Gentrification in Los Angeles County

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Data Geckos:

Cal Affleck, Bryan Kim, Jackie Song, Fabiola Cartagena

Motivation

Objective

The purpose of this project is to identify cities in Los Angeles county that are going or will be going through gentrification. We believe gentrified neighborhoods have the following characteristics (i.e our hypothesis):

- Below average income
- Increase in coffee shops (Starbucks)
- Increase in property value
- Increase in yoga studios
- Decrease in crime rate

Motivation

Questions

The following questions were posed to help us determine which specific cities were gentrified in Los Angeles County:

- What is the average income in the targeted neighborhoods?
- What is the average property/home value in each city?
- What is the distribution of Starbucks in each city?
- What is the number of yoga studios in each city?
- What is the trend during gentrification period?
- Which of these variables highly correlated? (casual relationship)

Questions and Data

What is the average income in the targeted neighborhoods?

Data was extracted from Census.gov

• Information was filtered by census tracts, State and County (LA)

What is the average property/home value in each city?

• Zillow data

What is the distribution Starbucks in each city?

• Starbucks website

Questions and Data

What is the number of yoga studios in each neighborhood?

- Yelp API
- lacounty.gov

Which of these variables are highly correlated?

• For some cities there was visible correlation between income and the number of Starbucks

What is the crime rate in each city in Los Angeles?

• data.lacity.org

Data Clean Up & Exploration

Cleaning The Data

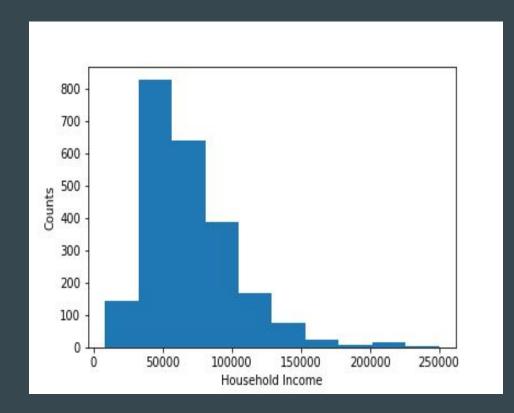
- Census.gov: Special characters were removed from the data (i.e -666666)
- lacounty.gov: additional digits removed from coordinate data
- Zillow Research: US Zip Code data was filtered for LA County Area

Unexpected Setbacks

 Census data was pulled by tract instead of zip code, which made it difficult to merge with other data

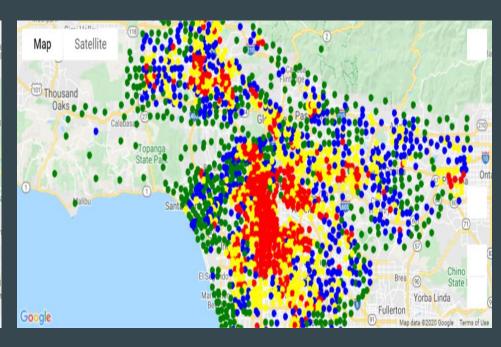
Los Angeles County Income Stats (2018)

- Average household income: \$69,678.02
- Average poverty rate: 15.98% (Higher than the State rate: 12.8%)
- Average unemployment rate: 3.56%
 (Lower than the State rate: 4.2%)
- Lower quartile: \$45,000
- Upper quartile: \$85,972.25



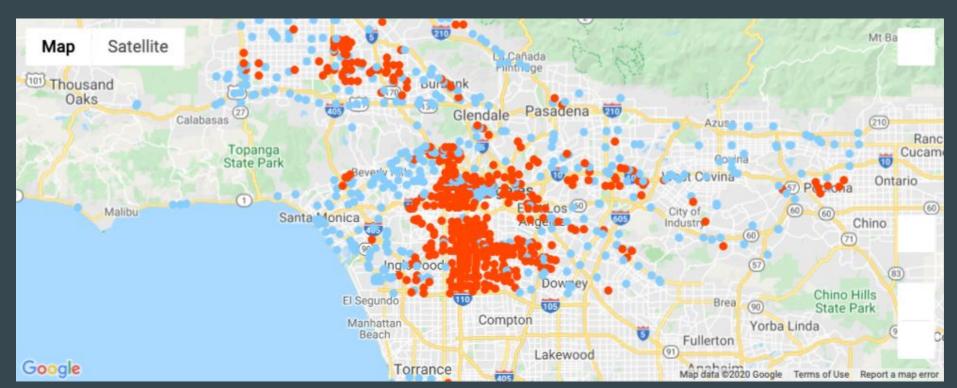
Household Income by Census Tracts (2018)

- ☐ Income less than \$45K ☐ Income range: \$46K- \$62K ☐ Income range: \$63K- \$84K ☐ Income greater than \$85K
- Satellite San Bernardino Riverside Moreno Valley Google



