

Housing Affordability in Monroe County- 2021 American Community Survey Data Analysis

In previous housing studies, one of the primary sources for data regarding the cost of housing and the economic situations for individuals in the United States has been the American Community Survey (ACS) which is part of the US Census and is one of the most rigorous and broad-based attempt to capture this type of information and make it available to the general public. In this part of our analysis, we will examine what data is available pertinent to the question of affordable housing and try to understand what this can tell us about the affordability question for the city of Bloomington and greater Monroe county.

About the Data

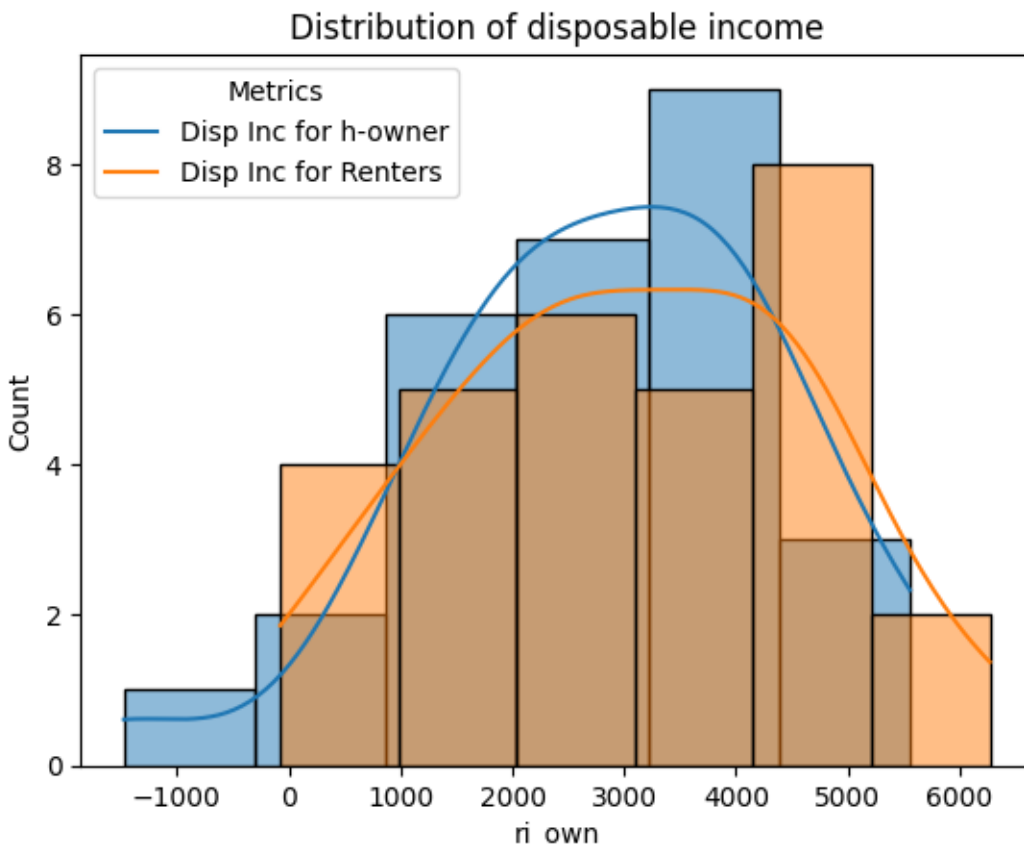
The ACS is updated regularly and the data that was used in this analysis was from 2021. ACS data is aggregated either in 1-year estimates or 5-year estimates. This means that the data used to populate the tables is an average over either a 1-year period or a 5-year period. For this project we felt that going with the 5-year estimates would give a better overall understanding of the housing situation, but in the future, it may be useful to update the data with 1-year estimates as they would be reflective of potential changes as the city implements policies and seeks to measure change. The primary housing affordability dataset was hosted and compiled by the Department of Housing and Urban Development which utilized ACS data to build the dataset. More info on HUD Housing Affordability Index can be found here: <https://hudgis-hud.opendata.arcgis.com/datasets/HUD::location-affordability-index-v-3/about>.

