

City of Williamsburg Housing Affordability Analysis - 2021

A housing affordability analysis compares what it costs to live in a certain area with the income of both current and potential new residents to determine whether the existing housing in the area is affordable. This analysis focuses on current residents of the City of Williamsburg as well as whether individuals who work in the City can afford to live here. Since affordable housing is also a regional issue, the analysis examines housing affordability in the Greater Williamsburg Area (GWA) – the City of Williamsburg, James City County, and upper York County – as well.¹

The analysis uses data from the American Community Survey (ACS), the Bureau of Labor Statistics, and the Williamsburg Area Association of Realtors (WAAR) Multiple Listing Service (MLS) to determine the availability of affordable housing units, both rental and owner-occupied.² The data used for this study are all from 2020 or earlier. Thus the conditions presented in this report should be seen as a “best case estimate” as the post-COVID landscape is likely to have increased the issue of housing affordability, particularly since the impact of and recovery from the pandemic has been uneven. Both the COVID-19 public health crisis and the ensuing economic collapse disproportionately affected low-wage workers. An analysis by the Federal Reserve suggests the unemployment rate for workers in the bottom wage quartile may have been higher than 20%.³ Many low-income renters struggled to pay rent before COVID and are now in an even more perilous position. The persistent shortage of affordable and available homes for the lowest- income renters means these households routinely spend more than half of their incomes on rent even in good economic times.

Most housing affordability analyses use the income groups from the Department of Housing and Urban Development (HUD). The HUD income groups are defined relative to the Median Family Income (MFI) for an area. In 2019, the MFI for the Greater Williamsburg Area was \$85,000 while for the City of Williamsburg it was \$57,000. Since much of this difference is likely due to the significant presence of students in the city, we use the MFI for the GWA in setting our income groups. The lowest income group, those with Extremely Low Income (ELI), are those households whose incomes are less than 30 percent of the MFI while the Very Low-Income (VLI) group includes households with incomes between 30 and 50 percent of the MFI. In the GWA, the ELI group includes households with a total annual income of less than \$25,600 and the VLI group has an income between \$25,600 and \$42,700. Unfortunately, the data we have on household incomes from the ACS do not allow us to determine how many households have incomes less than \$25,600 or \$42,700. Therefore, for this analysis we define an ELI household to be one with an annual income of less than \$25,000 and a VLI household to be one with an income of \$25,000

¹ We consider upper York County to be those areas of the York County that lie north of Route 238 (Census Tracts 509, 510, and 511). This area is separated from the remainder of the county by the federal installations of Camp Peary, Cheatham Annex, and the Yorktown Naval Weapons Station.

² Additional details on the data sources used in this analysis are available in the appendix.

³ Brainard, L. (2021, January 13). Full employment in the new monetary policy framework. Inaugural Mike McCracken Lecture on Full Employment. Board of Governors of the Federal Reserve System.

to \$40,000. For our analysis, Low income households are those with income between \$40,000 and \$60,000.

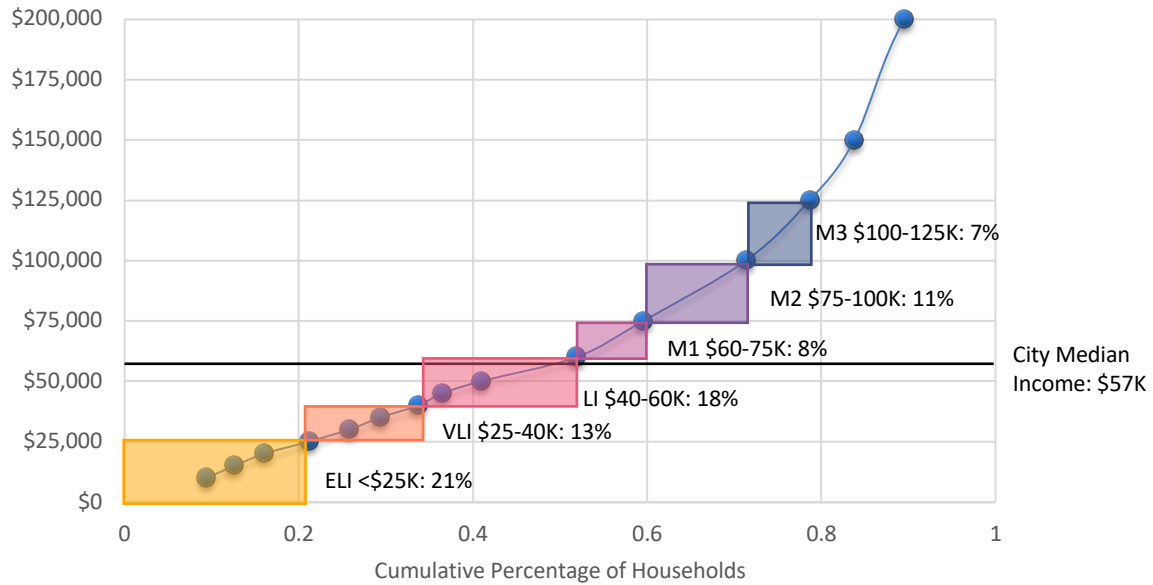
<i>Income Category</i>	<i>HUD Income Range</i>	<i>HUD Income Band</i>	<i>Report Income Band</i>
<i>Extremely Low</i>	Less than 30% MFI	Less than \$25,600	Less than \$25K
<i>Very Low</i>	30% - 50% MFI	\$25,600 - \$42,700	\$25-40K
<i>Low</i>	50% - 80% MFI	\$42,700 - \$68,300	\$40-60K
<i>M1</i>	80% - 100% MFI	\$68,300 - \$85,400	\$60-75K
<i>M2</i>			\$75-100K
<i>M3</i>			\$100-125K
<i>Other HH</i>	Greater than 100% MFI	Greater than \$85,400	Greater than \$125K

In addition to looking at low-income groups, for this analysis we are also concerned about affordability for households in the middle of the income distribution. Thus we also report on three middle income groups, M1, M2, and M3, which are based on a classification used by the Brookings Institution, a DC-based think tank, in their report on housing stress on the middle class.⁴ The middle class overall is defined at the middle 60 percent of Americans by income. For GWA, the household income for the middle 60 percent of households ranges from \$45,000 to \$156,000. Since the LI group in this report includes households up to \$60,000, we created three middle income groups representing households in the \$60,000-75,000, \$75,000-100,000, and \$100,000-125,000 bands. The term workforce housing is a term that is often used to denote housing that is affordable to households of low, moderate and above moderate income in a range of 60-120% of MFI. In our categorization workforce housing would include households in the Low through M2 groups.

The graph below shows the distribution of City of Williamsburg residents by these income groups. Note that over 20 percent of the population is in the ELI group. One concern is that these data likely include student households that would have extremely low household incomes but receive support from their families to pay for their housing. When we remove “likely students” from the graph, less than 15% of households fall into the ELI group and less than 50 percent of households fall into one of the three low income groups. However, even with likely students removed, well over 50 percent of households have incomes below the MFI for the Greater Williamsburg Area, showing that overall the city contains a higher percentage of low income households than do the surrounding counties.

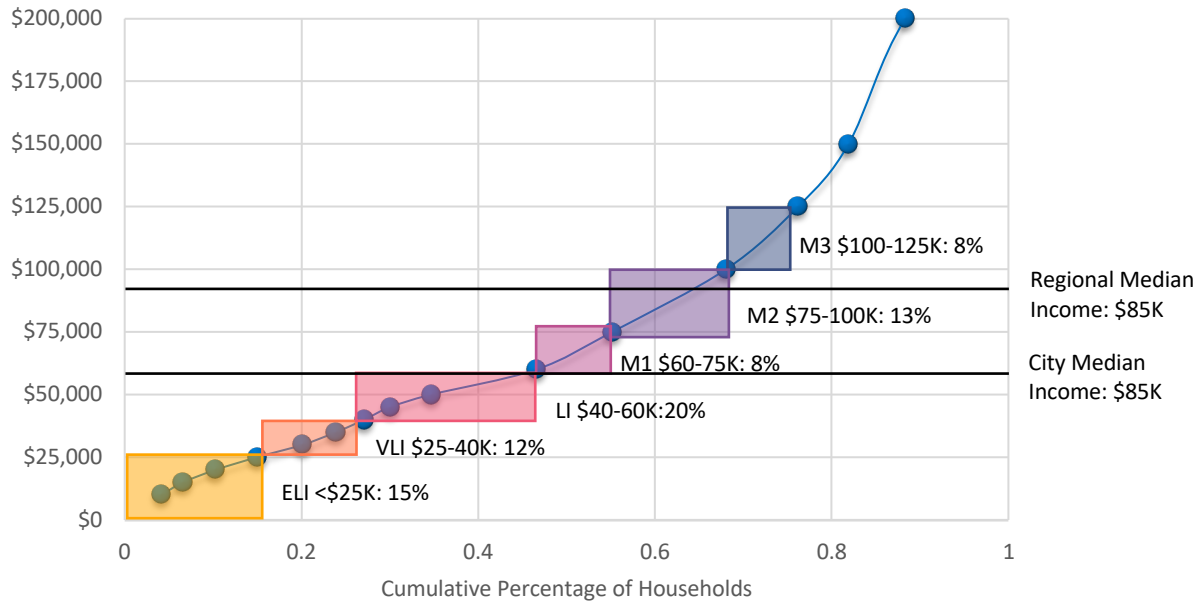
⁴ Jenny Schuetz, “Cost, crowding, or commuting? Housing stress on the middle class,” Brookings Institution, May 7, 2019 available at <https://www.brookings.edu/research/cost-crowding-or-commuting-housing-stress-on-the-middle-class/>.

