higher than median mortgage payments. In Fayston this could be due to the seasonal rental market that caters towards ski rentals. Roxbury has the second lowest median monthly mortgage costs in the Region.

Margin of error is shown in dollar amounts by the vertical error bars. Margin of error was calculated by the Vermont Housing Finance Authority using ACS 5-year data and can be found on Housingdata.org. Each data value was deemed 'most reliable' for ACS estimate reliability except for Calais Median Rental Costs which were deemed 'less reliable'.

Figure 5: Median Monthly Housing Costs



Source: 2013 ACS 5-yr data

HOUSING AFFORDABILITY

Housing Burden

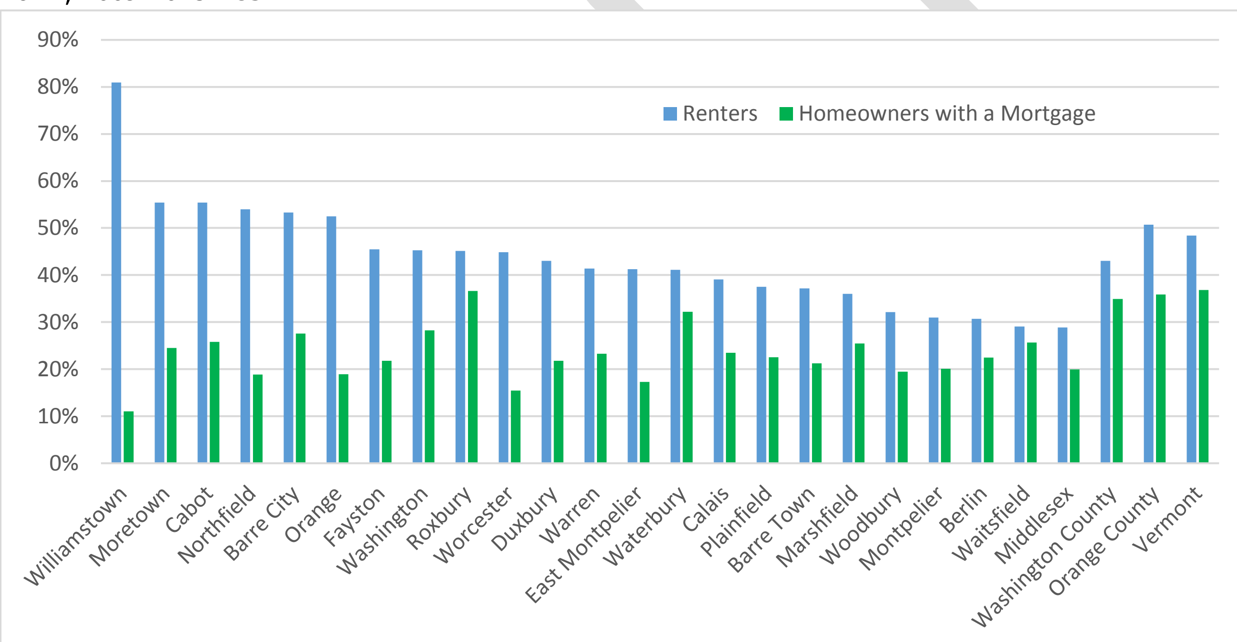
A household is cost burdened when it is spending greater than 30% of its income on housing costs. Affordable housing is defined in Vermont as "housing that is owned or rented by its inhabitants whose gross annual household income does not exceed 80% of the County Median Income [...] and the total annual cost of the housing [...] is not more than 30% of the household's gross annual income"[5]. In 2013, 52% of Vermont renters were spending greater than 30% of their income on housing. In Central Vermont, 46.8% of renters were spending more than 30%, representing a total of almost 2,900 renters, by unit. Williamstown has the highest percentage of renters spending more than 30% of

[5] 24 V.S.A. § 4303

their income on rent at 80% but also has a lower amount of renter occupied units at 274 units than Barre City or Montpelier. Renters in Williamstown sit at the lowest estimated earned median income in the region at $17,416. The estimated median income for renters in Barre City is $28,684 and in Montpelier it is $37,955. Barre City has the highest amount of renter occupied units at 1,899 with 56% spending more than 30% of their household income on rent.

Among homeowners with mortgages in Vermont, 37% were spending greater than 30% of their income on housing in 2013, compared to 34% of Central Vermont homeowners, at 4,500 homeowners. Seven towns had greater than 25% of households spending over 30% of income on housing.
Figure 6 illustrates the percentage of homeowners and renters that were spending greater than 30% of their income on housing by town in 2013.

Figure 6: Percentage of Households Spending Greater than 30% of Household Income on Housing by Town, 2009-2013 ACS



Source: 2013 ACS 5 Year Estimates

Fourteen towns had greater than 40% of renters spending over 30% of their income on housing.

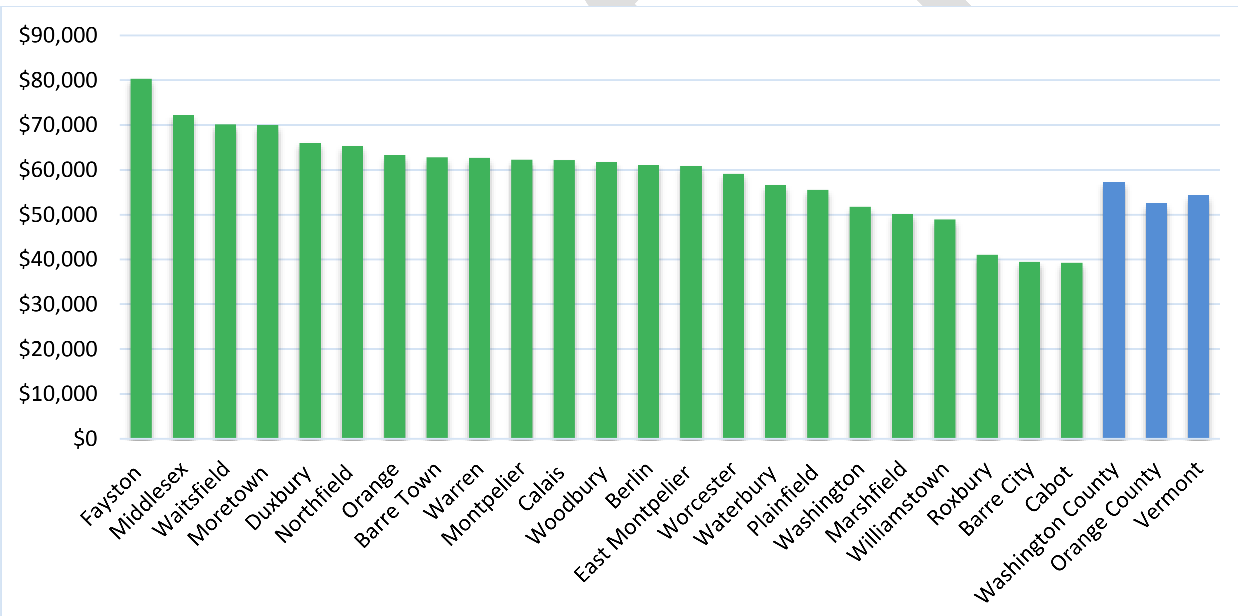
Income

In 2013 in Vermont, the median household income was $54,267. In Washington County the median household income was $57,281 and in Orange County it was $52,480. Washington County's median household income is 5% higher than that of Vermont while Orange County is 3% below the state median. Figure 7 below shows median household income by town.

