

Visualizing Vermont Housing Data

Vermont Housing Finance Agency

Communications: Creative Media

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Since 2003, Vermont Housing Finance Agency (VHFA) has maintained the Vermont Housing Data website at www.housingdata.org, a free resource used by a wide audience, including researchers, housing professionals and community members. The site contains the Directory of Affordable Rental Housing, a subsidized apartment locator, and the Vermont Community Profiles, which display data and vetted community housing needs indicators based on a variety of national and Vermont-based sources.

In 2018, VHFA completely overhauled the [Vermont Community Profiles](#), replacing data tables with interactive and intuitive visualizations using Tableau software. The data visualizations provide expanded filtering options to allow users to select and compare locations, years and data points. The new site offers a wider range of data than ever before.

Innovation

VHFA is one of only a few Housing Finance Agencies to offer a free online housing data resource. It was built in response to concerns that Vermont stakeholders often lacked access to data that would help inform housing needs assessments and public policy decisions. The web site was particularly innovative when it was created in 2003, when online data resources were rudimentary or entirely absent. Even today, much of the publicly available housing data is hosted in databases that can be difficult for many users to find and operate. Furthermore, users may not be equipped to interpret data and assess its reliability, especially when using survey estimates that have large margins of error due to small sample sizes.

The Vermont Community Profiles offer data from the U.S. Census Bureau, the U.S. Department of Housing & Urban Development and various state agencies in a single, easily accessed resource that is free for all users. Every data visualization is accompanied by descriptions of the data source and definitions of the terms used. VHFA has also built a data reliability indicator for Census Bureau estimates that have margins of error, helping users determine whether data can be trusted.

Beyond simply replicating existing data sets, the site features additional mixed-source data visualizations, including [household growth projections](#), [town-to-county median income comparisons](#), [home price affordability for area residents](#), and [a home purchase price calculator](#). These visualizations help expand users' understanding of housing access and affordability in their communities.

The site's recent redesign with Tableau is also innovative in its use of visualizations, making it easy for users to find, compare and understand data. Data is displayed in bar graphs, tables and [maps](#), all of which are simple to operate and visually attractive. For the first time in the site's history, users can easily compare data at different geographic levels (state, county, and city/town/village) and between different years, as well as filtering out data subsets. The site also now features [Community Snapshots](#), a dynamic tool for users to view the most important features of a selected area, all in one place.

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Audience and results

Researchers and policy makers were already aware of the Vermont Housing Data website, but once the Community Profiles were rebuilt, VHFA launched a campaign to bring the site to a wider audience. The site was demonstrated for state agencies, housing nonprofits, municipal and county planners and during the 2018 Vermont Statewide Housing Conference. VHFA also marked the launch of the new site with a press release, [blog post](#) and social media campaigns. Since then, VHFA has promoted the site in frequent blog posts, with references to the data in [issue topic articles](#) and in [special features](#) highlighting and interpreting newly released data sets.

VHFA used the site to engage with Vermont legislators before the beginning of the current legislative session. A personalized email was sent to each legislators, containing a link to the [Community Snapshot](#) for their district. This helped draw attention to affordable housing issues experienced by their constituents, as well as positioning VHFA as a resource for legislators to rely on during the session. During the legislative session, VHFA shared a visualization of Vermonters assisted by VHFA's [down payment assistance program](#) with key legislators to highlight the program's benefit to the state. This helped to build support for a bill to expand funding for down payment assistance, which is expected to pass before the end of the legislative session.

The site has also influenced housing policy at the local level. VHFA has shared the site with numerous municipal affordable housing committees and regional housing action groups. One town has already used the site as the basis for a housing needs assessment, with plans to start its own municipal housing committee.

Overall, the site's users have increased by over 60 percent since the launch, with over 2,000 new users each month. The site also saw increased engagement in different platforms, with mobile traffic alone increasing by over 70 percent post-launch. This is an important benchmark, since the previous version of the Community Profiles were not mobile friendly. One of VHFA's goals was to ensure that the site could more convenient and accessible to diverse users.

Effective use of resources

The Community Profiles are constantly used by VHFA staff assessing state and community housing needs, writing blog posts and agency publications or responding to requests for information from media, housing developers, partner nonprofits and elected officials. Rather than searching in external databases every time a request is made, staff can conveniently consult the website. The Tableau visualizations are easy to export into image, PDF, and PowerPoint form, which can be incorporated into presentations and print products (see example handout attached as a supporting document).