Household Incomes and Income Groups for the City of Williamsburg



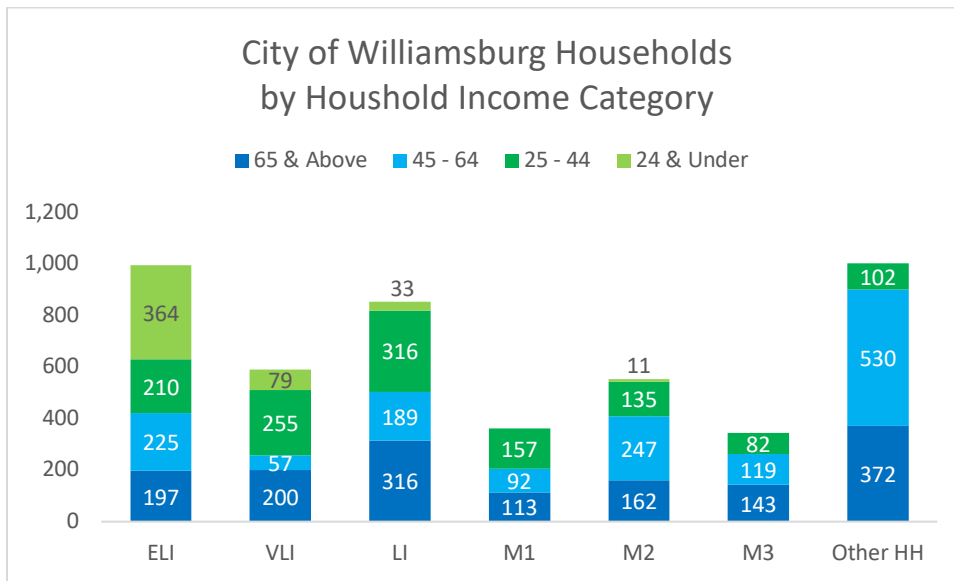
Source: ACS 5yr. Average 2015-2019

Household Incomes and Income Groups for the City of Williamsburg Excluding Likely Students*



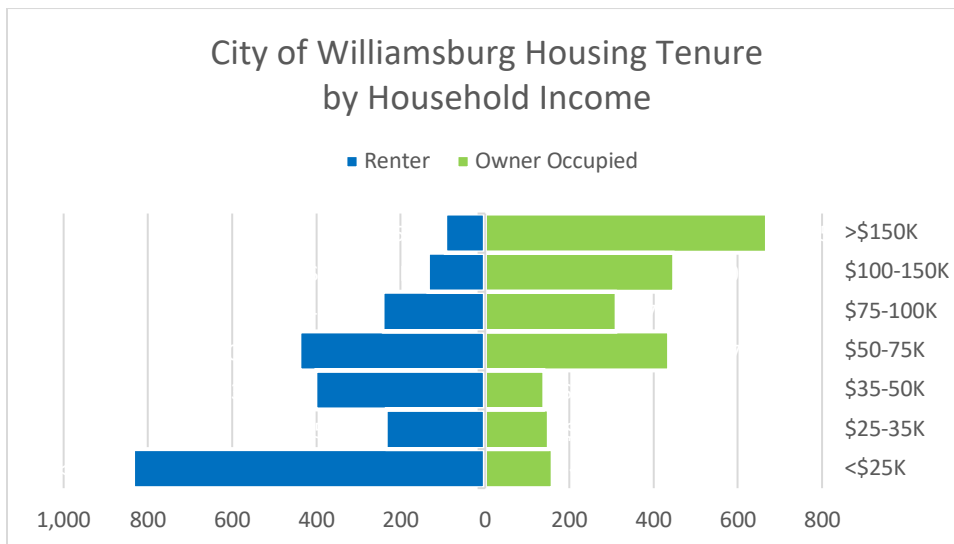
Source: ACS 5yr. Average 2015-2019, *Households headed by individuals 24 or younger excluded.

The graph below presents this same data in a slightly different way, showing the number of households in each income category by the age of the head of that household. As you can see, there are a large number of very young households in the ELI group many of whom, if not all, are likely to be student households. There are also almost 200 senior households in each of the low income groups. However, in each of the three low income groups, the majority of households are working age – that is 25 to 64. Overall, there are more than 1,200 households in the City that are of prime working age and have incomes below \$60,000 a year.



Source: ACS 5yr. Average 2015-2019

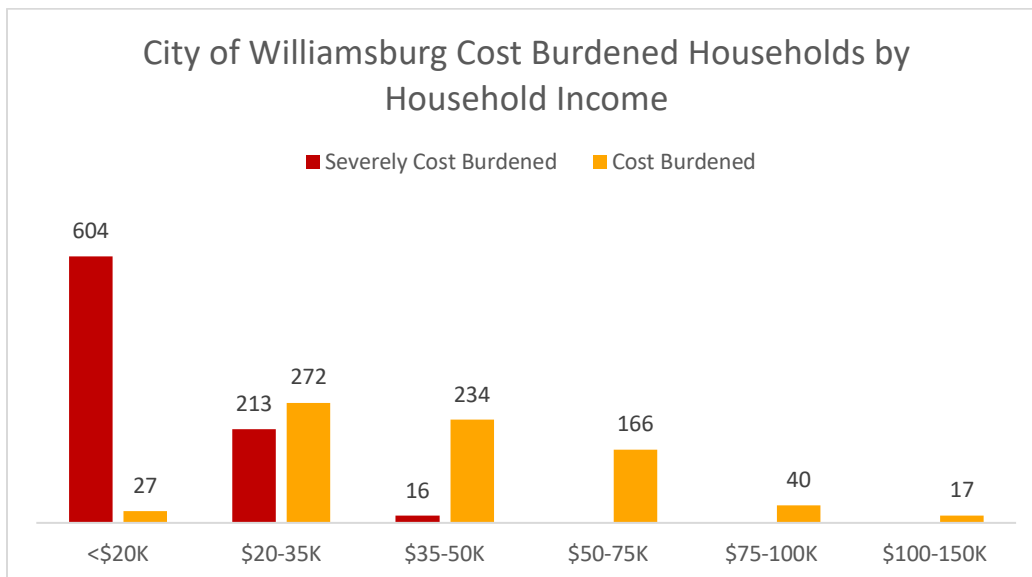
One final way to look at this data is to break out households by both income and whether the household rents or owns its home. As one would expect, the majority of lower income households rent while the majority of households with incomes above the MFI own their homes.



Source: ACS 5yr. Average 2015-2019, Note: ACS data not reported in manner that allows classification by income group.

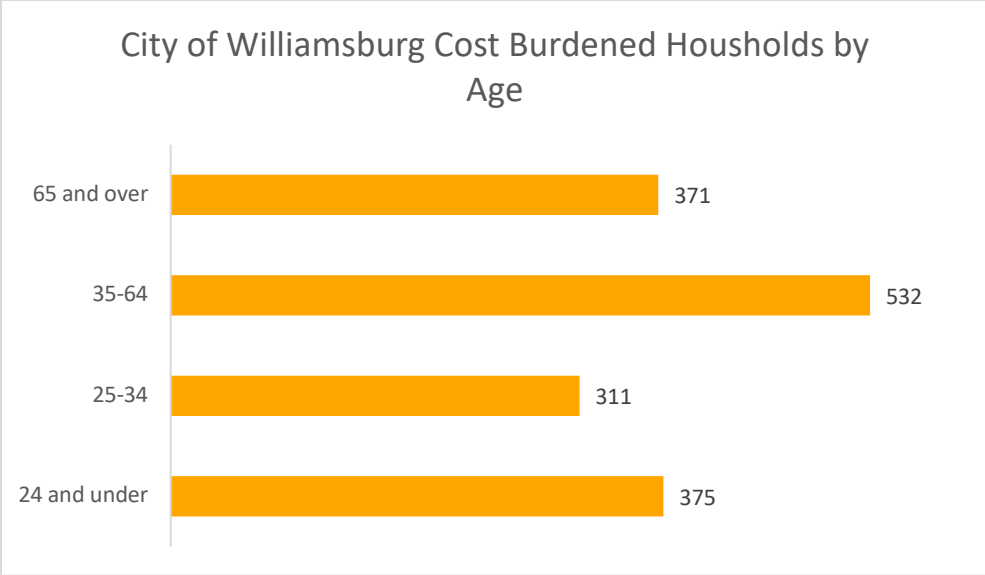
Housing affordability is typically measured by computing the fraction of a household’s income that must be expended to provide the household with housing. Households are considered housing cost-burdened when they spend more than 30% of their incomes on rent and utilities. They are considered severely cost-burdened when they spend more than half of their income on their housing. Cost-burdened households have less to spend on other necessities, such as food, clothing, transportation, and healthcare.

The graph below presents estimates of the number of households in the city that report being cost-burdened, broken out by income level. When looking at this data, it is clear that the cost burden is spread more widely than one might expect at first with middle income households facing cost-burdens along with lower income households. Of course, it is important to remember some households may be voluntarily cost-burdened – that is, the household deliberately made a choice to spend more than 30 percent of their income on housing to obtain a higher standard of housing. Overall, approximately 1,600 households, or one-third of all city households, report being cost-burdened.



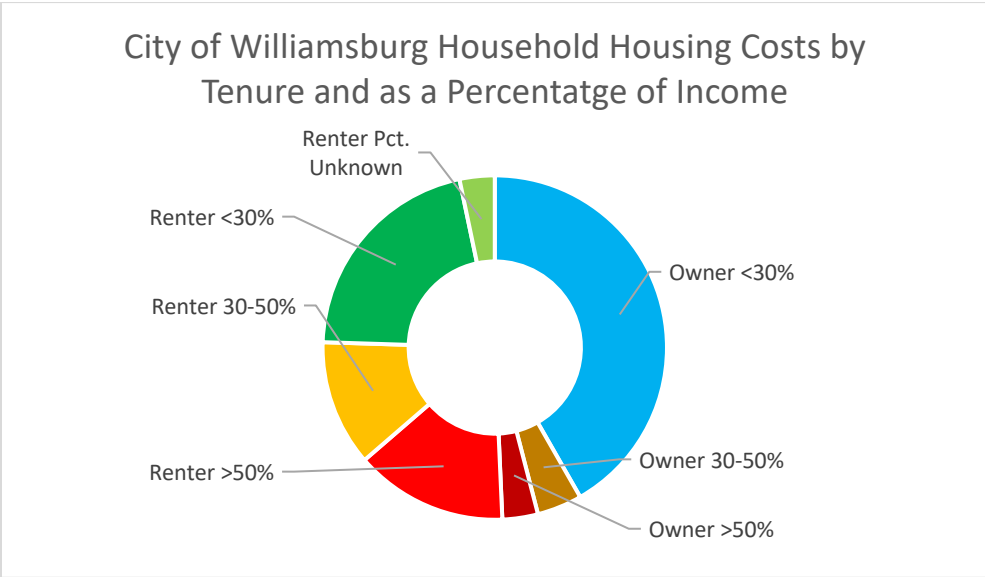
Source: ACS 5yr. Average 2015-2019; Note: ACS data not reported in manner that allows classification by income group.

We also examine cost-burden by age. The graph below does not distinguish between severely cost-burdened and cost-burdened households. Note that households across the age spectrum are cost-burdened and it is not the case the only younger households are cost-burdened. While there are certainly a number of senior households that are cost-burdened, due to the fact that cost-burden compares income to monthly housing costs, a household that has high wealth might appear to be cost-burdened even if it is not having trouble covering the cost of housing. For example, a household that has recently retired may have a relatively modest annual income but have money in savings that is used to pay housing costs.