Fayston ($80,341), Middlesex ($72,262), Waitsfield ($70,139) and Moretown ($70,036) had the highest reported median household income in the Region. Six municipalities in Central Vermont have median household incomes lower than that of the Vermont; Three of them – Roxbury, Barre City and Cabot – are below 80% of the Vermont median household income.

Warren, which has a median household income above that of the state level, is a community in which average annual wage ranks as one of the lowest in the Region. This indicates that lower wage workers who are working in Warren are not living in Warren. The presence of seasonal workers for the tourism industry plays a large role in why wages are reported so low. There is a need for affordable workforce housing options for seasonal workers.

Figure 7: Median Household Income by Town, 2013



Source: 2013 ACS 5 Year Estimates

Wages

The 2014 reported top five highest employment sectors in Central Vermont were health care and social assistance with 14.5% of total jobs, educational services with 12.1%, retail trade with 11.8%, public administration with 10.8% and accommodation and food services with 8.5% of total jobs. The average annual wage reported by employers in 2014 was $44,554, up 4% from 2013. Three of the top five highest employing industries in Central Vermont report average wages below that of the regional average. Together they make up 32.4% of the Regions' total jobs.

Housing Wage

The housing wage is determined by what is needed for a household to afford a typical 2-bedroom apartment at the U.S. Department of Housing and Urban Development determined fair market rent. The Fair Market Rent for a two bedroom apartment in Washington County is $983. To afford this level of rent and utilities — without paying more than 30% of income on housing — a household must earn $3,276 monthly or $39,320 annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage [per household] of $18.90 for Washington County. This means that the total wages earned per household could come from more than one person. The hourly Housing Wage for Orange County is $17.19.

The housing wage in Washington County for a 1-bedroom unit is $15.25, $6 more than the state minimum wage of $9.15. In Vermont, the estimated mean wage earned by a renter is $11.78.[6]

The Fair Market Rent for a one bedroom apartment is $793 per month. Assuming a one person household living in a one bedroom apartment, an individual earning the average renters wage would have to earn $2643 per month. That would require working 56 hours per week to afford a one bedroom apartment at Fair Market Rent without being cost burdened.

A household with only one member in the workforce earning the mean renters wage and renting a 2-bedroom apartment in Washington County at the Fair Market Rent would have to work 69 hours a week.

A large percentage of renters in Vermont do not earn enough to afford a one-bedroom unit at the average statewide Fair Market Rent. That burden is heightened when a household is being supported by only one person in the workforce. Median rents are consistently higher than the U.S. Department of Housing and Urban Development determined Fair Market Rents. Rental vacancy rates as low as 1% both continue to be barriers for finding affordable housing.

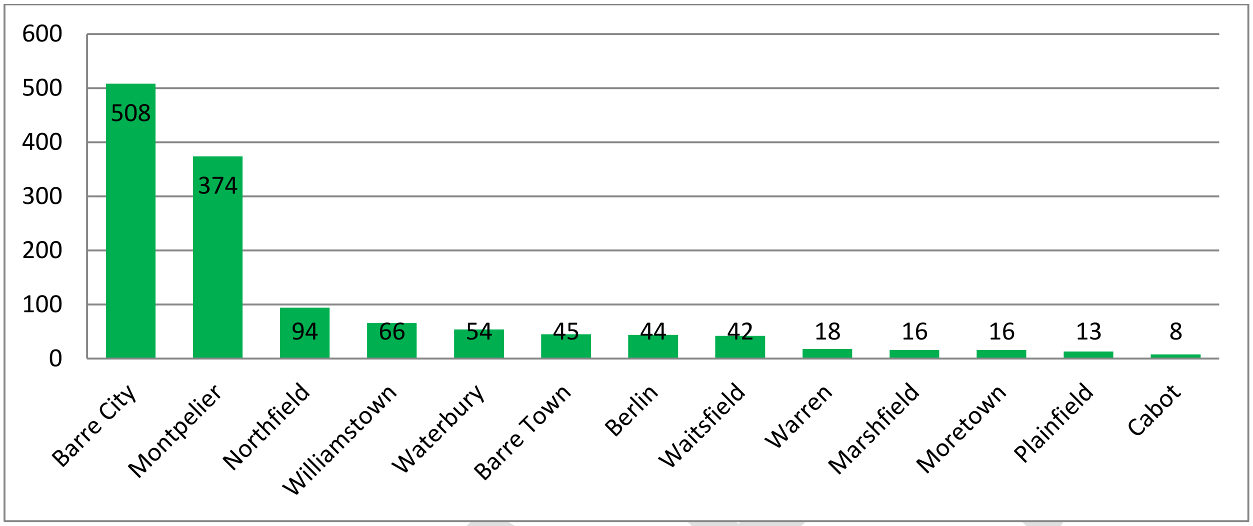
Subsidized Housing

Central Vermont has 1,298 site specific subsidized rental units. Throughout the Region, the majority of subsidized, rental housing units are located in Barre City and Montpelier, with a combined total of 882 units (Figure 8). Barre City and Montpelier account for 67.9% of all subsidized units and account for 49% of all rental housing in the Region in

[6] National Low Income Housing Coalition, Out Of Reach 2015 http://nlihc.org/oor/vermont

2010. The six municipalities with the greatest amount of rental housing in 2010 also have the greatest number of subsidized units.

Figure 8: Subsidized Housing Units by Town, 2014



Source: Housingdata.org

Low Income Households

HUD Income Limits are defined as Low Income (80% of median income), Very Low Income (50% of median income) and Extremely Low Income (30% of median income). In 2013 in Washington County, the median household income was $57,281. An estimated 9,864 or 40% of households in Washington County are Low Income. Of those 9,864 households, an estimated 20% are Very Low Income and approximately 15% of those 9,864 households are Extremely Low Income.

There are 1,298 subsidized rental housing units in Washington County (Figure 6). To qualify for some types of public and subsidized housing a households must be earning 80% or less of the median income. If all of the estimated 9,864 households earning 80% or less of the median income were to apply for subsidized rental housing in Washington County, there would be an estimated shortage of 8,566 units.

The Section 8 Housing program provides rental assistance to help eligible families live in safe and decent housing of their choice. Housing is determined decent by quality standards set by the Vermont State Housing Authority. The Vermont State Housing Authority (VHSA) opened the Section 8 waitlist on April 1st, 2015 and closed it on June 15th, 2015, after it had accepted enough applications for a two year wait. The Montpelier Housing Authority which administers the Section 8 voucher program for Montpelier City has 122 federally allotted vouchers and enough funds to use 110 of those vouchers. There is currently a reported 2-2.5 year wait for a voucher in

Montpelier. VHSA reports an even mix of applicants are single people and families as well as those who are disabled or have a mental illness. The Montpelier Housing Authority reports roughly three quarters of people applying for its vouchers are elderly or disabled.

Housing + Transportation

When addressing housing, location is one factor that plays a large role in the affordability of a home. The Center for Neighborhood Technology (CNT) researched the impacts of transportation on household spending and found that transportation costs become unaffordable when they are more than 15% of a household's income. The U.S. Department of Housing and Urban Development also uses 15% of household income on transportation as the limit of affordability in its Location Affordability Index. When the costs of housing and transportation are added together, a home is affordable when a household spends no more than 45% of its income on housing and transportation costs. CVRPC developed a housing and transportation model for the Central Vermont Region to examine the affordability through the lens of location.

Housing and transportation costs were examined for each of Central Vermont's 23 municipalities using the State's definition for affordable housing found in 24 V.S.A. §4303, in which a household's income does not exceed 80% of the County Median Income and housing costs do not exceed 30% of household income.