Our second data source was directly from the ACS 5 year estimate and included data on poverty and population levels in Monroe County. The overall dataset we compiled included information about basic costs of living, housing costs, income, poverty level and population count. The data was aggregated by census tract so this offers a degree of granularity allowing us to focus on relatively small geographic areas but also could be aggregated by County which allows us to include Monroe County as a whole. The Census tracts do not necessarily translate to neighborhoods or parts of town that are easily recognizable so we will bring in mapping in the analysis to help identify geographic areas of focus. The goal of the analysis is to illuminate the parts of Monroe County where the largest number of people are, on-average the most challenged to find affordable housing based on this data.

To try to capture the idea of housing affordability within each census tract, we created a feature called 'ri_rent' and 'ri_own' which are simply the average cost of housing for renters and homeowners subtracted from the average monthly income of residents. We will refer to this as "disposable income" for simplicity but obviously this measure does not capture all necessary costs individual residents face, the cost of housing for renters and homeowners does include utilities and taxes so it covers most of the essential costs involved with housing. One common benchmark for individual expenditure on housing is

that should be roughly 30% of one's income so we will look at how the census tract averages compare to that benchmark as well.

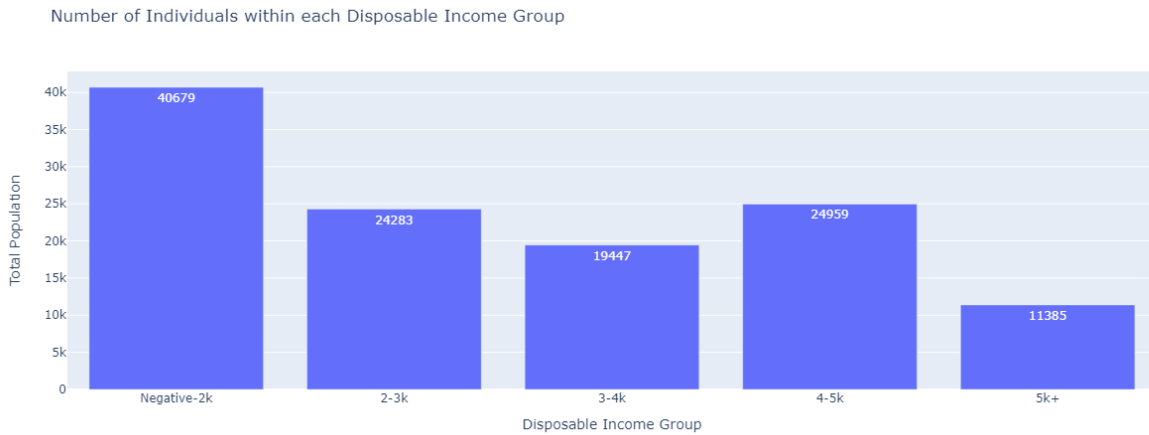
Below we will examine the dataset to identify the number of Monroe County residents who reside in at-risk areas for unaffordable housing and to identify the areas where more of these individuals live. Here we see a histogram representing the number of census tracts at each level of disposable income.



This shows that the rough median point of census tracts is around \$3000 in disposable income each month. There are 4 census tracts in the under \$1000 bucket for renters and about 3 for homeowners. We also see that there are more tracts in the sub \$1000 bucket among renters than among homeowners (4 for renters 3 for homeowners.)

Next, we should look at how many individuals are residing in the census tracts at various levels. To do this let's create bins of -1000 to 2000, 2K to 3K, 3K to 4K, 4K to 5K and over 5K. Then we can use the population numbers to indicate how many people are living within the census tracks at these average levels. It's important to remember that these are average numbers across the census tracts so we can't say that the number indicates how many individuals are at these disposable income levels, but rather how many people are living in the areas with these average numbers. This should serve our purposes by estimating the areas where the most people are likely to benefit from affordable housing