Source: ACS 5yr. Average 2015-2019; Includes both severely cost-burdened and cost-burdened.

Finally, breaking out cost burden by renters and owners, we see that there are cost-burdened households in both groups although there are more cost-burdened renters than cost-burdened owners. With just over half of renters being cost burdened compared to about one-seventh of all owners.



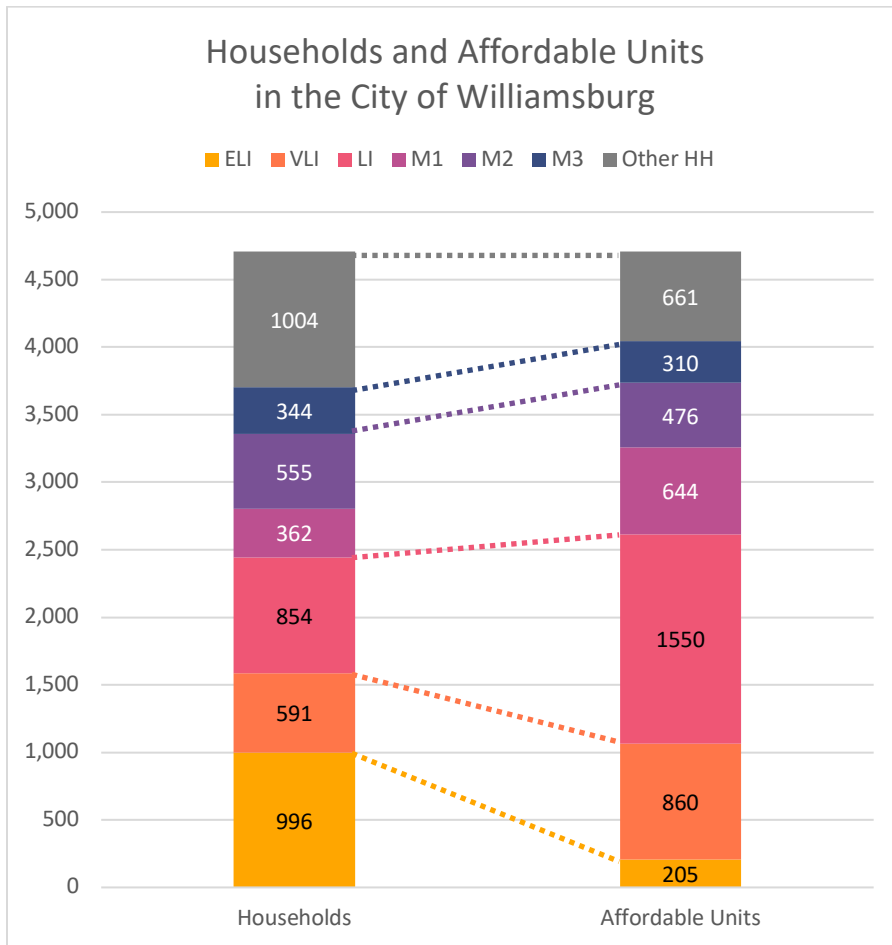
Source: ACS 5yr. Average 2015-2019.

Another way of evaluating housing affordability is to compare the existing housing stock in the City to the number of households in various income groups. This type of analysis helps to identify what housing price point would best address housing affordability. To do this, we compare the number of households in each income group to the number of owner-occupied houses and rental units in the county that would be affordable (cost less than 30% of the household's income). For rental units, we look at gross monthly rent to determine whether a rental unit is affordable. For owner-occupied units we determine the maximum affordable price for a home under certain assumptions.⁵ The table below shows the estimated maximum rent and house value for each rental group. While we calculated the maximum rent and house value based on the maximum income level for each group, the ACS only presents gross rent and housing values in particular ranges. Therefore, the table also shows the proxy values we used to determine how many affordable units exist in the City.

<i>Income Category</i>	<i>Report Income Band</i>	<i>Maximum Affordable Rent</i>	<i>Maximum Affordable House Value</i>
<i>Extremely Low</i>	Less than \$25K	\$625 (\$600)	\$98,000 (\$100,000)
<i>Very Low</i>	\$25-40K	\$1000 (\$1000)	\$175,000 (\$175,000)
<i>Low</i>	\$40-60K	\$1,500 (\$1,500)	\$260,000 (\$250,000)
<i>M1</i>	\$60-75K	\$1,875 (\$2,000)	\$320,000 (\$300,000)
<i>M2</i>	\$75-100K	\$2,500 (\$2,500)	\$430,000 (\$400,000)
<i>M3</i>	\$100-125K	\$3,125 (\$3,000)	\$540,000 (\$500,000)
<i>Other HH</i>	Greater than \$125K	>\$3,125 (>\$3,000)	>\$540,000 (>\$500,000)

⁵ We assumed a 30-year fixed rate loan at a 3.9% interest rate with a 10% down payment for someone with average credit using the home mortgage calculator at Nerdwallet.com. Of course, saving for the down payment would not be easy for many households.

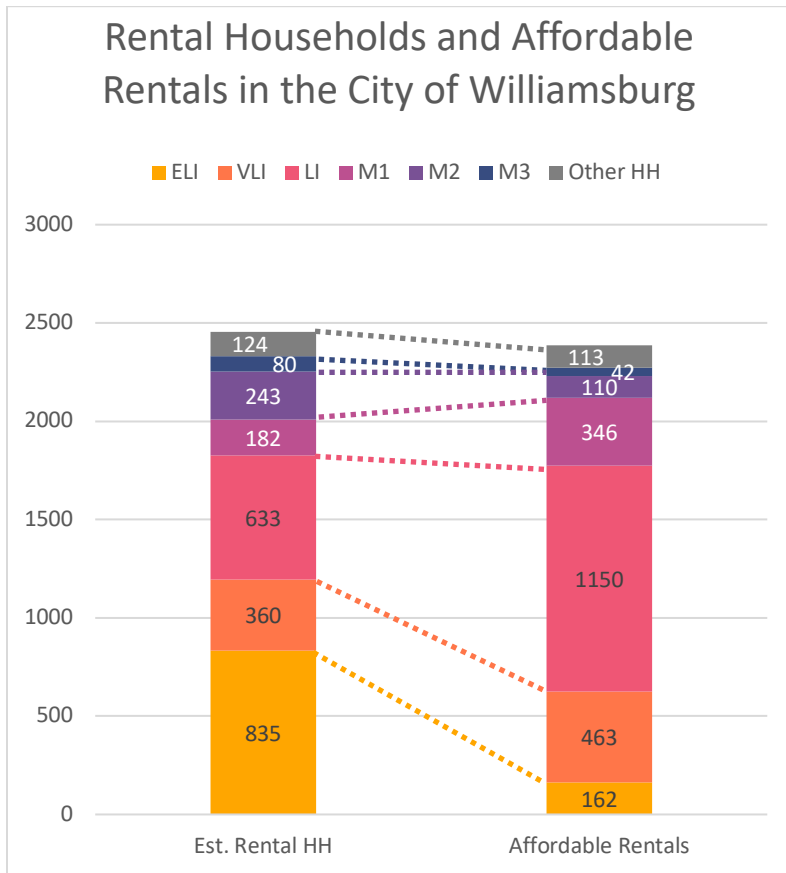
The graph below compares the number of households in each income group to the number of existing housing units that are affordable (that are below the maximum rent and house value for that income group).⁶ For the ELI group, the number of affordable rental and owner-occupied housing units (225) is significantly less than the number of households (996). Thus at least three quarters of the households in this group will be “cost-burdened.” The situation is only slightly better for those households in VLI group. There are 1,065 housing units that are considered affordable for this income group (860 + 205) while there are 591 households in this group. Of course, the almost 1,000 individuals in the ELI group are also competing for these units. Thus even for the VLI group there is a significant lack of affordable units.



Source: ACS 5yr. Average 2015-2019.

⁶ These estimates do not include 320 vacant units that are available for rent or sale according to the ACS as there is no information on value or rental price for those units.

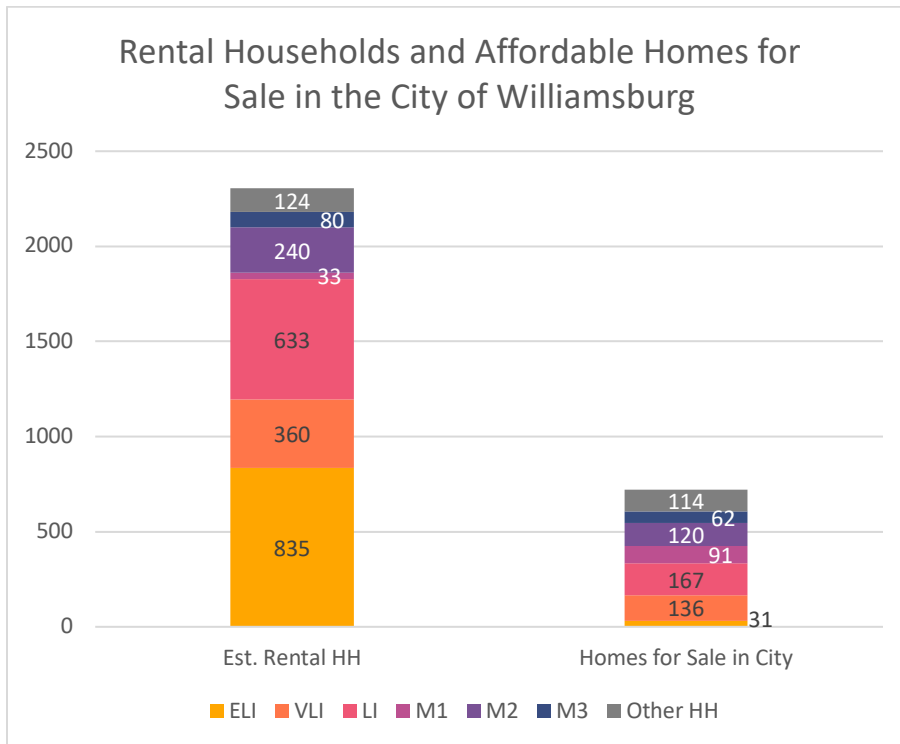
If we focus only on renters and rental units, all three low income groups face a deficit of affordable housing units as shown in the graph below.⁷



Source: Author's calculations based on ACS 5yr. Average 2015-2019.

⁷ These estimates do not include 269 vacant units that are available for rent according to the ACS as there is no information on rental price for those units.