The main components of this analysis were as follows:

Housing	Transportation
• 2009-2013 ACS Data • Median monthly owner costs (2009-2013 ACS Data) • Median monthly renter costs (2009-2013 ACS Data)	• 2009-2013 ACS Data • 2013 Longitudinal Employer-Household Dynamics Data from the US Census • 2009 National Household Travel Survey • 2015 AAA costs per mile for vehicle (SUV & Sedan)

Median housing costs per year were calculated using the Census's measure of median monthly housing costs for renters and owners. This provides an accurate measure for the average amount of money a household is spending on housing costs each month. A description of what those costs include can be found in the Definitions section. In Washington County, the average amount spent on housing costs per year for renters earning was $11,382 and for owners it was $13,626. The average of Orange, Washington and Williamstown in Orange County for renters was $10,208 and for owners it was $10,696.

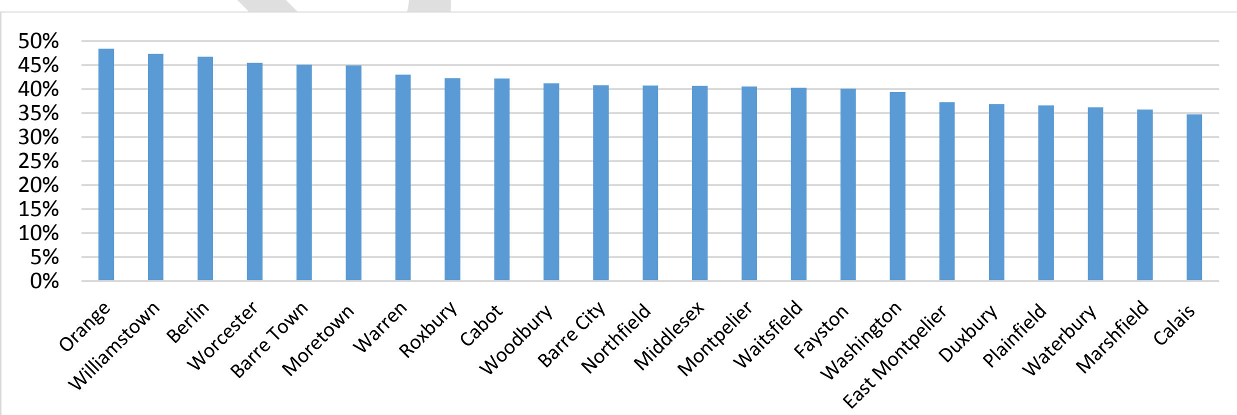
For a household earning 80% of County Median Income, the median owner housing costs are unaffordable in all municipalities in Central Vermont (Figure 10). While property tax rates differ by municipality, Vermont's property tax rebate program equalizes the value of taxes for low income residents who own their home.

Rental housing costs as a percentage of 80% of the County Median Income can be seen in Table 6 in the Appendix. For a household earning 80% of County Median Income, the median renter housing costs are affordable in all but three municipalities (Figure 11.

Transportation costs as a percentage of income for a household earning 80% of the County Median Income was calculated and found that on average, households in every municipality in Central Vermont pay more than 25% of their income towards transportations costs per year.

Figure 9 below illustrates the mileage to work as a percentage of total yearly mileage. This metric takes into account the number of commuters per household. It should be noted that, while average number of commuters per household was used for this model, the number of individuals who use public transportation for work was not a factor because they represent 1% of total workers in Central Vermont. Individuals who reported working from home make up roughly 7% of the total workers in Central Vermont. Those that work from home would have significantly lower transportation costs than shown in this analysis, however they were not taken into account due to the fact that the majority of workers in Central Vermont commute to their workplace with a personal vehicle. This model only shows transportation costs for a household making 80% of County Median Income and driving a personal vehicle for trips. For all municipalities, mileage to work represents less than half of the average total miles traveled each year by households. Of non-work related trips, Social/Recreational and Meals were the two highest reported mileage categories for municipalities.

Figure 9: Mileage to Work as a Percentage of Total Yearly Mileage



Source: U.S. Census Bureau, 2013 Longitudinal Employer-Household Dynamic (LEHD)

Taking both housing and transportation costs into account, a chart of owner housing and transportation costs can be seen in Figure 10 below and with renter housing costs in Figure 11. All municipalities in the Central Vermont Region are considered unaffordable (for renting and owning) to the average household making 80% of the County Median Income when transportation costs are factored in.

For owning a home, Waitsfield, East Montpelier, Waterbury, Warren, Moretown, and Fayston all have combined costs above 70% of household income while Roxbury is the only municipality with a total under 60% of household income.

For renting, 13 municipalities have combined costs above 50% of household income and Warren, Cabot and Barre City are the three municipalities below 47% of household income.

Figure 10: Median Owner Housing and Average Transportation Costs as a Percentage of Income for a Household Earning 80% of County Median Income

