Gentrification Within the Albuquerque Area

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Introduction

According to a recent White House article, 2021 has seen the greatest increase in housing prices over the past year within the US (Bernstein et al, 2021). Although this is partially due to the pandemic, the rising cost of living is not a recent trend. In 2018, the Urban Institute found that millennials are becoming homeowners at lower rates than previous generations (Choi et al, 2018). Clearly, it has become harder for the average American to find a place to live. There are a variety of factors that can impact the price of homes: available inventory, interest rates, etc. However, in 2010, the Nation Bureau of Economic research documented a link between housing prices and gentrification (Guerrieri et al, 2010). Gentrification can be characterized as the process of high-income groups moving into low-income urban areas. This often results in existing residents, usually minority groups, becoming displaced and shifting the economic landscape of the area, i.e. more expensive businesses being established.

In our project, we aim to explore the connection between housing prices and socioeconomic shifts within the Albuquerque area. By utilizing housing price and racial population data, we will attempt to create models that can show where high-income groups might displace those in lower-income areas and the changes in housing prices which might follow. By predicting these changes, home buyers and renters can make more informed decisions as to where they should look for homes. Additionally, legislative bodies could use this information to provide financial support to those groups which are the most susceptible to gentrification.

Data

- Race Totals of the Decennial Census https://data.census.gov/cedsci/ — Populations of Race in different areas
- Zillow Housing Data: https://www.zillow.com/research/data/ — Housing Prices
- City Data-Albuquerque, New Mexico. https://www.city-data.com/city/Albuquerque-New-Mexico.html — Housing Prices
- City of Albuquerque Data https://www.cabq.gov/abq-data — Business Locations
- U.S. Bureau of Labor Statistics https://www.bls.gov/eag/eag.nm_albuquerque_msa.htm - Job Growth

All of this data is readily available to download. However, we expect that pulling from a variety of sources with different degrees of attributes and instances will force us to take some time and create some ‘mappings’ between the data.

Methodology

We will first attempt to group different areas via clustering, likely via k-means. These groupings will correlate similar areas in regards to their racial composition, housing prices, jobs available, businesses, etc. This will allow us to find what might be considered a gentrified region, or even rank areas based on their 'degree' of gentrification. Next, we will use a supervised learning approach to categorize and predict whether an area might become gentrified based on the previous findings. This approach could vary in practice. We first might try a simple regression method, but if our results are not satisfactory, we may shift to a more complex system like a neural network.

Contingency Plan

If something goes wrong, our contingency plan will be similar to our original plan. Investigation in the housing market within the Albuquerque area will remain our main focus. Our plan will include finding the correlation between a trait and housing prices. This will allow our group to still investigate how the Albuquerque housing prices can have an affect and who lives in an area based on their income, race, age, gender, etc. The goals that we have set will only slightly change and the information that we collect will be very interesting and useful. The approach to this plan will stay similar to the original plan with little to no changes in how we investigate the data.

Team Skills

Our team consists of three undergraduate students: Nicholas Livingstone, Datenzing Tamang, and Damian Franco. Each of our team members has a computer science background with skills from the topics of programming, machine learning, networking, mathematics, and documentation. Our team members are comfortable with the topics presented to us thus far within the class. We are excited to experiment with and implement different approaches to observe our data.

References

Bernstein, Jared, et al. "Housing Prices and Inflation." *The White House*, The United States Government, 9 Sept. 2021, https://www.whitehouse.gov/cea/blog/2021/09/09/housing-prices-and-inflation/.

Choi, Jung Hyun, et al. "The State of Millennial Homeownership." *Urban Institute*, 18 July 2018, https://www.urban.org/urban-wire/state-millennial-homeownership.

Guerrieri, Veronica, et al. “Endogenous Gentrification and Housing Price Dynamics.” *NBER*, National Bureau of Economic Research, 27 July 2010, https://www.nber.org/papers/w16237.