Another way to analyze affordability is to consider whether current renters can afford to buy homes in the city. In this case, rather than looking at the value of all owner-occupied housing, we compare the number of renters in each income group to the number of homes sold over a 5-year period (2015-2019) at prices that would allow the households to spend less than 30% of their income on their mortgage. The data used in the graph below only includes sales registered on the Williamsburg MLS, so this will not capture all homes sold, particularly those offered for sale by their owners and not placed on the MLS. Across all income categories, there are many fewer homes offered for sale than there are rental households. Of course, not all renters are interested in buying a home, but even if only a small percentage of renters would like to buy homes, the graph shows that there are very fewer homes for sale in the city that would be affordable for renters in the lower income groups.



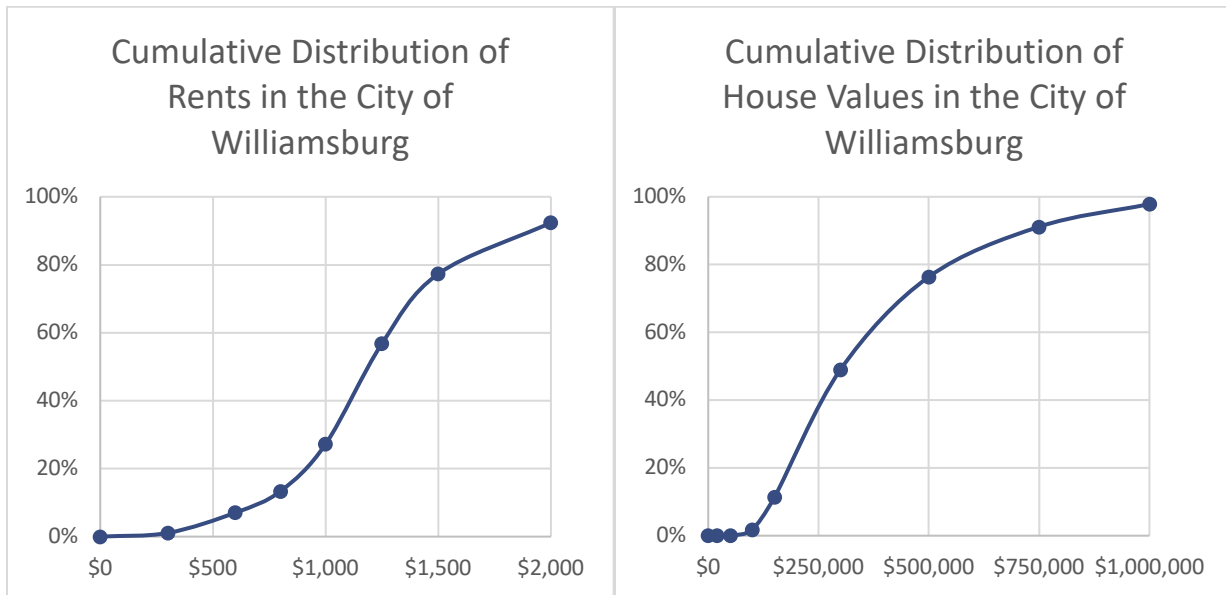
Source: ACS 5yr. Average 2015-2019 and WAAR MLS Sales Data January 2015 – December 2019.

Many affordability analyses also compare the average salary for different types of jobs in an area to housing costs in that area to determine whether the area is affordable for the individuals engaged in those occupations. According to the U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages, in 20119 the average salary for workers in the City of Williamsburg was approximately \$43,000. A household with one earner at the average wage would be in the Low income group while a household with two earners at this wage would be in the M2 income group. The table below lists the average wages for various industry sectors that employ individuals within the city and list the maximum rent and house values households in these sectors would afford assuming a one- and a two-earner household at the average wage.

Employment Sector	Average Salary	One-Earner Household		Two-Earner Household	
		Max. Aff. Rent	Max. Aff. Home Price	Max. Aff. Rent	Max. Aff. Home Price
All Positions	\$43,400	\$1,100	\$180,000	\$2,200	\$375,000
Full-Time Minimum Wage Worker	\$15,100	\$375	--	\$750	\$125,000
Trade, Transportation and Utilities	\$24,500	\$600	\$96,000	\$1,200	\$206,000
Leisure and Hospitality	\$26,400	\$650	\$100,000	\$1,300	\$210,000
Service Providing Industries	\$36,700	\$900	\$150,000	\$1,800	\$310,000
Goods Producing Industries	\$52,300	\$1,300	\$210,000	\$2,600	\$460,000
Education and Health	\$53,100	\$1,300	\$210,000	\$2,700	\$475,000
Construction	\$57,900	\$1,450	\$235,000	\$2,900	>\$500,000
Professional and Business Services	\$62,900	\$1,600	\$275,000	\$3,200	>\$500,000
Financial Activities	\$103,000	\$2,600	\$460,000	\$5,200	>\$500,000

Source: US BLS, Quarterly Census of Employment and Wages 2019.

To see what percentage of existing homes various households can afford, one can compare the affordable rents and home prices in the table above to the graphs below which show the percentage of rental units and owner-occupied homes for various price points. For example we can see that a household with one worker earning the average salary for Williamsburg would be able to afford only about 30 percent of the rental units and 15 percent of the owner-occupied homes in the city. Most two earner households can afford at least half of the rental units in the city, but even with two earners working in leisure and hospitality sector at the average salary, a household would only be able to afford about 20 percent of owner-occupied homes in the city. Finally, a two earner household where both earners worked for minimum wage would only be able to afford about 12 percent of rental units in the city and less than 10 percent of owner-occupied homes.

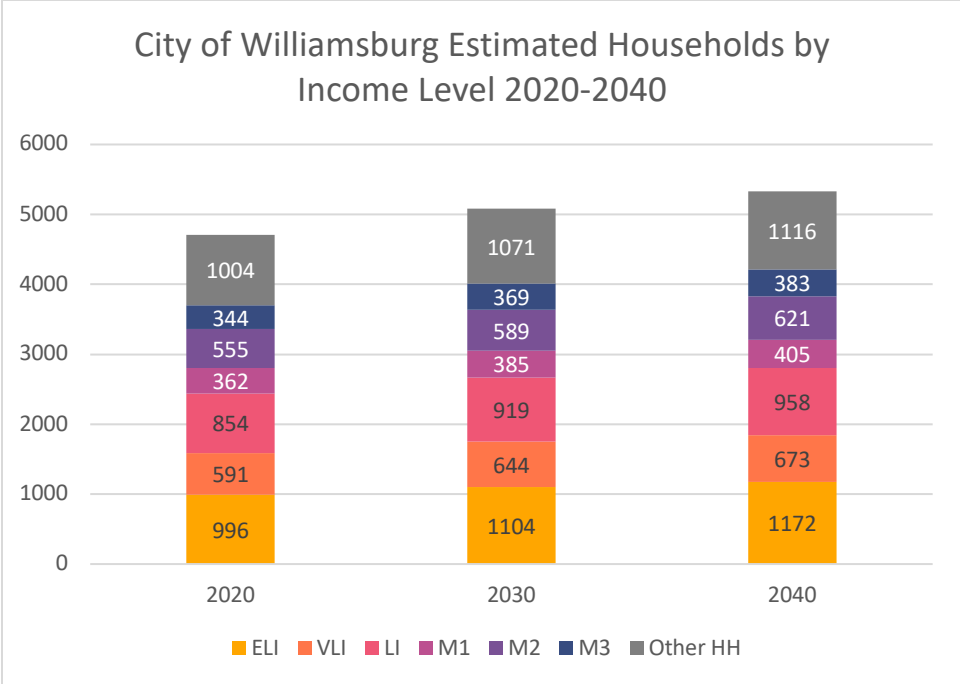


The City of Williamsburg, like many areas in Virginia, is projected to grow over the next two decades. This growth will increase the number of households in the area that need affordable housing. To estimate the growth in households in the City, we used projections developed by the Weldon Cooper Center (WCC) at the University of Virginia in 2019.⁸ The WCC projections call for a 10% population growth in the city between 2020 and 2030 and an additional 8% growth between 2030 and 2040 for a total increase from the current population of just under 15,500 to just over 18,000 in 2040. These projections are based both on past trends and assumptions about future conditions, but importantly were developed prior to the COVID pandemic. It is not yet clear the extent to which that will impact the pattern of future population growth.

To estimate how this population growth will impact the number of households in the City as we combined the WCC projections of population growth by age combined with the current estimates of the number of households in each age group to determine the overall increase in households. The reason for doing this is two-fold. First, for housing estimates the appropriate unit of observation is a household while the WCC estimates are for population. Second, WCC projects different rates of growth for different age groups. For example, the WCC projects that the population in the 20 to 24 age group will increase by 19 percent between 2020 and 2030 from 4,175 individuals to 4,973 compared to 10 percent for the overall population. There are currently an estimated 487 households in the City headed by individuals in this age group. Assuming similar patterns of household formation in 2030 this implies that the total number of households in this age group will increase by 93 (19 percent) to 580 by 2030.

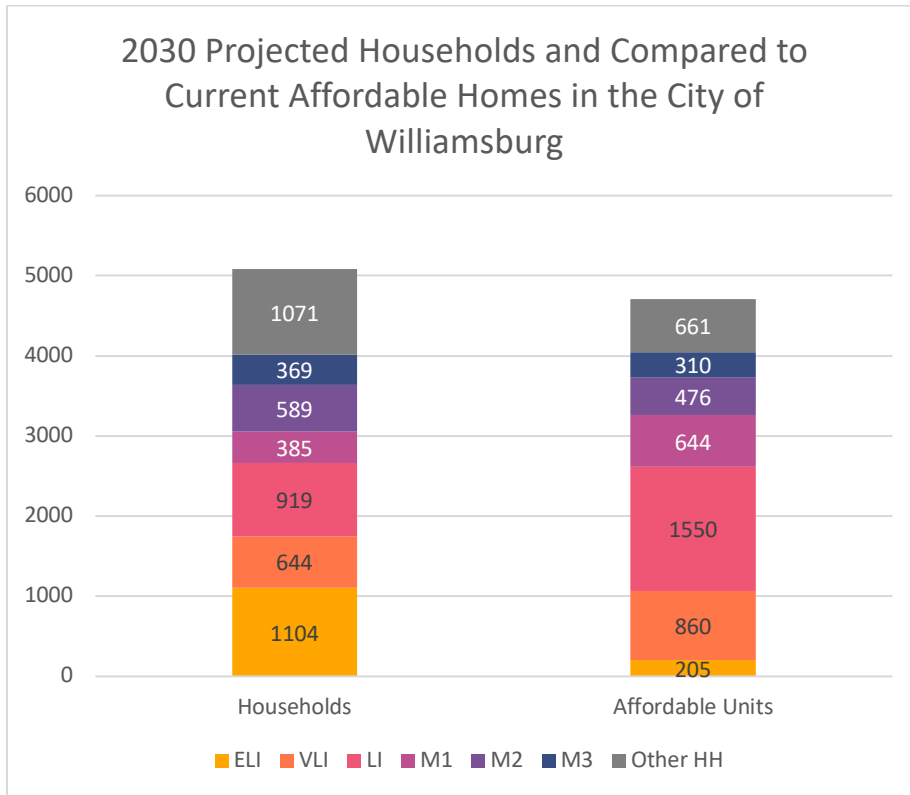
Additionally, from a housing affordability perspective, we need to estimate the growth in households across income groups. To determine the likely income categories of these additional households, we used the current distribution of households by age group across the five income categories. In addition to different projected growth rates, each of the four age groups examined – under 24, 25 to 44, 45 to 64, and 64 and older – have different distributions of households across the income categories. For example, currently 75 percent or 364 households in the under 24 age group are in the ELI income category. We estimate that this same percentage of under 24 households will be in the ELI category in 2030, which results in an estimate of 434 households. Once we calculated the growth in households across the various age and income groups, we combined them to estimate the overall estimated growth in households in the City by income group, as shown in the graph below. Based on this analysis, we project an increase of 108 ELI households, 53 VLI households, and 65 LI households between 2020 and 2030.