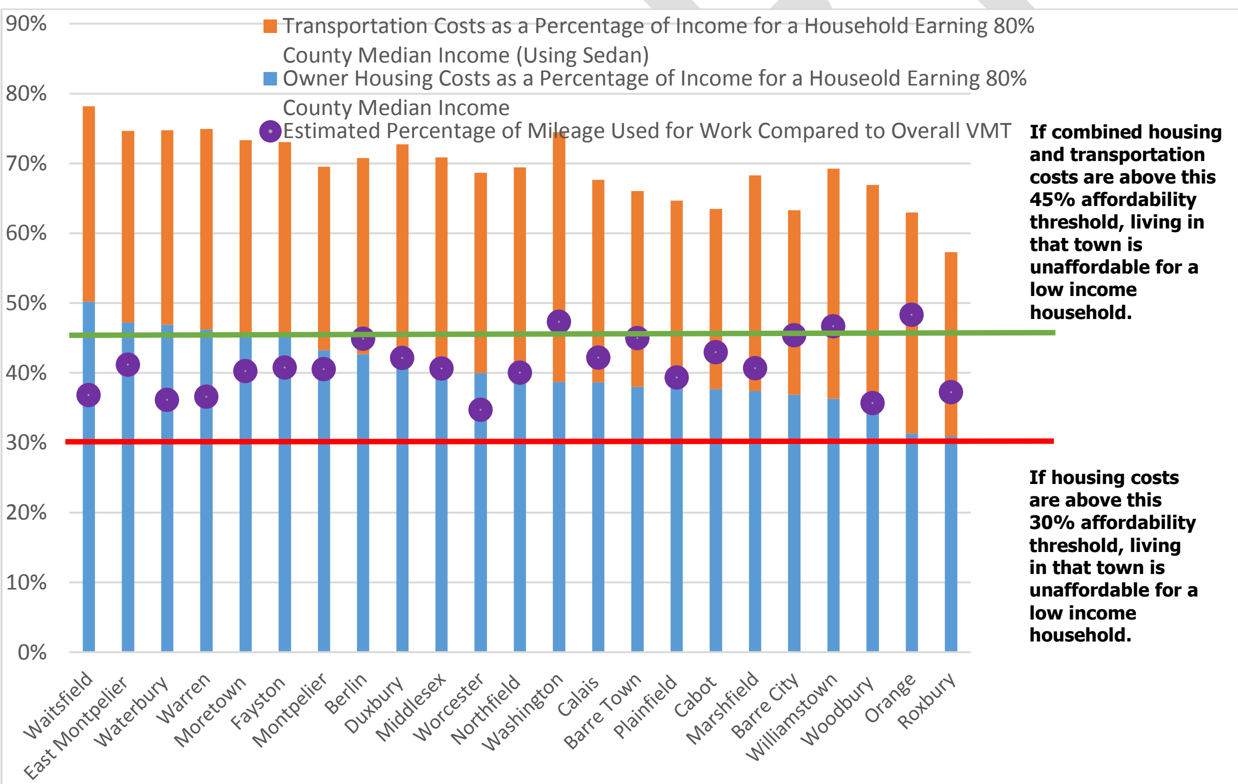
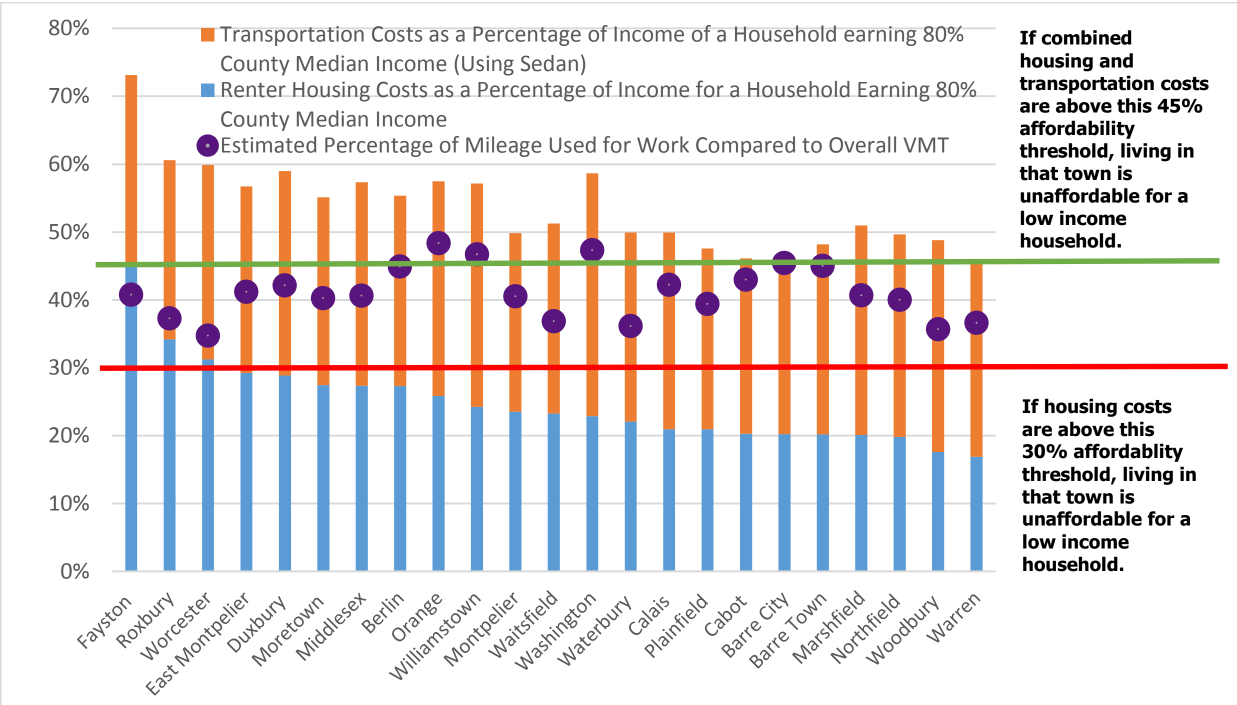
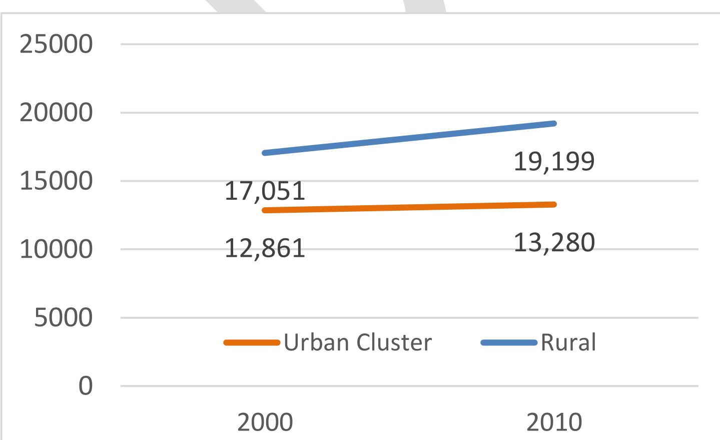


Figure 11: Median Renter Housing and Average Transportation Costs as a Percentage of Income for a Household Earning 80% of County Median Income



RESIDENTIAL DEVELOPMENT PATTERNS

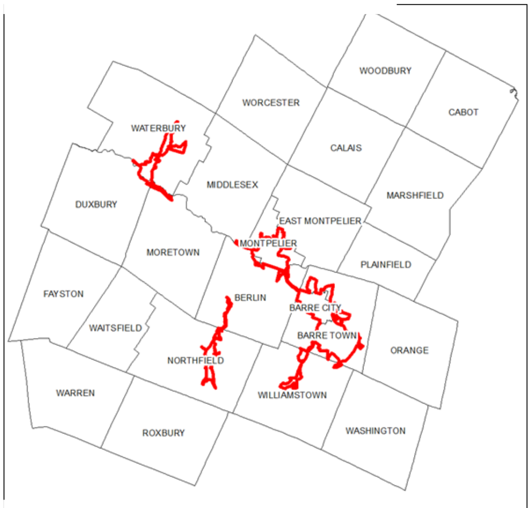
Historically, the concentrations of population and housing development in the Region have occurred in the downtowns and villages of Barre City, Montpelier, Northfield, and Waterbury. This concentration has been diminishing somewhat since the mid-20th century, and the trend has continued through the 2000-2010 decade. A comparison of population and housing unit data between rural areas and a few key downtown and village locations categorized as 'urban' by the U.S. Census Bureau illustrates that residential settlement is occurring more strongly in the rural countryside than the historical centers.



Source: Census 2000, 2010

The US Census defines "urban cluster" areas to be densely settled core areas (more than 1,000 persons per square mile) contiguous with moderately dense peripheral neighborhoods (more than 500 persons per square mile). The areas roughly approximating downtown Montpelier, Barre City, South Barre, Websterville, Graniteville, East Barre, Williamstown village, Northfield village and Northfield Falls, Waterbury village and Waterbury Center are considered "urban clusters" by the US Census.

Figure 13: Urban Cluster Map



Source: Census 2000, 2010

Overall, Central Vermont has seen a 0.06% population decrease in "urban clusters" between 2000-2010, and a 4.9% increase in population residing in rural areas. Figure 12 demonstrates how housing unit growth in rural areas has occurred at a faster rate since 2000 than in "urban cluster" areas, 12.6% and 3.3% respectively.

In Barre City, and the "urban" downtowns of Montpelier and Waterbury, total population decreased over the 2000 to 2010 decade. Montpelier also saw a decrease in housing units in its downtown "urban cluster" over this timeframe. Barre City saw the smallest increase in the Region in total housing units, of less than 1% (27 units).

In contrast, the rural areas, outside of these "urban cluster" boundaries have also seen greater increases in housing units and population than the "urban" downtowns. As a percentage of total housing, Fayston saw the greatest increase of over 33% (301) units, followed by Roxbury (79 units) and Cabot (137 units), each with a 22% increase in total housing units. These three towns also saw the most significant increases in population between 2000 and 2010 relative to their small populations. Woodbury, and the rural parts of Northfield and Waterbury, experienced rural population increases of above 10%.

Within these broad regional shifts, there are also a few unique trends worth noting. The "urban cluster" areas in several of the Region's villages have seen increases in their populations and housing units between 2000 and 2010, and the rural part of Montpelier has experienced notable increases.