The website not only supports VHFA's policy and research team, it also helps VHFA manage its own programs. VHFA's homeownership department uses the site's [home sales data](#) to analyze the market for its mortgage programs. VHFA's development underwriting team uses the site data on [household incomes](#), [rents](#), and [housing stock](#) when reviewing tax credit applications, allowing them to verify the details of housing market studies and assess area housing needs and opportunities. VHFA's multifamily

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management team also uses the data visualizations as a quick reference for counts of the [subsidized housing stock](#) and [program income limits](#).

The benefits of this resource clearly outweigh its costs to the agency. The Community Profiles redesign project was supported by a Vermont Community Development Program planning grant from the Vermont Department of Housing and Community Development (DHCD), in recognition of the website's importance for the state. Post-redevelopment the only expenses are a software license, web hosting, and staff time. The new system used to create and upload Tableau visualizations has made it far easier to update the site than with the previous version. Not only has this reduced the time spent on data updates, but it also has enabled VHFA to quickly add newly released data sets, giving staff and stakeholders access to the latest housing information.

Replicability

VHFA's approach towards providing publicly available housing data can and should be adopted by other HFAs. Tableau software makes it simple for even novice users to design and upload data visualizations, and only minor I.T. resources are needed to embed the visualizations on a webpage. Nearly all the data VHFA used on the site can be freely obtained online, or is readily available in-house from VHFA's own programs.

A robust site like VHFA's, which contains large sets of Census Bureau data, does require some data management expertise and housing research knowledge. However, if HFAs are not equipped with these skills, they can start by visualizing their own program data, and the Vermont Community Profiles site can serve as a model for how they can share and promote housing resources in their communities.

Achieving strategic objectives

Many Vermont cities, towns and local groups wish to promote affordable housing, but do not have the staff resources and expertise to conduct housing needs assessments. The Vermont Community Profiles provide data and tools to illustrate the widespread need for affordable housing, which can help make municipalities more supportive of building tax credit projects and using local policy levers to improve housing affordability in their communities.

The Housing Data website also helps further VHFA's goal of making the agency a thought leader in Vermont. Vermont nonprofits, reporters and legislators all use the Agency as their first source for housing information, allowing VHFA to be involved in important policy discussions and advocate for much-needed legislation to support and expand its affordable housing programs.

Above all, VHFA believes that access to accurate data leads to better public policy and helps build awareness of the many Vermonters who lack safe, decent and affordable housing. It also provides a forum to display VHFA's own efforts, both increasing transparency and highlighting the agency's value to the state of Vermont. Many Housing Finance Agencies could benefit from implementing their own public data resource to promote affordable housing in their states.

Essex Housing Needs



The Town of Essex is home to 8,689 households, 4,315 of which reside in the Village of Essex Junction. Essex is the second largest municipality by population in Vermont.

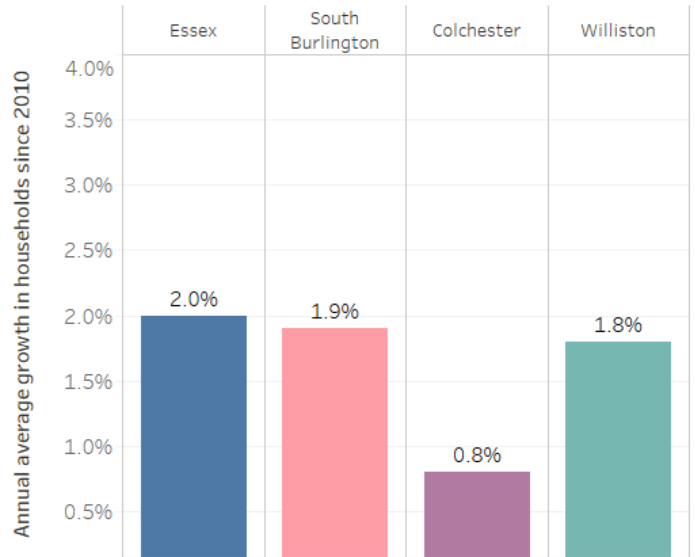


69% of households own their homes, while 31% are renters. The homeownership rate in Essex is slightly higher than in Chittenden County overall.