⁸ University of Virginia Weldon Cooper Center, Demographics Research Group. (2019). Virginia Population Projections. Available at <https://demographics.coopercenter.org/virginia-population-projections>.



Source: Author's calculations based on ACS 5yr. Average 2015-2019 and the Weldon Cooper Center Virginia Population Projections (2019)

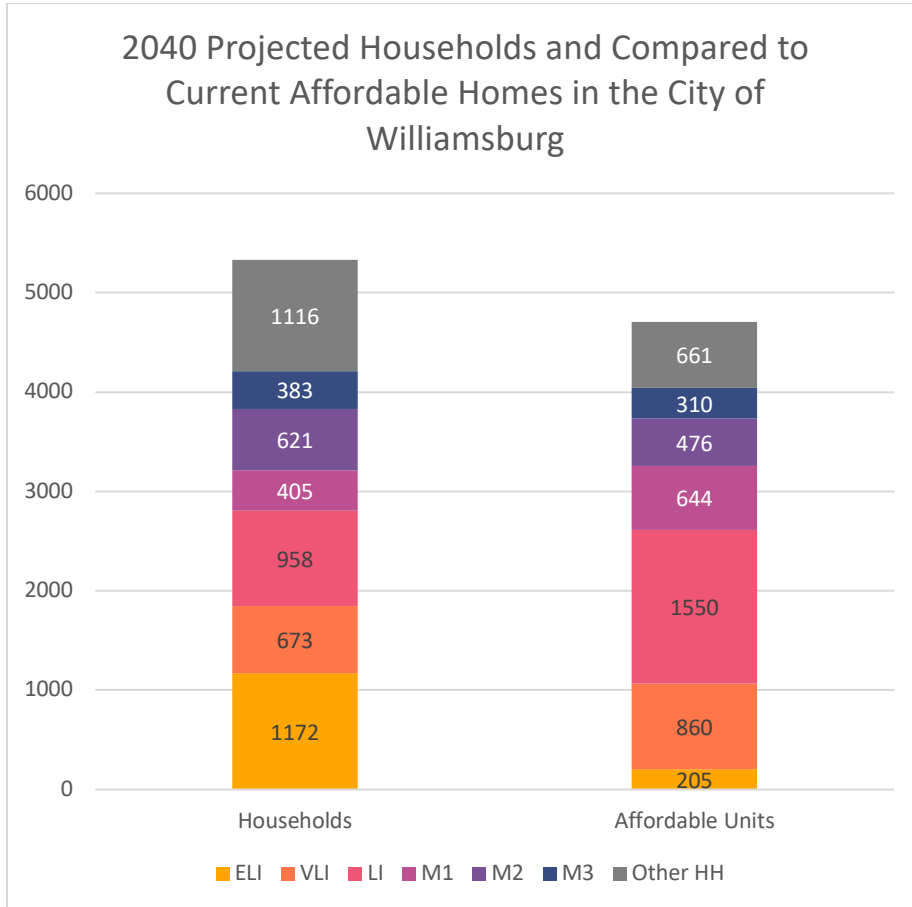
The graph below compares the number of households projected for each income group in 2030 to the number of existing housing units that are affordable (that are below the maximum rent and house value for that income group). Note that there is a deficit of almost 900 affordable units for the ELI group which then ripples through the VLI income group as well, as households in both groups must compete for the lower priced housing. While these estimates do not include 320 vacant units for rent or sale as the ACS does not have values or monthly rents for these units, even if all of those units were affordable for the VLI group there would be a deficit of almost 600 units.⁹ They also do include any units built after 2019 or planned units.



Source: Author's calculations based on ACS 5yr. Average 2015-2019 and the Weldon Cooper Center Virginia Population Projections (2019)

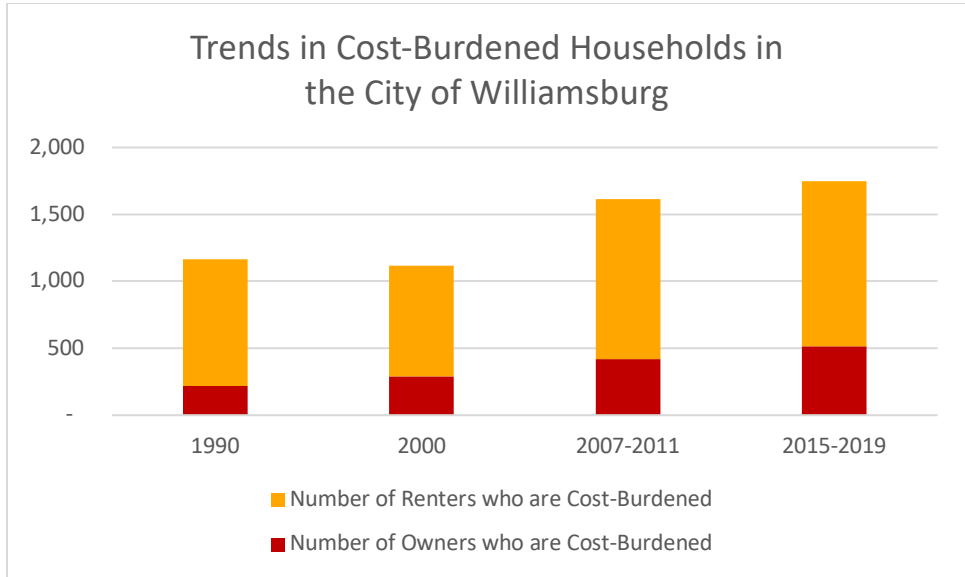
⁹ These estimates also do not include any units built after 2019 or planned units, but it is unlikely that many of them would be affordable to individuals in the ELI and VLI groups.

The graph below provides similar information for the 2040 projections. Without any additional housing, there would be a deficit of over 900 units for the ELI income group. Moreover, this deficit would ripple through both the VLI and LI income groups as across all three low income groups there is a net deficit of 200 units.



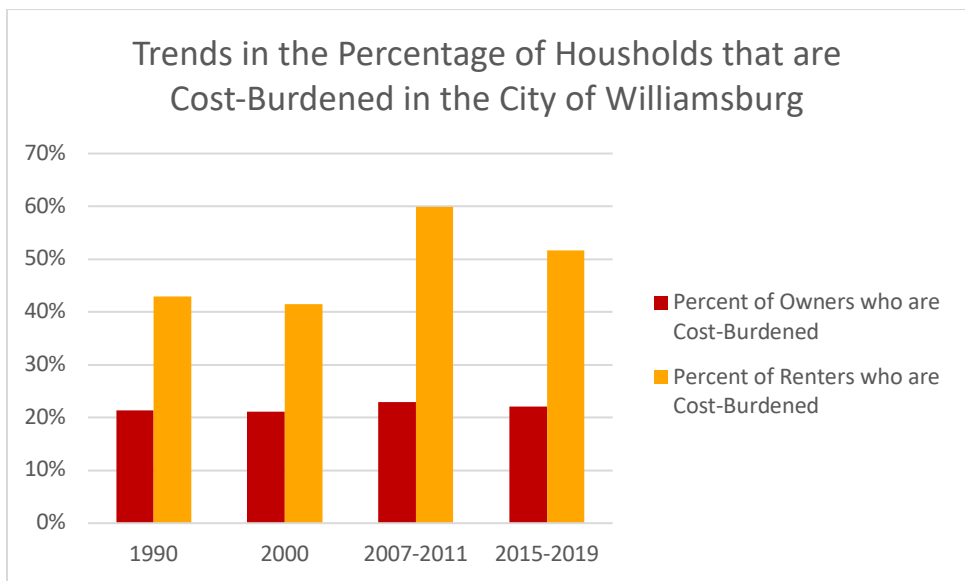
Source: Author's calculations based on ACS 5yr. Average 2015-2019 and the Weldon Cooper Center Virginia Population Projections (2019).

While housing affordability has gotten significant attention in the past several years, housing affordability has been a long-standing issue for the city for several decades. As the chart below shows there have been over 1,000 cost-burdened households in the city since the 1990s.



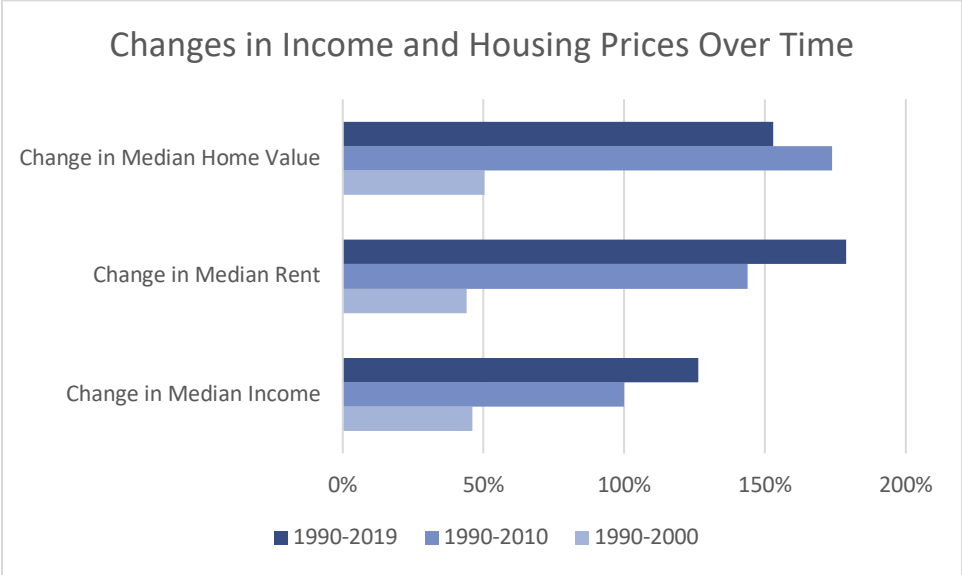
Source: 1990, 2000, Decennial Census, ACS 5yr. Average 2007-2011 and 2015-2019.