From 2000 to 2010 Williamstown, Moretown and Middlesex (in which a small portion is included in the Barre-Montpelier cluster) saw 20% increases in "urban cluster" population and 30% increase in housing units. Barre Town, Williamstown, Berlin, and Moretown have also increased their share of urban housing units and increased their regional share of urban population. This growing contribution indicates possible infill and densifying of residential development.

Rural areas within Montpelier municipal boundaries, but outside of downtown Montpelier, experienced a rural population increase of 61% and a rural housing unit increase of 68% from 2000 to 2010. With this trend, it should be noted that the boundaries of the Montpelier "urban cluster" contracted between 2000 and 2010, changing the classification of some people and existing housing units from urban back to rural.

An additional analysis was done to help characterize residential development patterns in the region. The analysis considers different geographic areas and provides an additional perspective on rates of growth in areas of concentrated development versus outlying areas of significantly less concentrated development. E911 points were used to determine the percentage of housing structures that exist within Regional and Town Centers and outside those boundaries (see Future Land Use Map). In 2005, 80.5% of residential structures were outside of Regional and Town centers while the remaining 19.4% were located inside. In 2014, 81.3% of regional structures were outside Regional and Town Centers while 18.7% were inside. Residential structures outside of Regional and Town Centers experienced a percent change of 9.4% from 2004-2014 while structures within Regional and Town Center boundaries only grew by 4.5%.

All of these trends taken together demonstrate that municipalities outside of the historic population centers are changing the portfolio of residential development region wide. Housing units and population in rural areas now make up a larger percentage of the total housing stock than they did in 2000, and in decades past.

HOUSING FOR VULNERABLE POPULATIONS

Elderly in Need of Care

In 2015, the Washington County Housing Needs Assessment reported 11,128 elderly (age 62+) residents and 835 elderly residents who are considered "frail". Persons over the age of 75 are considered frail and require assistance with daily living activities.

To provide for elderly residents in need of daily support, the county has 19 senior care facilities with a total of 765 beds.[7] Fifteen of these are residential care facilities and four are nursing homes. Average occupancy rates at the nursing home facilities stand at 76.5% in 2015 according to the Vermont Dept. of Disabilities, Aging &

Table 4: Nursing Homes in Washington County

Nursing Home	Number of Beds
Berlin Health and Rehabilitation	141
Mayo Healthcare, Inc.	50
Rowan Court Health and Rehab Center	96
Woodridge Rehabilitation & Nursing	153
Source: Vermont Dept. of Disabilities, Aging & Independent Living, Division of Licensing & Protection http://www.dlp.vermont.gov/license	

[7] Washington County Housing Needs Assessment. Bowen National Research. Vermont Dept. of Housing & Community Development. http://accd.vermont.gov/sites/accd/files/Documents/strongcommunities/housing/18%20-%20Washington%2014-363.pdf. 2015.

Independent Living.[8] Surveys of 8 senior care facilities conducted for the Washington County Housing Needs Assessment report a 3.5% vacancy rate at residential care facilities specifically. Although the nursing home occupancy rate indicates greater availability than the state (83.5% occupancy), the residential care vacancy rate is below the state average.

The current availability of nursing facilities also reflects the preference of Vermonters to receive long term care at home. Vermont's Department of Disabilities, Aging and Independent Living reports that this is "evidenced by a contraction of the state's institutional capacity. [Between 1998 and 2010, 15%] of Vermont nursing facility beds have closed…shifting care into the home and community-based system.[9]"
The cost to the individual and the public system is a critical factor when planning for elderly care housing. Base monthly fees for residential care in Washington County starts at around $3,000 per month, and nursing care has a base monthly fee starting near $8,699.

[8] Vermont Nursing Home Occupancy by County Total and Medicaid. Vermont Dept. of Disabilities, Aging & Independent Living. http://dail.vermont.gov/dail-publications/publications-monthly-reports/drs_occup_co. July 2015.

[9] Vermont Housing Finance Agency. 2010 Vermont Housing Needs Assessment.

KEY CHALLENGES AND TRENDS

RESIDENTIAL DEVELOPMENT PATTERNS

Balancing Efficient Land Use with Rural Character and Residential Development Pressures

Nearly every municipality in the Central Vermont region clearly states in their municipal plan that residents strongly value rural character in their communities. Many of those also state that their highly regarded rural character has or could be threatened due to a number of pressures. These pressures include scale of developments, sprawling residential development or economic growth in neighboring towns.

A majority of municipalities also express the desire, for increased density and/or concentration of housing in downtown and village centers. A few municipalities follow-up that aspiration with the acknowledgement that there are infrastructure limitations that hinder the realization of that goal. This idea of increased growth in downtown and village centers stands in contrast to actual residential development in the Central Vermont Region. The rate of residential structures built outside of downtown and village centers is higher than those being built within. This is supported by a faster rate of growth from 2000-2010 in housing units in Census designated Rural areas than in Urban Cluster designated areas.

This presents a challenge of how the Central Vermont Region can overcome the contrast between desired residential development patterns versus actual development patterns. As found in municipal plans, the protection of rural character, supported in some municipalities with the desire for concentrated housing growth in village centers is not fully being realized. Scattered rural residential development and in some cases strip development are threatening towns' character, despite the stated desires of municipal plans.

Limitations on Public Utility (Sewer and Water) Infrastructure and Infill Capacity in Regional & Town Centers

Outdated public utility systems and land use regulations (LURs) in some municipalities place constraints on the capacity of Regional and Town Centers to achieve residential infill. These factors also place constraints on economic development (See *Strong & Diverse Economy* Element). In some cases, existing bylaws concerning infill development are not well understood by municipal decision makers and developers. The capacity for development allowed by utility infrastructure has also proven to be a barrier to development. All of these factors infringe on the ability of the community to plan for and create the residential development densities in Regional and Town Centers that are envisioned, and that would support increased housing options.

Measures should be taken and policies enacted to ensure that development where envisioned in Regional and Town Centers is not a difficult process. And that existing public utility infrastructure provides the needed capacity for future infill development.

Cost of Rehabilitation

Ongoing use of existing housing stock offers opportunities to preserve the foundation of existing neighborhoods and communities. It utilizes stock that may already be located close to services and offers the opportunity to maintain green space and open and working lands. The costs of repairing, maintaining and financing periodic upgrades for these homes and buildings can be prohibitive for many property owners and communities. Buildings used for rental housing must be kept in compliance with state and municipal building safety and energy codes, harmful materials managed (such as lead and asbestos), and electrical, plumbing and heating, cooling, and ventilation systems must often be upgraded. Owner occupied housing must be in compliance with state and municipal codes when applying for permits for new construction. Allowing for repairs and upgrades to existing housing stock to be affordable for developers could provide much needed affordable housing in transportation efficient locations.

Scattered Rural Residential Development

Rural communities experiencing growth in housing development often feel that the rural character of their community is threatened if the development is not guided appropriately. Land use regulations that have not caught up to rural residential development trends may allow compromising of scenic character or fragmentation of farms, forest or other natural resources. Traffic and compromising of privacy are also problematic, although improved regulations, site design, and access ordinances can offer amelioration. Opposition to new housing limits bolstering of the tax base as well as reducing options for growing families.

AFFORDABILITY

High Housing Costs for Low Income Homeowners and Some Renters

More than 47% of renters and 34% of homeowners in Central Vermont are spending more than 30% of their household income on housing costs. In Central Vermont, owner housing costs in all municipalities are considered unaffordable for a household that is making 80% of the county median income. Renter housing costs are considered unaffordable for a household making 80% of the County Median Income in three municipalities. The trends of decreasing household size, increasing share of elderly population in the Region and low vacancy rates of rental homes in some municipalities will lead to a tight market for rental housing. Efforts are needed to ensure fair market rate rental housing is available for the changing demographics of Central Vermont. Despite constraints for low income homeowners, sale prices for primary homes are lower in Central Vermont than Vermont as a whole. This should be viewed as a potential opportunity to attract new residents.