The median household income in Essex is \$76,677. Homeowner median income is \$98,381 while renter median income is \$44,848. These incomes are slightly higher than the Chittenden County median.

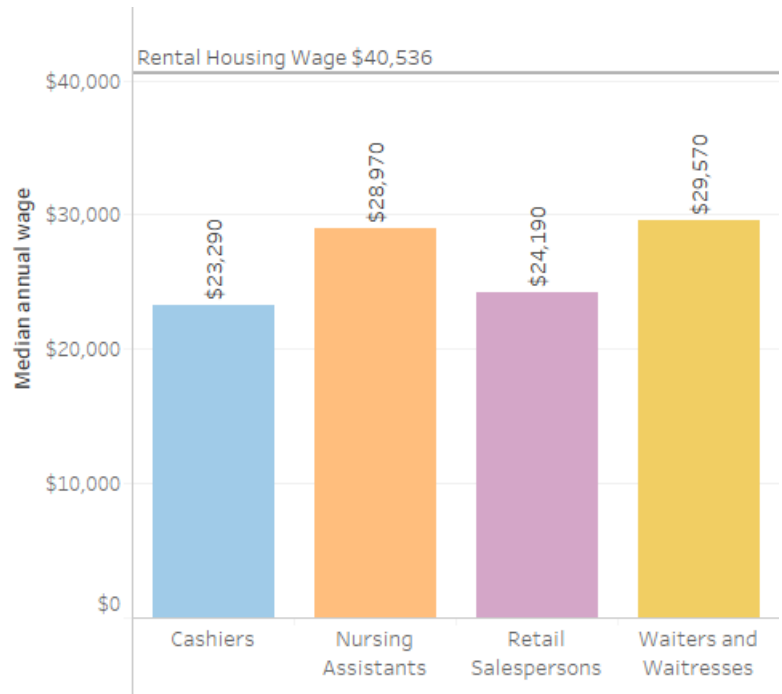
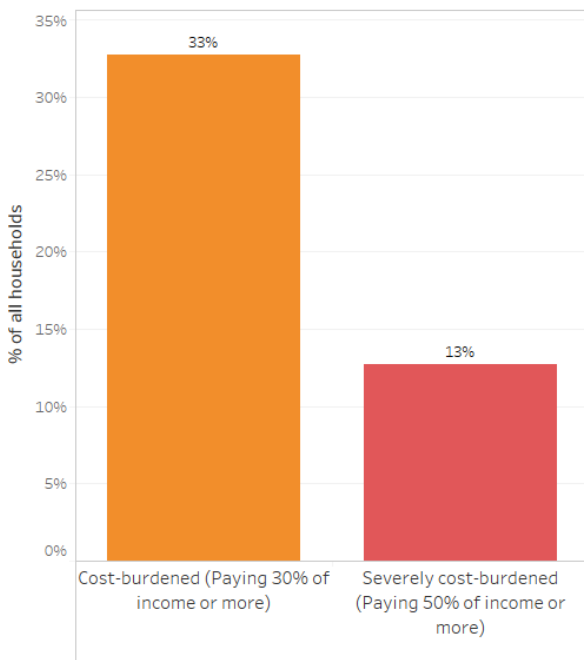
For the last decade, population growth in Essex has been moderate, adding an average of just 160 households per year since 2010. Its growth rate is similar to other towns in Chittenden County.



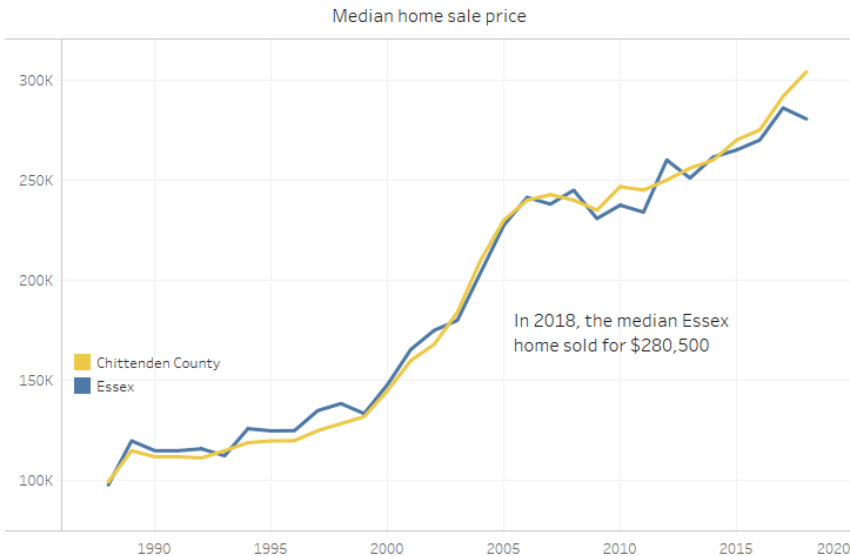
Over 1,000 Essex households are severely cost-burdened, spending more than *half of their income* on housing costs. This makes it extremely difficult for them to afford other necessities like food, childcare, and healthcare. These households are at much high risk of eviction, foreclosure and homelessness.