However, over the past two decades not only has the number of cost-burdened households increased, the percentage of cost-burdened households has also increased, as shown in the chart below.



Source: 1990, 2000, Decennial Census, ACS 5yr. Average 2007-2011 and 2015-2019.

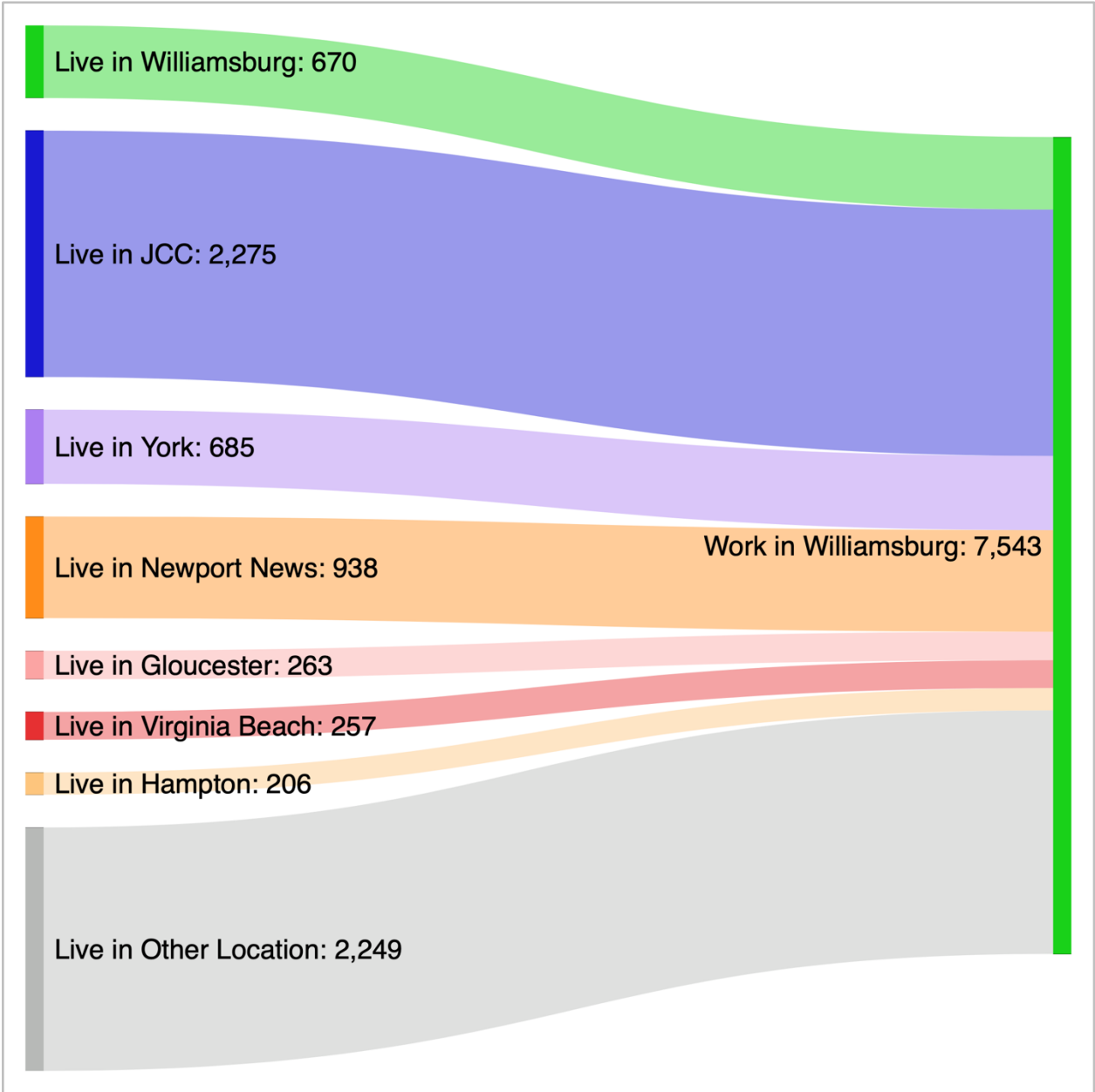
While a number of national and regional trends that have led to this increase in cost-burdened households, the chart below indicates the fundamental changes underlying this trend – median home values and rents have increased by more than 150 percent since 1990 while median income has increased by only 125 percent. Thus incomes in the city are not keeping pace with housing costs.



Source: 1990, 2000, Decennial Census, ACS 5yr. Average 2007-2011 and 2015-2019.

As a result of this imbalance between local salaries and local home prices, many of the individuals who work in the city live elsewhere. The chart below shows where the over 7,500 individuals who work in the city of Williamsburg live. Less than 10 percent of people who work in the city actually live in the city. James City County houses the highest percentage of Williamsburg workers at around 30 percent of the total and Newport News houses the next largest group of workers at around 12 percent.

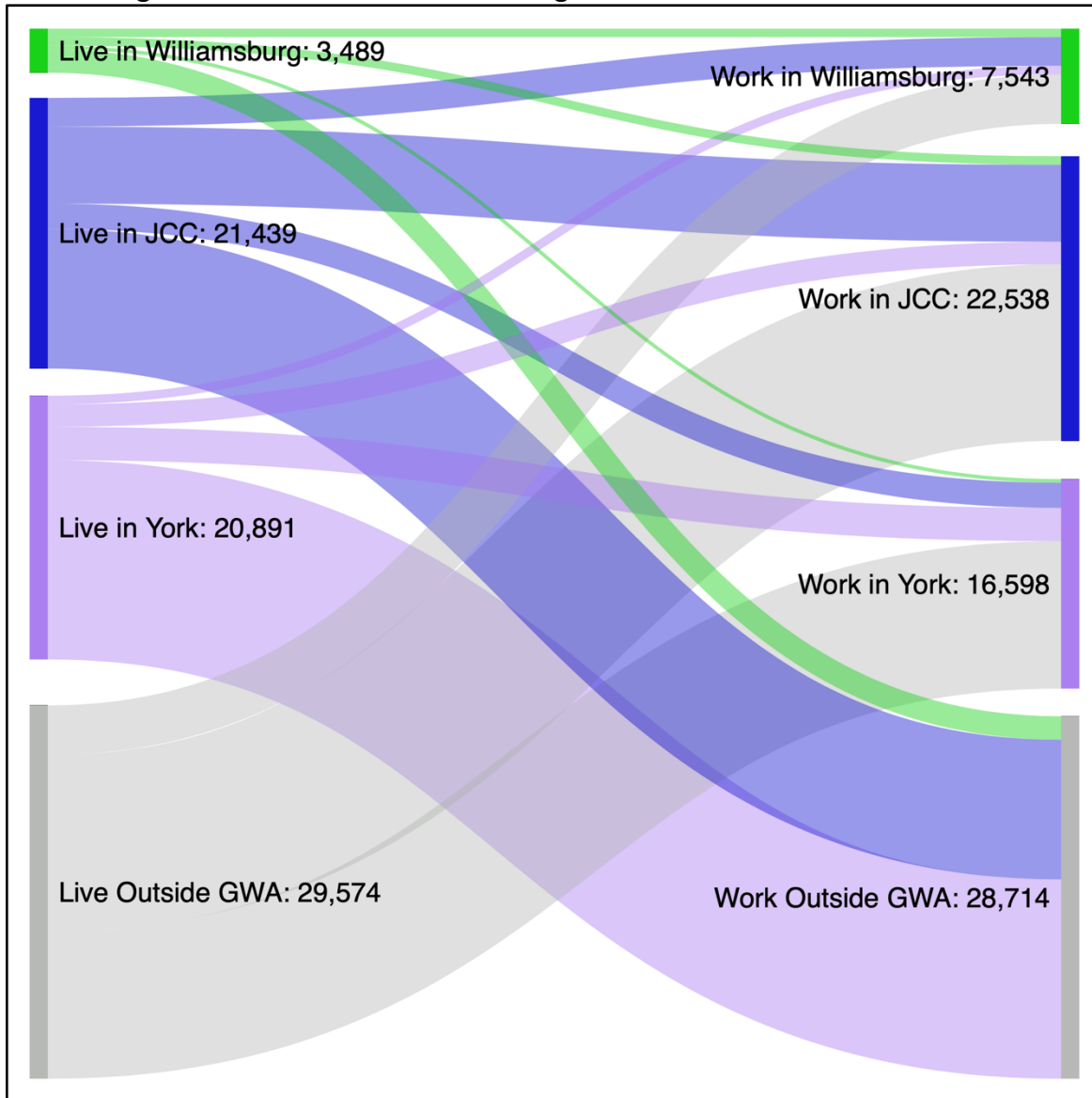
Where Williamsburg Workers Live



Source: Census Bureau LEHD 2018.