High Cost of Living

Accommodation and food services and retail trade make up 20.3% of jobs in Central Vermont. The Mad River Valley and Stowe area have high amounts of seasonal worker that serve mainly the ski areas, while also have low amounts of affordable housing. The housing wage in Washington County is $18.90 and is $7 more than the average renters wage in Vermont. Coupled with the high costs of transportation in Central Vermont, the cost of living for those making at or below the housing wage is very high and unaffordable. Efforts should be made to increase the affordable housing options where seasonal and wage jobs are located. If there are more affordable housing options near workplaces, workers could spend less money on transportation and have more dispensable income for goods and services in the Region. An alternative would be to reduce transportation costs for individuals.

Shortage of Subsidized Housing Units

If all of the estimated 9,864 of households making less than 80% of median income were to apply for subsidized rental housing in Washington County, there would be an estimated shortage of 8,566 subsidized rental units. As the number of people of workforce age decreases in Central Vermont and the number of elderly increases, Central Vermont is faced with both the need to provide affordable housing for the growing elderly population as well as provide affordable housing to attract workforce age people. The waitlist for the Section 8 housing program is estimated at two years. While efforts to expand the Section 8 voucher program are done at the state and national level, efforts to increase affordable housing options through social programs, developer incentives and density increases could further the availability of affordable housing in the Region.

Increasing Transportation Costs as a Percentage of Total Household Income

All 23 municipalities in Central Vermont have median owner housing costs exceeding 30% of the income of a household making 80% or less of the county median income and two municipalities have median renter housing costs exceeding 30% of the income of a household making 80% of county median income. In addition, all municipalities have estimated transportation costs above 15% of the income of a low income family. As gas prices are expected to rise over the next 20 years, transportation must be looked at as an equal factor when considering housing location affordability. Over 25% of commuters living in Central Vermont commute more than 25 miles to work. Regional trends of growth in more rural areas indicate either preferences to live outside of more dense urban areas or lower costs of housing in rural areas. When factoring in transportation mileage needed to travel to work and non-work destinations, living in more rural areas can prove to be more expensive than living closer to jobs and amenities. Policies that take into account both housing and transportation location factors should be considered to promote and ensure informed decisions on costs of housing location.

CHANGING DEMOGRAPHICS

Supply & Affordability of Assisted and Specialized Care Facilities

As the 65+ age cohort grows quickly over just the next five years, it is uncertain whether bringing nursing facility beds back online will provide an adequate supply of specialized care. Residential care facilities have lower vacancy rates, indicating that the demand for more of this type of housing may be even greater. Development of new facilities in such a short timeframe will take a focused effort. Regardless of adequate supply, the cost to both the individual and the public system for these facilities is a challenge. Elders sometimes delay transitioning to residential or nursing care which they need or desire because of prohibitive costs. Providing necessary care outside of a specialized environment can then be challenging for families and the medical system.

Strategies to Support Aging in Place

To ensure that aging in place serves elders and their families and communities as envisioned, strategies will need to be implemented to counteract the associated challenges. Aging residents staying in their long-time home will need to maintain a home that is large for one or two people and requires sustaining the costs of heating, snow removal, yard care and other maintenance and repair. Elders living in areas distant from medical care and services will need to cover costs of in-home care or transportation, or rely on public assistance payments, increasing reliance on the public system. Seniors aging in place also risk social isolation if they live alone, require personal mobility or transportation assistance, or live in an isolated rural setting.

Housing Arrangements Meeting Needs of Aging Residents

Retired and elderly residents still living independently have unique housing preferences. They may prefer smaller units with one or two bedrooms, and may want to live closer to necessary services, friends, and family to reduce driving. Smaller units already located in downtown & village centers or new residential development in these locations would be ideal to serve the interests of retirees and elders. This will depend, however, on the supply of smaller units being adequate, and overcoming the challenges for new and infill downtown and village development.

Housing Life Cycle

An increasing amount of elderly in Central Vermont are electing to age in place, this trend could place a strain on the housing continuum in the coming years. If elderly are not electing to downsize and move to smaller homes or assisted care facilities, their homes will not be on the market for younger families to purchase.

Average household size is predicted to decrease slightly over the next five years, and Central Vermont has had a consistently lower household size than Vermont since 1990. This indicates that the demand for smaller homes could be amplified in Central Vermont as compared to the state as a whole and is therefore more of a concern. Smaller homes (both by bedrooms and square footage) make up only a small portion of existing housing stock in Central Vermont. To meet the needs of younger generations and the trend of decreasing household size, increasing the supply of affordable, smaller housing units will be needed in the next ten years.

Preparing for the Next Demographic Shift

Meeting the dramatic increase in population of retirees and elders with a large shift in housing and infrastructure investment will have a legacy for following generations. The generation to follow will be smaller in population and is likely to have different housing preferences or need less so of the same. Balancing preparation for the first demographic shift with anticipation of the next will allow long term investments to be adaptable with long term returns.

GOALS AND POLICIES

GUIDING PRINCIPLE:

Opportunities exist for safe, energy efficient, affordable and accessible housing for all types of households in mixed-income neighborhoods.

RESIDENTIAL DEVELOPMENT PATTERNS

GOAL: Residential development makes efficient use of the land and existing resources.

Policy: Regional and local planning should address the inter-related nature of factors that affect meeting regional housing needs.

Action: Provide consultation to sub-regions of municipalities on the issues they face in contributing to regional housing needs"

Policy: Existing housing stock should be preserved, rehabilitated, and maintained.

Policy: Invest in new residential and mixed-use infill Investment achieves new residential and mixed-use infill.

Action: Assist municipalities to inventory vacant lots and structures.

Action: Promote land use strategies that encourage greater density as discussed in the Land Use Element.

Policy: Re-use existing housing stock and adaptively re-use older and historic buildings especially in downtown and village centers to increase housing options.

Action: Assist municipalities to identify limitations to building reuse, such as environmental contamination, repetitive flooding, ADA accessibility etc. and evaluate structural suitability for adaptive reuse.

Policy: New housing should be constructed in regional and town centers. When residential development occurs in rural areas it should promote landscape integrity, infrastructure resilience, energy efficiency, and strong rural centers.

Action: Assist municipalities to:

- secure the benefits of State designations in support of urban and rural centers;
- use planning tools such as;

- Conservation subdivision design
- Screening and landscaping provisions
- Provisions for protecting scenic vistas
- Shared community sewer and water facilities
- Revised road and curb cut ordinances
- Transfer of development rights
- Overlay districts (conservation, agricultural soils, cultural resources)

Action: Set a benchmark to be used to measure regional progress toward increasing the percentage of residential development in Regional and Town Centers.

Policy: Maximum densities allowed by local regulations should be consistent with the overall vision of the municipality.

Action: Assist municipalities to:

- adopt land use regulations that concentrate development in growth centers, downtown and village centers, where appropriate infrastructure can be made or is available, and other areas where housing growth is desired. This may include density bonuses and lowering of impact fees and Transfer of Development Rights.
- use Geographic Information System technology and other tools for analysis of the affects of existing and/or proposed zoning policies on housing development.

Action: Develop a database of existing housing in the region based on data such as Municipal Grand Lists.

Policy: Existing infrastructure is adequately sized and maintained to accommodate future residential development.

