

Individual Data Science Report

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Rental Housing Market

**Introduction**

The scenario was involving the number of local housing markets where it is cheaper to rent than buy is increasing heavily by the day. Rent was increasing the fastest in 2015, but slowed down during the building boom. In our project we will show the fluctuations and how the trends vary from market to market. The goal of our project is to provide an accurate analysis in a report form, on local housing market trends to the US Department of Housing and Urban Developments Office of Housing Support. The research problem here is to determine what are the influencing factors the local housing markets such as; why the number of rental properties is growing by the day as opposed to house ownership growth. The purpose of this paper is to report and thoroughly explain our data analysis project, in the paper I will communicate our findings and try to provide some type of legitimacy of our process. Below will be our final concept map which consisted of narrowing our research down to the income of individuals that are renting properties, while also considering the demographics, as well as the location. These ideas helped us come up with our research questions relatively quick due to the fact that Income plays a huge part in whether or not an individual can afford to buy or rent a home. A couple of our research questions were specifically “what kind of family income can afford certain types of rental properties (good, bad rental properties). When the family income is not so up to par the quality of the rental properties that they can afford will not be as presentable as opposed to a family whose income is somewhat pretty decent so basically the more money the family brings in the better quality of housing they are able to have.

**Getting the Data**

The data was taken from the Zillow Rent Index and it shows the median estimated monthly rental price for the given states, while covering multifamily, single family, condominium, and cooperative homes in Zillow’s database. Zillow produced rent estimates based on proprietary statistical and machine learning models. Within each country or state, the models observe recent rental listings and learn the relative contribution of various home attributes in predicting prevailing rents. This plays part in our research question that ask about the quality of rental properties a family or individual can afford depending on the family’s income. The variable that were included for the final analysis are the State Code, County, Dates (Months). When it came to the wrangling and management of data, we made a few slight changes but not anything that was like a drastic change. The initial appearance of dates were changed, missing and duplicate data was removed or excluded being as though there was already enough data that would be useful in our process of trying to provide insights on the rental market. There were not any conversions that were made in our data set.