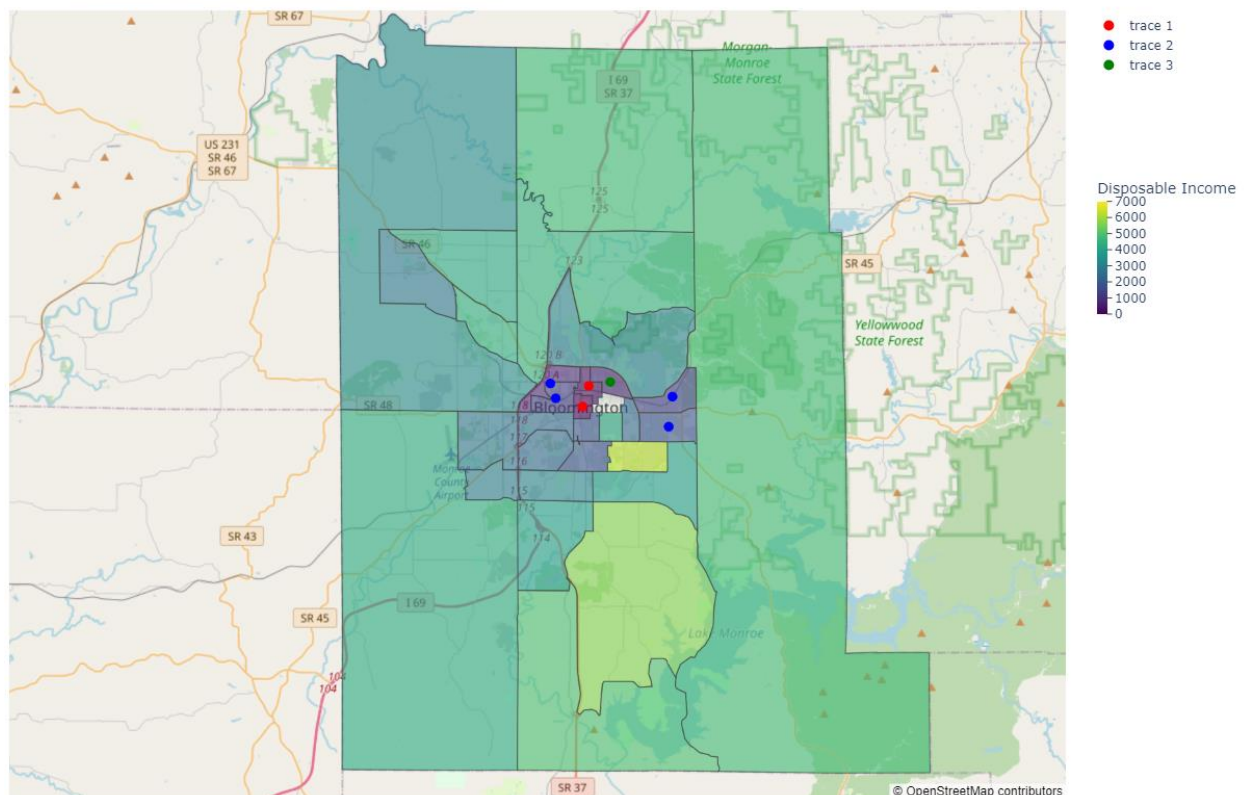
initiatives.



This graph indicates that the largest group of individuals is living in the lowest grouping in terms of the average disposable income per census tract. At this point it would be helpful to look at the economic situations in each tract area and we can start to focus in on which areas are most at risk for unaffordable housing.



