

Coursera

Applied Data Science Capstone Project

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Purchasing rental properties in the Washington DC area



Introduction

Washington DC, the US capital, is a very transient city with residents from every corner of the earth. The city offers just about everything that most people are looking for in an urban lifestyle. The city is home to the typical city offerings of restaurants, night clubs, the arts, and sometimes parks and waterways. What makes Washington unique is that it also serves as a lesson in US history with its Smithsonian museums, capital buildings, and monuments for residents and visitors alike.

Investors are always looking for a great place to park their money and the Washington DC area is a likely place to invest in rental properties. 57% of the population is currently living in rental units in the DC area, which makes it ripe for investment opportunities.

Business Problem

The DC suburbs are spread out over Maryland and Virginia which makes it hard for potential investors to truly get a feel for the different towns where rental investment opportunities may exist. An ad-hoc analysis via Yelp or a similar tool could provide information on the various amenities available but the information is not quantifiable enough to allow for a trusted analysis.

Our objective here is to cluster and analyze data from two suburban towns within 15 miles of DC. We're looking to answer the question: "Which of two municipalities, Rockville, MD or Silver Spring, MD, offers the greatest number of amenities for its residents?"

These towns are also roughly the same size and distance from Washington DC and offer mostly single family homes, so they are perfect for a comparative analysis. Rockville is home to roughly 68,000 residents and is 13.7 miles from downtown while Silver Spring has 71,000 residents and is 7.1 miles from the city. Commutes into DC are easy from each of these towns as they both are on the DC Metro (subway) line, which also adds to their appeal.

This analysis is intended to be used by investors in the DC area real estate market. It may also be useful to developers who are interested in converting existing structures into new apartments.

Data: types and sources

The following items will need to be collected for this analysis to be performed.

1. For each of the towns, the zip codes will be gathered using a .CSV file which contains the section and zipcode for each town.
2. Latitude and longitude coordinates for the town locations. These are required to generate the appropriate maps of each location and will be gathered using the GeoPy Geocoder.
3. Venue information which includes the establishments located in each town.
The FourSquare API will be used to fetch all of the venues available in each defined segment. This data will be summarized by venue category and reported graphically.