Why are so many Essex households paying too much for housing? Essex rents are unaffordable for most workers. To afford a typical apartment with a median monthly rent of \$1,126, a renter would need to earn \$40,536 per year. That works out to \$19.48 per hour, well above minimum wage, and out of reach for many workers.

Percent of households with unaffordable housing



Home sale prices in Essex and Chittenden County at large have also been on the rise for decades, barely dipping during the recession. The increase in prices has put homeownership out of reach for many households.

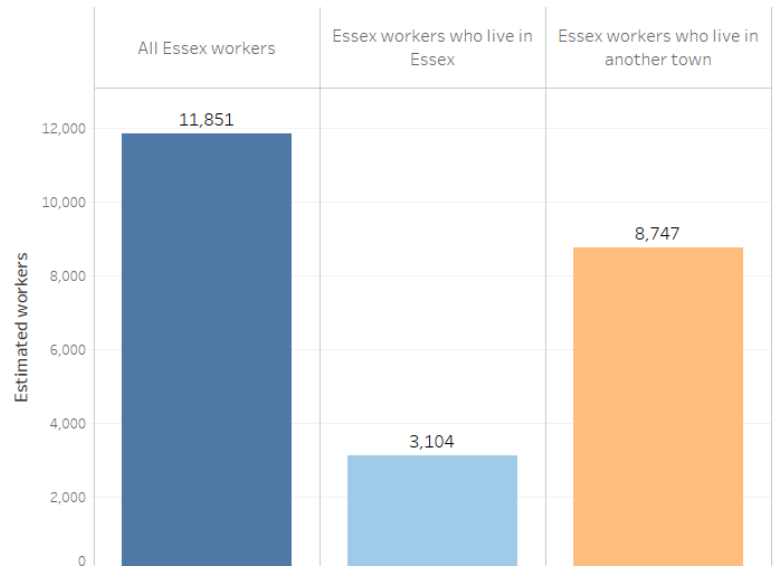


The median Chittenden County household earning \$66,906 can afford to buy a home priced at roughly \$212,000, but the majority of Essex homes cost far more than that. Many professionals, including teachers, police officers, and registered nurses would not be able to purchase a home in Essex on their incomes.

Why are home prices so high? The rate of construction of new homes in Chittenden County has been extremely low for decades, growing at an average of just 1% per year since 2000. Low stock increases competition among both buyers and renters, driving up home prices and rents.

The Town of Essex has the second largest number of workers in the entire state, and unlike in many areas of the state the number of jobs has been growing. However, most workers employed in Essex do not live there.

When people live near their workplaces, the entire community benefits. Workers who work near their homes are more likely to spend their money at local businesses. Reducing commuting time decreases traffic and the wear on roadways and helps protect our environment. People who commute less have more time to spend with their families and volunteer in their communities.



What can be done to make our communities more affordable and vibrant?

- Urge local officials to appoint a housing commission to advise the Selectboard and Planning Commission on ways to address local housing needs.
- Support municipal land use and zoning decisions that foster more housing more affordably in Essex and the surrounding region. Use a “housing lens” to identify policies likely to have unintended consequences on the cost or supply of the community’s housing stock and voice your concerns. This will help Essex plan for future growth, address unmet needs among Vermonters who work and play here and increase consumption of local goods and services.
- Share the importance of housing with your friends and neighbors. Having enough affordable housing helps employers attract workers to the area. Having a safe and healthy home as a child has been demonstrated to decrease health problems and increase long-term educational and economic achievement.