Action: Assist municipalities to evaluate existing utility infrastructure capacity in service areas to determine capacity for redevelopment and infill.

Policy: Public investment supports housing in mixed-use development.

Action: Give developments in downtowns and village centers priority for housing incentives.

AFFORDABILITY

Goal: Housing options exist for current and future residents regardless of income.

Policy: Development projects incorporate affordable housing.

Action: Assist municipalities to:

- meet future market demand for smaller square footage units, especially where water and/or sewer infrastructure exist;
- evaluate and incorporate tools that facilitate affordable and equitable housing;

Policy: Increase the amount and quality of rental housing.

Action: Assist municipalities to:

- develop or augment housing revolving loan funds;
- create local rental codes, as desired;

Policy: Support development of subsidized housing to ensure affordable options for households for which non subsidized housing is not financially feasible.

Action: Assist municipalities to develop and maintain subsidized housing.

Policy: Support and facilitate development of affordable housing options by the private market.

Action: Educate the development community on tools such as:

- density bonuses for the inclusion of affordable units;
- tax incentive programs such as historic preservation tax credits.

Action: Assist municipalities to evaluate and streamline the local permitting process to support affordable housing.

Policy: Multi-unit housing developers shall coordinate with public transit agencies regarding services and design needs prior to seeking permits for construction.

Action: CVRPC will review development proposals for consistency with this policy.

Policy: Promote location affordability.

Action: Partner with regional affordable housing stakeholders to include housing and transportation literacy into homeowner education curriculum.

Action: Review municipal plans to assure housing elements identify issues related to affordability such as transportation costs.

Policy: Promote general understanding of housing affordability issues.

Action: Facilitate collaboration between municipalities and potential partners for affordable housing development.

Action: Educate landlords, tenants, homeowners, developers and municipalities to reduce barriers to housing accessibility, affordability, quality, etc. through activities such as:

- updating "The Central Vermont Housing Resource Guide", as needed.
- Co-hosting workshops and learning opportunities on topics related to housing affordability including financing.

CHANGING DEMOGRAPHICS

Goal: Housing choices respond to changing demographic trends.

Policy: Public policy and investment should support a variety of options for elders to age in their community. Priority for public funding shall go to projects located within regional and town centers to increase access to services.

Action: Support the development of residential care, assisted living and nursing home facilities and other solutions that support elders when they can no longer live on their own.

Policy: Support integration of alternative living arrangements into communities through partnerships, municipal assistance, etc.

Action: Assist municipalities with obtaining resources needed to carry out housing needs analyses to identify the specific types of housing most needed by the community and incentives to address those needs.

Action: Educate municipalities on alternative living arrangements for changing demographics such as caretakers, specialized group homes, house sharing agreements or live-in assistants.

Policy: New affordable housing and assisted living facilities shall provide a mobility plan that evaluates mobility needs of residents and how those needs will be met.

Action: CVRPC shall review development proposals for compliance with this policy.

Policy: Consider a 50 year planning horizon when planning for changing demographics.

Action: CVRPC will monitor demographic cycles, population growth, housing development and market trends.

DEFINITIONS

"Affordable housing" means either of the following (24 V.S.A. § 4303):

> (A) Housing that is owned by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including principal, interest, taxes, insurance, and condominium association fees is not more than 30 percent of the household's gross annual income.
>
> (B) Housing that is rented by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including rent, utilities, and condominium association fees, is not more than 30 percent of the household's gross annual income.

Block Groups: Block groups (BGs) are the next level above census blocks in the geographic hierarchy. A BG is a combination of census blocks that is a subdivision of a census tract or block numbering area (BNA). Block groups generally contain between 600 and 3,000 people and never cross the boundaries of states or counties. (U.S. Census Bureau)

Census Tract: Census tracts consist of one or more block groups. Census tracts, which typically have between 1,500 and 8,000 people, with an average size of about 4,000 people, are defined with local input, are intended to represent neighborhoods (they are designed to be relatively homogeneous with respect to population characteristics, economic status, and living conditions). (U.S. Census Bureau)

Census Blocks: Census blocks, the smallest geographic area for which the Bureau of the Census collects and tabulates decennial census data, are formed by streets, roads, railroads, streams and other bodies of water, other visible physical and cultural features, and the legal boundaries shown on Census Bureau maps. (U.S. Census Bureau)

Complete kitchen facilities: A housing unit has complete kitchen facilities when it has all of the following: (1) kitchen sink; (2) burners, cook stove, or microwave oven; and (3) refrigerator. These terms are further defined below… the vacant unit, lacking a refrigerator, has an **incomplete kitchen**. (U.S. Census Bureau)

Occupied housing units. A housing unit is classified as occupied if there is at least one person who lives in the unit as a usual resident at the time of the interview, or if the occupants are only temporarily absent, for example, on vacation. However, if the unit is occupied entirely by people with a usual residence elsewhere, the unit is classified as vacant. (U.S. Census Bureau)

2000 Census "Urban": For Census 2000, the Census Bureau classifies as "urban" all territory, population, and housing units located within an urbanized area (UA) or an urban cluster (UC). It delineates UA and UC boundaries to encompass densely settled territory, which consists of:

- core census block groups or blocks that have a population density of at least 1,000 people per square mile and;
- surrounding census blocks that have an overall density of at least 500 people per square mile. In addition, under certain conditions, less densely settled territory may be part of each UA or UC. (U.S. Census Bureau)

2010 Census "Urban": For the 2010 Census, an urban area will comprise a densely settled core of census tracts and/or census blocks that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. (U.S. Census Bureau)

Homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100. (U.S. Census Bureau)

Plumbing facilities. Complete plumbing facilities means housing have hot and cold piped water as well as a flush toilet and a bathtub or shower. For units with less than two full bathrooms, the facilities are only counted if they are for the exclusive use of the occupants of the unit. Plumbing facilities need not be in the same room. Lacking some plumbing facilities or having no plumbing facilities for exclusive use means that the housing unit does not have all three specified plumbing facilities (hot and cold-piped water, flush toilet, and bathtub or shower) inside the housing unit, or that the toilet or bathing facilities are also for the use of the occupants of other housing units. (U.S. Census Bureau)

Rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100. (U.S. Census Bureau)

Residential Care Homes - State-licensed group living arrangements designed to meet the needs of people who cannot live independently but usually do not require the type of care provided in a nursing home. When required, residents are assisted with daily activities such as eating, walking, toileting, bathing, and dressing. Daily rates at residential care homes are usually less than rates at nursing homes. (U.S. Census Bureau)

Rural: The Census Bureau's classification of "rural" consists of all territory, population, and housing units located outside of UAs and UCs. The rural component contains both place and nonplace territory. Geographic entities, such as census tracts, counties, metropolitan areas, and the territory outside metropolitan areas, often are "split" between urban and rural territory, and the population and housing units they contain often are partly classified as urban and partly classified as rural. (U.S. Census Bureau)

Section 8 Housing Program: The Section 8 Existing program provides rental assistance to help eligible families live in safe and decent housing of their choice. With funding provided by the Department of Housing and Urban Development (HUD) and administered by local public housing authorities, as well as VSHA, this program utilizes privately owned existing housing stock.

Families, elderly, disabled and single people whose income falls within the income guidelines qualify for this program. After a person applies and is determined eligible, they are placed on a waiting list until funds become available to assist them. When funding becomes available, a certificate or voucher is issued.