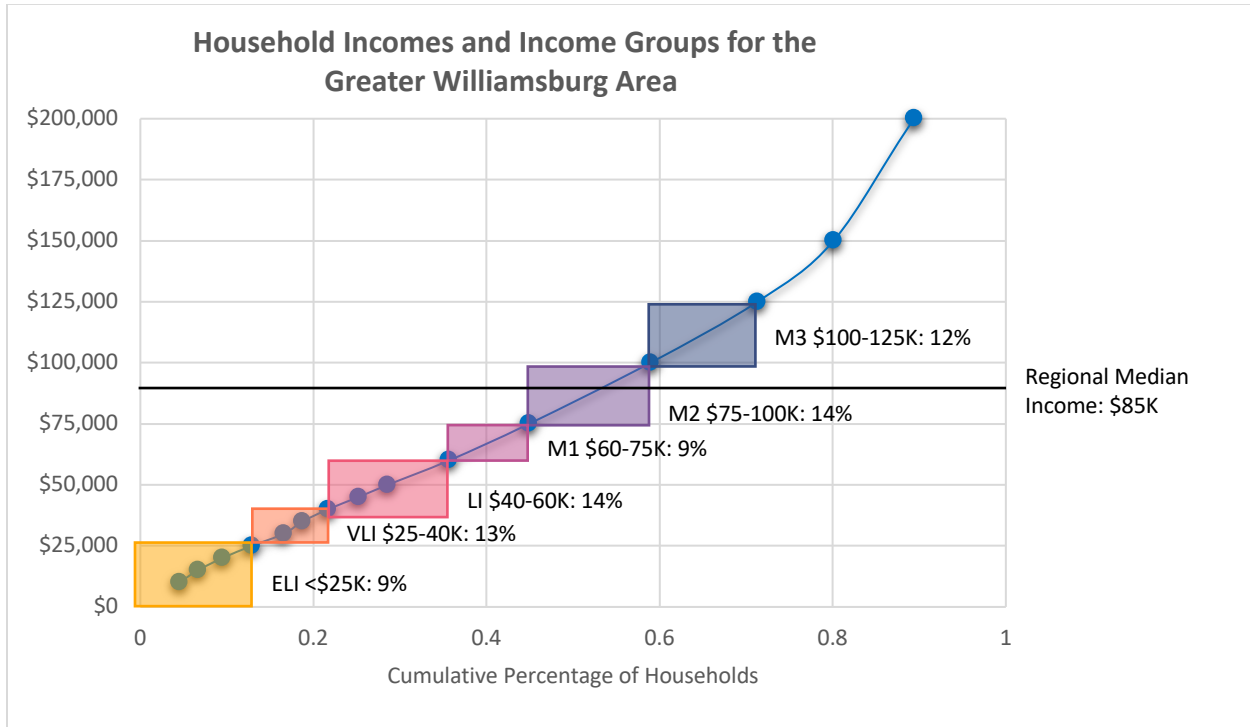
Of course, not all commuting is a result of housing affordability. As the chart below shows there are many residents of Williamsburg who commute to other localities to work. As the commuting patterns into and out of the Greater Williamsburg area indicate, there is a lot of bi-directional commuting across jurisdictional lines. These commuting patterns underscore the need to think of housing affordability as a regional, rather than just as a jurisdictional, issue.

Commuting Patterns in Greater Williamsburg Area



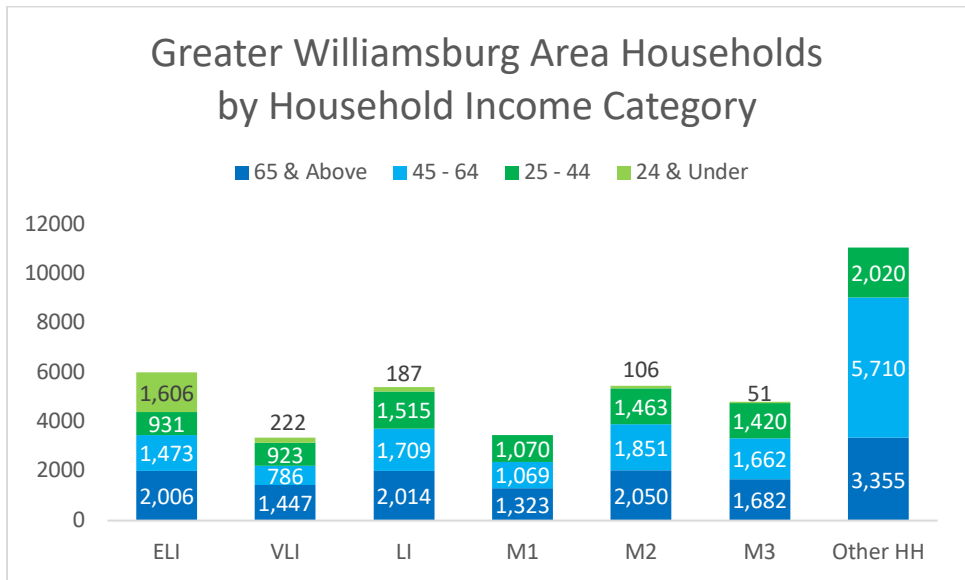
Source: Census Bureau LEHD 2018.

Given the need to think regionally, this section presents information on housing affordability in the Greater Williamsburg Area (GWA). Using the same definition of income groups as defined for the City, the graph below shows the distribution of GWA households by income groups. Compared to the City alone, the GWA has a much lower percentage of residents in the three low income groups, 36 percent compared to the 47 percent in the City even when likely student households (those under age 24) are excluded.



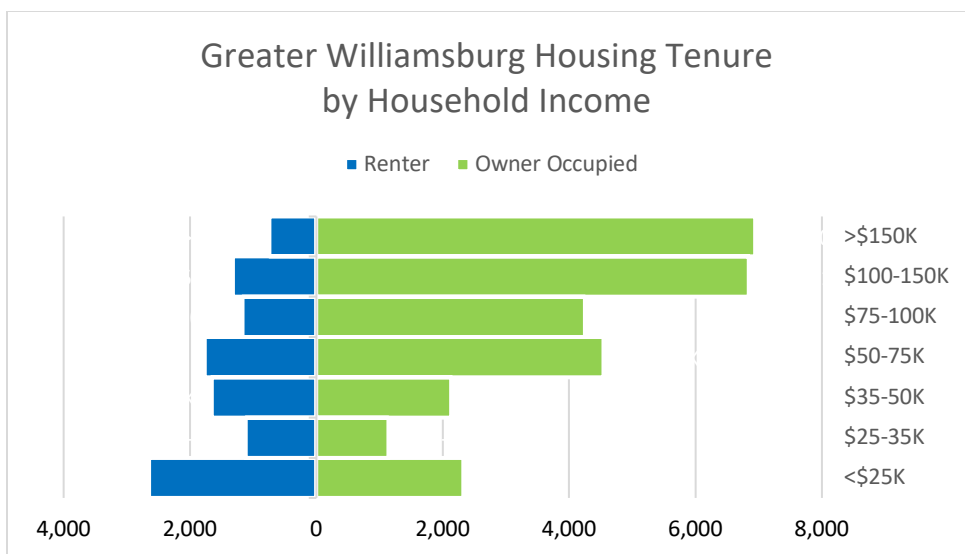
Source: ACS 5yr. Average 2015-2019

The graph below presents this same data broken out by age group. While almost all of the youngest households the ELI group, many of these households are likely to be student households. Also note that in each of the three low income groups there are a large number of senior household and senior households are a larger percentage of each of these three income groups in the GWA than in the City alone. Overall, there are more than 7,000 households in the GWA that are of prime working age and have incomes below \$60,000 a year.



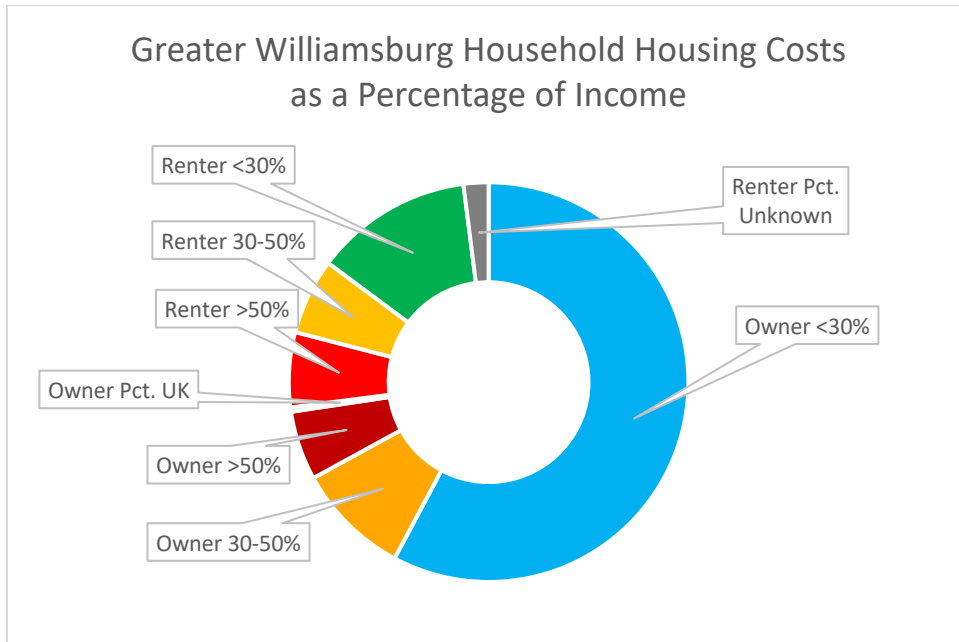
Source: ACS 5yr. Average 2015-2019

Compared to the City where a significant majority of the households with incomes less than \$50,000 are renters, in the GWA, the households in the lower income groups are fairly evenly divided between renters and homeowners, and in all other income groups, homeowners dramatically outnumber renters.



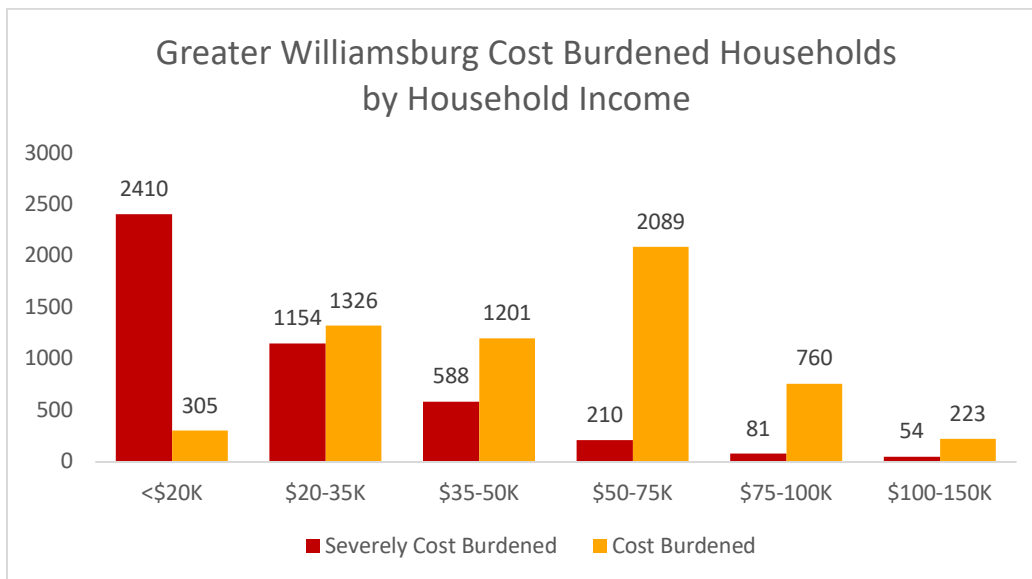
Source: ACS 5yr. Average 2015-2019, Note: ACS data not reported in manner that allows classification by income group.