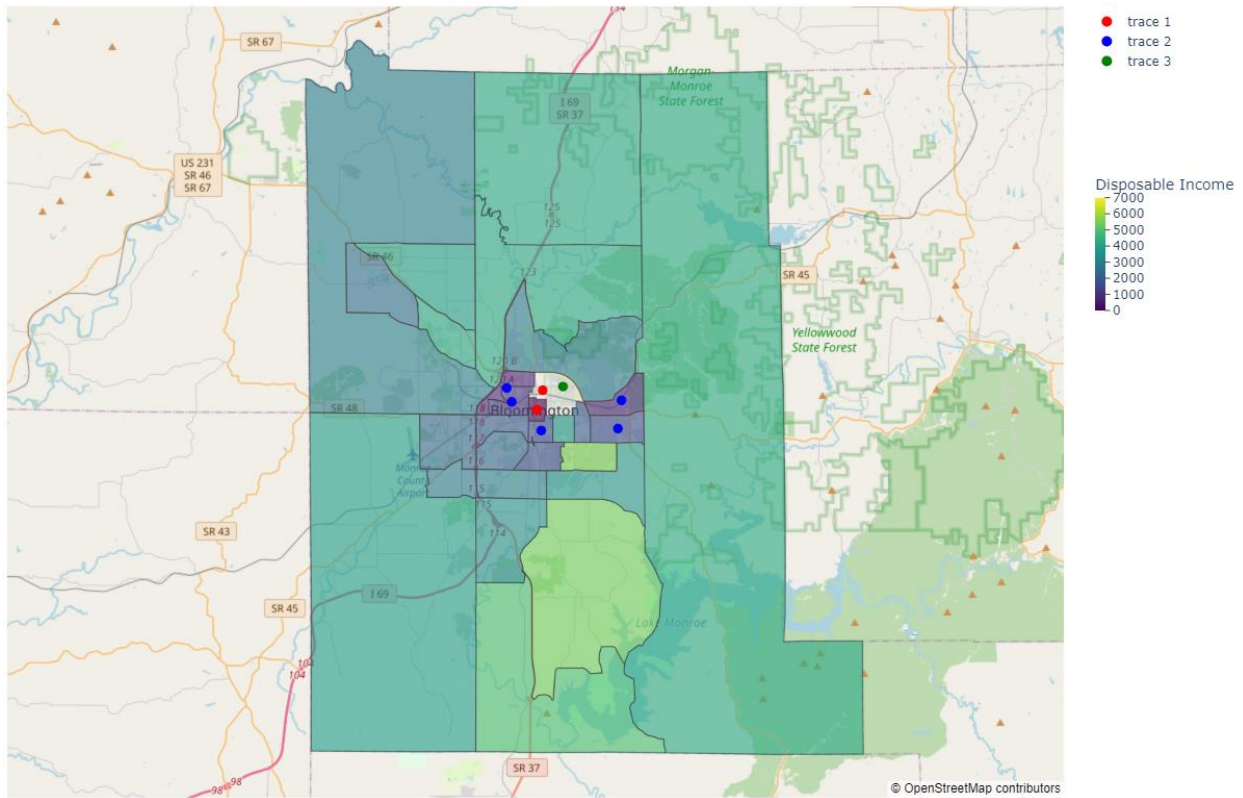
Looking at the graphs above, we see each of the tracts that make up Monroe County with their respective population and disposable income amounts indicated by bar height. The 7 tracts circled above will be chosen as the focus areas for our purposes since they clearly have a significant population and low average disposable income after housing costs. We also see a few issues with the data, in tract 100 (18105000100) we don't show anything for disposable income, this is due to having a negative average disposable income, so this is our worst tract for affordability. In tracts 800, and 1402 we are missing population numbers, and in tract 202 we are missing disposable income, all these missing data issues are due to the data provided by the census missing these particular values. There could be several possible explanations for this but we were not able to make a determination as to the reason at this time so it may be an issue for future follow-up. Now let's create a similar visual with more details about the



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level 3 being less urgent. In the map below level 1 areas are shown with red markers, level 2 with blue

Disposable Income for Homeowners in Monroe County



map looks like considering only the homeowner data:

As mentioned earlier one generally accepted measure of housing affordability is that an individual shouldn't need to spend more than 30 percent of their income per month on housing. Below is an additional map showing census tracts that do not meet this criteria based on average cost of housing as a percentage of average monthly income. We can see that much of the city of Bloomington is, on average, living below this threshold, so overall this data tends to support the argument that affordable housing is needed. Focusing on the more central areas of Bloomington with housing relief efforts would seem to be the best target to provide relief to the largest number of residents at-risk.

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