A voucher is the written guarantee of VSHA to the tenant or prospective landlord that the voucher holder is eligible for participation in the program. The voucher is used by the holder in locating a house or apartment of his/her choosing. The voucher sets forth the bedroom size the family needs and outlines the family's obligations under the program and the period of time the family has to locate suitable housing. (Vermont State Housing Authority, www.vsha.org)

Seasonal units. These units are intended by the owner to be occupied during only certain seasons of the year. They are not anyone's usual residence. A seasonal unit may be used in more than one season, for example, for both summer and winter sports. (U.S. Census Bureau)

Selected Monthly Owner Costs – Selected monthly owner costs are the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property (including payments for the first mortgage, second mortgages, home equity loans, and other junior mortgages); real estate taxes; fire, hazard, and flood insurance on the property; utilities (electricity, gas, and water and sewer); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fee for condominiums and mobile home costs (personal property taxes, site rent, registration fees, and license fees). Selected monthly owner costs were tabulated for all owner-occupied units, and usually are shown separately for units "with a mortgage" and for units "not mortgaged." (U.S. Census Bureau)

Subsidized housing: *subsidized housing* is used when describing housing that has rental assistance. That is, housing where all or a portion of the occupants monthly housing cost is paid for directly by the government. An example of this is Section 8 housing vouchers, where a renter only pays the portion of the rent that is determined to be affordable to them based on their income. (www.affordablehousingonline.com)

Urban Area: To qualify as an urban area, the territory identified according to criteria must encompass at least 2,500 people, at least 1,500 of which reside outside institutional group quarters.

The Census Bureau identifies two types of urban areas:

- **Urbanized Areas (UAs)** A statistical geographic entity consisting of a densely settled core created from census tracts or blocks and contiguous qualifying territory that together have a minimum population of at least 50,000 persons.
- **Urban Clusters (UCs)** A statistical geographic entity consisting of a densely settled core created from census tracts or blocks and contiguous qualifying territory that together have at least 2,500 persons but fewer than 50,000 persons. (U.S. Census Bureau)
  *Vermont only has Urban Cluster classification

Urban Cluster Delineation: *The Census Bureau will begin the delineation process by identifying and aggregating contiguous census tracts, each having a land area of less than three square miles and a population density of at least 1,000 ppsm. After the initial urban area core with a population density of 1,000 ppsm or more is identified, additional census tracts with a land area less than three square miles and with a population density of at least 500 ppsm will be included if contiguous to any qualifying census tracts. If a qualifying census tract does not exist, then one or more contiguous census blocks that have a population density of at least 1,000 ppsm are identified and aggregated. A census block is included in the initial urban area core if it is contiguous to other qualifying territory, and a) Has a population density of at least 500 ppsm, or b) At least one-third of the census block consists of territory with a level of imperviousness of at least twenty percent,5 and is compact in nature as defined by a shape index. A census block is considered compact when the shape index is at least 0.185 using the* *following formula: $I = 4\pi A/P2$ where I is the shape index, A is the area of the block, and P is the perimeter of the block, or c. At least one-third of the census block consists of territory with a level of imperviousness of at least twenty percent, and at least forty percent of its boundary is contiguous with qualifying territory" (http://www2.census.gov/geo/pdfs/reference/fedreg/fedregv76n164.pdf)*

(3) Adoption of 500 persons per square mile (ppsm) as the density criterion for recognizing some types of urban territory. The Census Bureau adopted a 500 ppsm population density threshold at the same time that it adopted its automated urban area delineation methodology. This ensured that census blocks that might contain a mix of residential and nonresidential urban uses, but might not have a population density of at least 1,000 ppsm, could qualify for inclusion in an urban area. For the 1990 Census, geographers could interactively modify analysis units to include census blocks with low population density that might contain nonresidential urban uses, while still achieving an overall population density of at least 1,000 ppsm. Adoption of the lower density threshold facilitated use of the automated urban area delineation methodology, and provided for comparability with the 1990 methodology. This change did not result in substantial increases to the extent of urban areas. (http://www2.census.gov/geo/pdfs/reference/fedreg/fedregv76n164.pdf)

Two population density thresholds are used in the delineation of urban areas: 1,000 persons per square mile (ppsm) and 500 ppsm. The higher threshold is consistent with population density criteria used in the 1960 Census through 1990 Census urban area delineation processes; it is used to identify the starting point for delineation of individual, potential urban areas and ensures that each urban area contains a densely settled core area that is consistent with previous decades' delineations. The lower threshold was adopted for the Census 2000 process when the Census Bureau adopted an automated delineation methodology; it provides that additional territory that may contain a mix of residential and nonresidential urban uses can qualify for inclusion in an urban area. (http://www2.census.gov/geo/pdfs/reference/fedreg/fedregv76n164.pdf)

Vacant units. A housing unit is vacant if no one is living in it at the time of the interview, unless its occupants are only temporarily absent. In addition, housing units where all the occupants have a usual residence elsewhere are grouped with vacant units. (U.S. Census Bureau)

METHODOLOGY FOR HOUSING AND TRANSPORTATION:

Transportation costs for jobs were calculated by using On the Map Distance to Work (from Longitudinal Employer-Household Dynamics, U.S. Census Bureau) data which measures miles traveled to work from and individuals home census block to their work census block. Total average miles traveled for jobs in each municipality was divided by the total number of primary jobs per municipality to find average total miles travel per job per trip (two trips per day). That distance to work per job was multiplied by the average number of workers per household (taken from the US Census) and by the number of visits to work per year (502 visits). This number was added to data taken from the 2009 Household Travel Survey which breaks non-work trips into eight categories; School/Daycare/Religious Activity, Medical/Dental Services, Shopping/Errands, Social/Recreational, Family personal business/obligations, Transport some, Meals, Other. Miles traveled for each trip were average reported values from households that responded to the 2009 Household Travel Survey. The sample size was 126 households in Washington County and 66 in Orange, and while this is a small percentage of total households in the region, it provides the best available data to accurately inform this model of affordability.

APPENDIX:

Table 6: Median Renter Housing Costs as a Percentage of Income for a Household Earning 80% of County Median Income (CMI)

Municipality	Percent of income a household making 80% of CMI would spend on rental housing		Municipality	Percent of income a household making 80% of CMI would spend on rental housing
Fayston	45.2%		Waitsfield	23.2%
Roxbury	34.2%		Washington	22.8%
Worchester	29.3%		Waterbury	22.0%
East Montpelier	28.9%		Calais	20.9%
Duxbury	27.4%		Plainfield	20.9%
Moretown	27.3%		Cabot	20.2%
Middlesex	25.8%		Barre City	20.2%
Berlin	24.2%		Barre Town	20.1%
Orange	23.5%		Marshfield	20.1%
Williamstown	22.8%		Northfield	19.8%
Montpelier City	23.5%		Woodbury	17.6%
			Warren	16.8%

Source: 2013 ACS 5 Year Estimates

Table 7: Median Owner Housing Costs as a Percentage of Income for a Household Earning 80% of County Median Income

Municipality	Percent of income a household making 80% of CMI would spend on owner costs for housing		Municipality	Percent of income a household making 80% of CMI would spend on owner costs housing
Waitsfield	50.2%		Northfield	39.5%
East Montpelier	47.2%		Washington	38.7%
Waterbury	46.9%		Calais	38.6%
Warren	46.2%		Barre Town	38.0%
Moretown	45.6%		Plainfield	38.0%
Fayston	45.2%		Cabot	37.6%

Montpelier City	43.2%		Marshfield	37.4%
Berlin	42.6%		Barre City	36.8%
Duxbury	42.6%		Williamstown	36.3%
Middlesex	40.9%		Woodbury	35.7%
Worcester	39.9%		Orange	31.3%
			Roxbury	30.9%

Source: 2013 ACS 5 Year Estimates