

Retirement Possibilities in the State of West Virginia

Introduction

Many of the capstone projects for the Applied Data Science specialization focus on beginnings, such as deciding where to open a new business. This project will focus instead on endings: can neighborhoods be classified in such a way as to reveal their potential as good retirement areas? The criteria can be very different than those used to decide where to live for younger adults. No longer concerned about job prospects, average income and the quality of schools, retirees instead focus on where their money will go furthest. Access to medical care, recreational opportunities, a mild climate, and ease of access to necessities can top the list of what is important in making the decision.

Among the Mid-Atlantic states, the dollar goes furthest in West Virginia*. This makes it good candidate to consider for retirement as people from more expensive states like Maryland, New Jersey, Pennsylvania and Virginia would not have to relocate very far. Using machine learning and big data, we can find comparable zip codes in West Virginia with desirable characteristics, highlighting possibilities to those not familiar with the state. This information would be of value to those that offer professional services to retirees, such as real estate agents and financial planners. West Virginia could use this information to market itself as a place to retire, or to identify new areas to promote.

* Numbers compiled from the Bureau of Labor Statistics by 24/7 Wall Street, a branch of USAToday. <https://www.usatoday.com/story/money/2019/05/25/us-dollar-how-much-its-worth-value-in-every-state/39501091/>

The Data

West Virginia will be divided by zip code, and those areas will be grouped by similarities in the following areas:

- Access to food: supermarkets, restaurants, fast food
- Access to medical care: distance to hospital, number of doctors' offices
- Access to entertainment: distance to nearest university/college, number of entertainment venues
- Number of real estate agencies (measure of housing demand)
- Demographics: average age, income
- Statistics: property taxes, crime, climate (feet of snow, inches of rain, average temperature)

There are 703 unique zip codes in West Virginia. Roughly a quarter of those are for Post Office Boxes only, and so do not represent potential retirement areas. These will have to be removed from the list. The complete list can be found at <https://www.unitedstateszipcodes.org/wv/#zips-list>.

The information for food, medical care, entertainment, and real estate can be gotten through the Foursquare API. Note that in some cases simply the number of venues will be sufficient (number of doctors' offices, number of supermarkets), and in other cases the relevant distance will need to be determined (hospitals, university/college). The appropriate radius to use in the search for venues will vary: while it may be reasonable to want restaurants or groceries within walking distance, medical care

and entertainment may be more appropriate to consider in terms of what would be reachable by car in a twenty-minute drive.

The demographics and statistical information will have to come from other sources. Zipcode.com has a table showing population and income by zip, so we can join this with our original zip code table.

<http://zipatlas.com/us/wv/zip-code-comparison/median-household-income.htm>

Some variables, such as property taxes, only vary by county, so the join will have to be along those lines, filling in the same value for all zip codes within a given county. <https://smartasset.com/taxes/west-virginia-property-tax-calculator>, https://www.census-charts.com/Density/West_Virginia.html.