With respect to cost-burdened households, obviously the total number of households in the GWA is much higher than the total number in the City alone, approximately 10,400 compared to about 1,600 in the city alone. However, the percentage of total households that are cost-burdened is lower in the GWA with just over one-quarter reporting being cost-burdened compared to about one-third in the City alone.



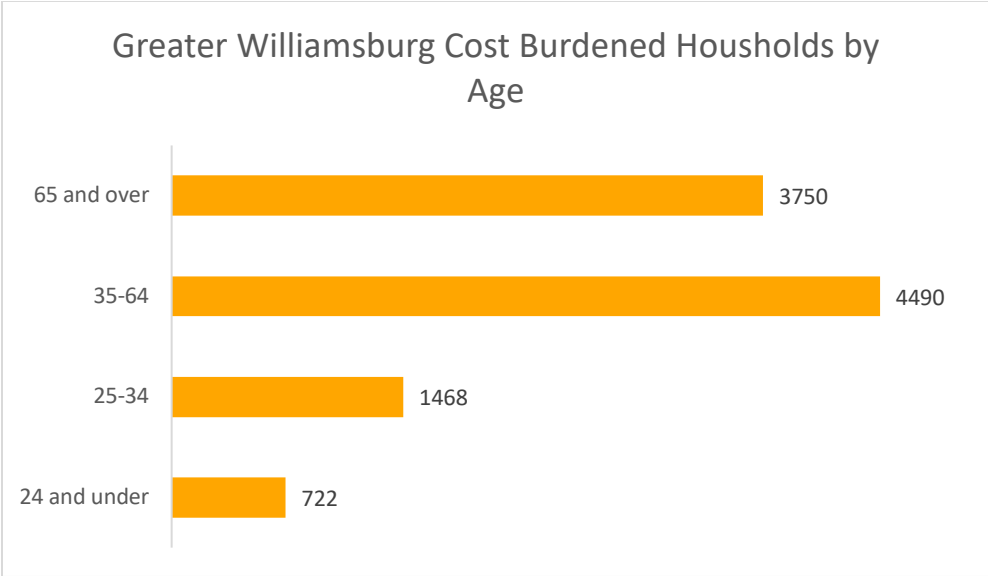
Source: ACS 5yr. Average 2015-2019.

Additionally, there are some interesting differences in the distribution of cost-burdened households across the income ranges with a higher percentage of households in the GWA in the \$50,000-\$150,000 income range report being cost-burdened.



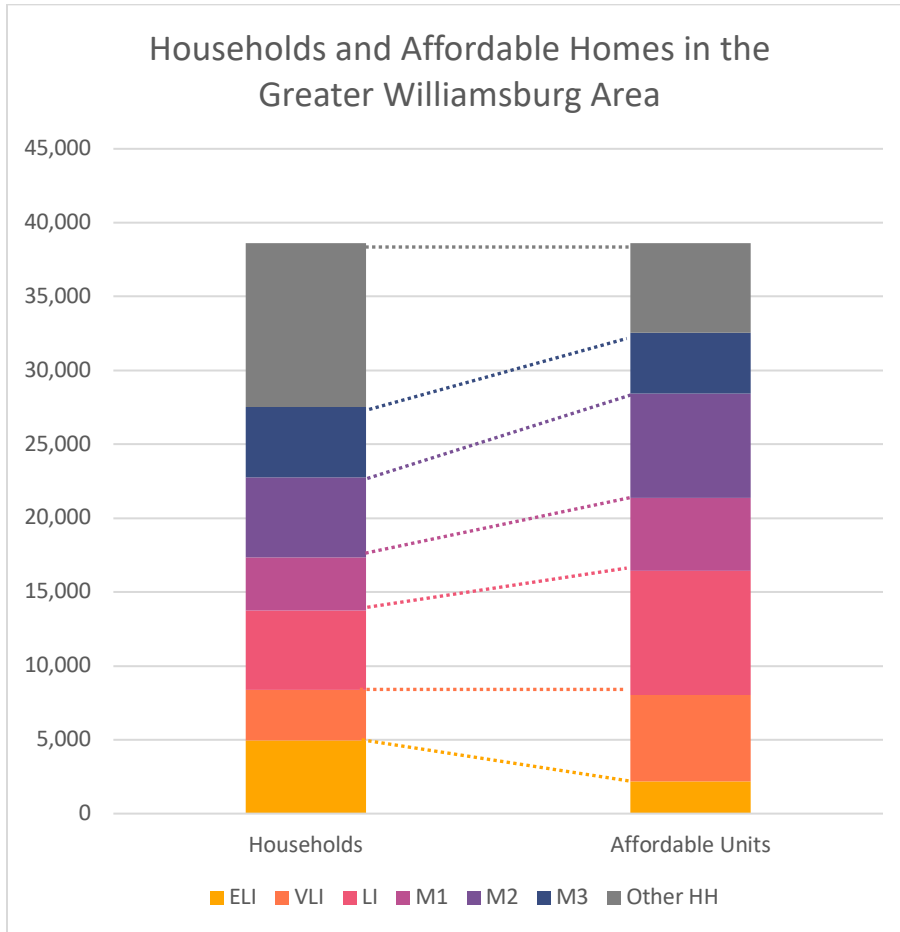
Source: ACS 5yr. Average 2015-2019; Note: ACS data not reported in manner that allows classification by income group.

Another striking difference between the City alone and the GWA is the proportion of older households that are cost-burdened. In the City, the number of cost burdened households in either of the two older groups is less than two times as high as those in the lower groups, but in the GWA, there are more than twice as many cost-burdened households in the upper age groups as there are in the lower age groups. This difference is likely due to the increased presence of student households in the City.



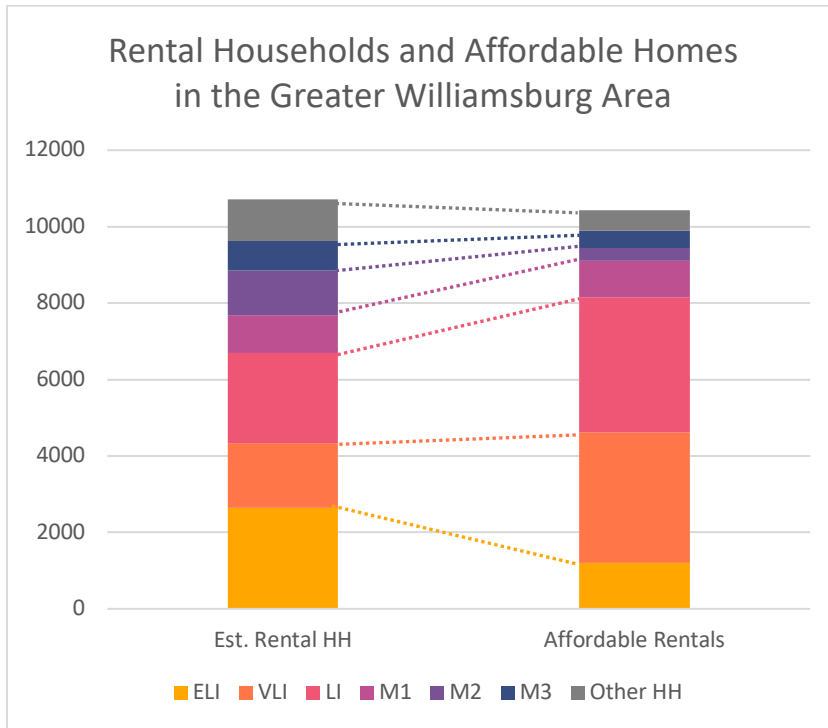
Source: ACS 5yr. Average 2015-2019; Includes both severely cost-burdened and cost-burdened.

Looking at the number of households in each income group relative to the number of existing housing units that are affordable (that are below the maximum rent and house value for that income group), in both the City and the GWA the number of households in ELI group are significantly greater than the number of affordable units. However across the GWA there are enough affordable units for all of the income groups.



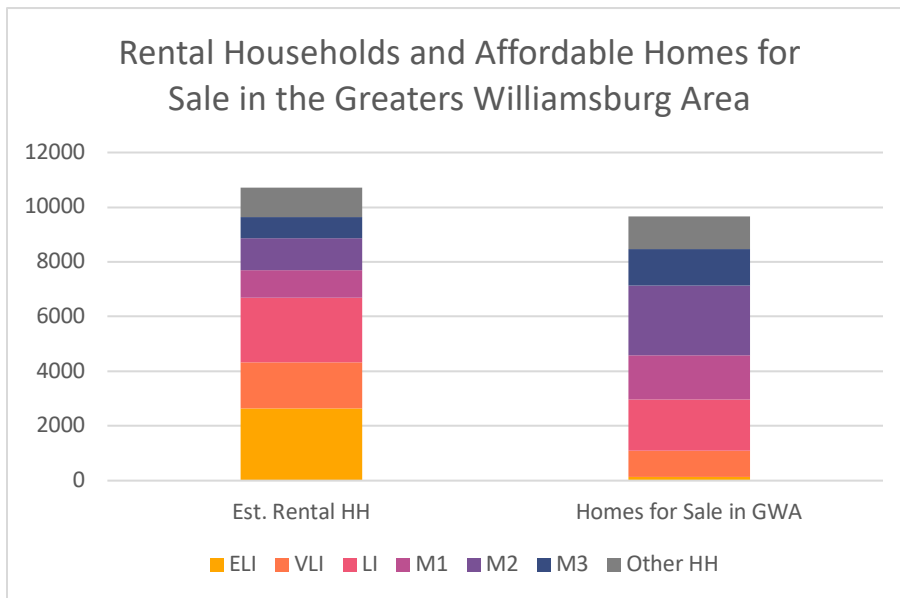
Source: ACS 5yr. Average 2015-2019.

Looking just at rental households and rental units, we do see some differences between the City and the GWA. In the City, all three low income groups face a deficit of affordable housing units but in the GWA, only those in the ELI do.



Source: Author’s calculations based on ACS 5yr. Average 2015-2019.

When looking at affordable units for sale, the patterns in the City alone and the GWA are also similar. Across all but the two highest income categories, there are many fewer homes offered for sale than there are rental households.



Source: ACS 5yr. Average 2015-2019 and WAAR MLS Sales Data January 2015 – December 2019.