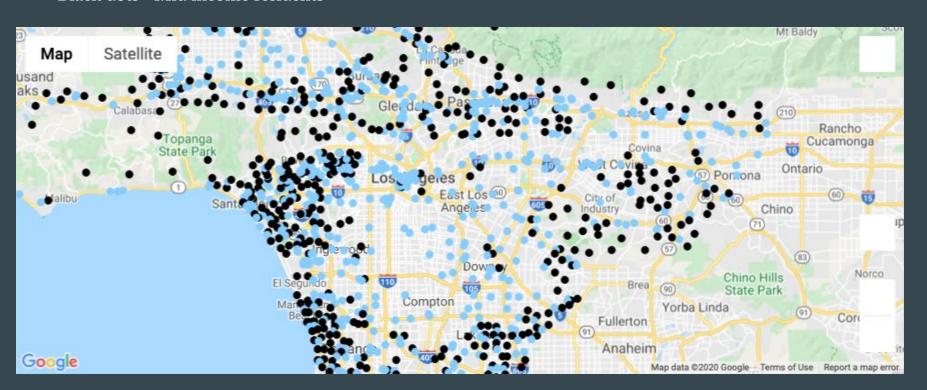
Data analysis- Starbucks

Blue dots - Starbucks stores Red dots - Low income residents



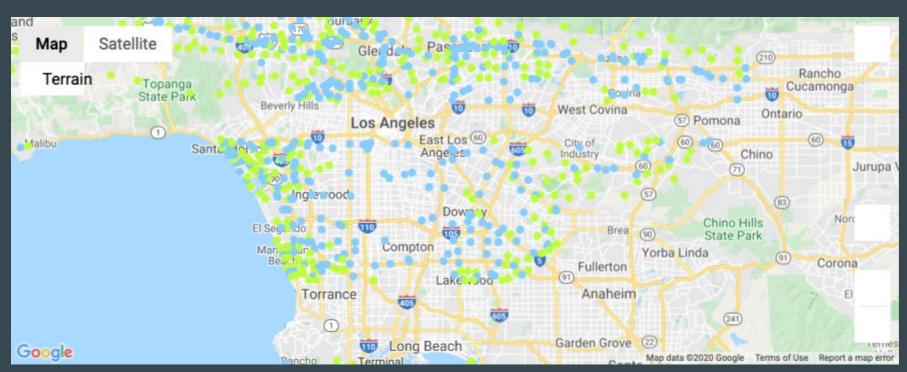
Data analysis- Starbucks

Blue dots - Starbucks stores Black dots - Mid income residents



Data analysis- Starbucks

Blue dots - Starbucks stores Green dots - High income residents



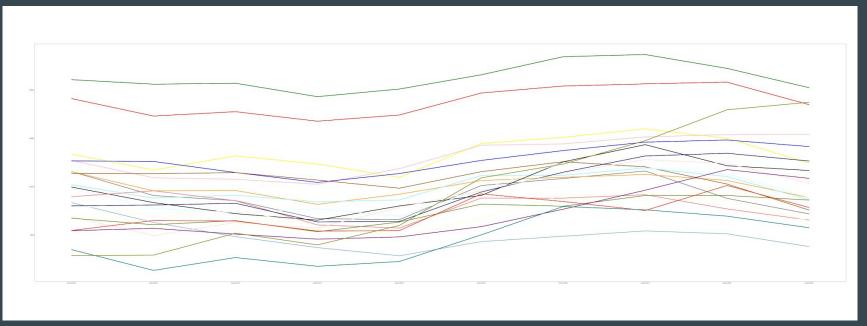
Data analysis - Starbucks

Conclusion:

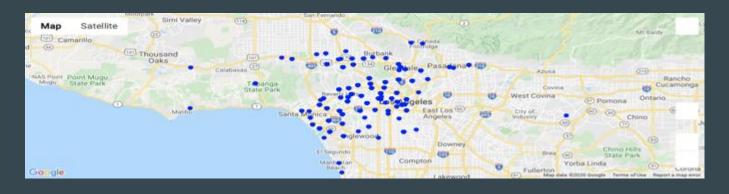
- 1. There are fewer Starbuck locations near low-income neighborhoods
- 2. There are increased Starbuck locations near mid-income neighborhoods
- 3. There are more Starbuck locations near high-income neighborhoods
- 4. We conclude that an increase number of Starbuck locations can potentially be viewed as an indicator of gentrification. If the income of the commodities increase, we should see a steady rise in the number of Starbuck locations.

Data analysis - Crime

The graph below displays crime rate trends across 20 different cities in Los Angeles County for the past 20 years. Based on the data, we can conclude that the relationship between crime rate and gentrification is weak to none. My assumption is that Los Angeles is a special case in comparison to other US cities and has a particularly high rate crime. Crime cannot be considered an indicator for gentrification, as we discovered that the original low-crime rate areas remain the same.



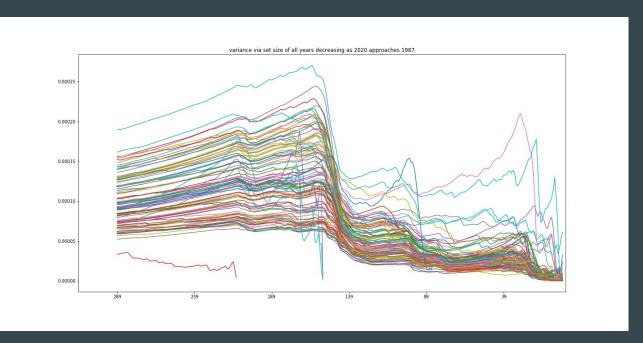
Yoga Studio Locations in Los Angeles County



Zip Code	Yoga Studios	City Description	Surrounding Areas	Average Household Income	Average Poverty Rate	Average Unemployment Rate	Gentrification Candidate?
90008	1	Baldwin Hills (Crenshaw)	Baldwin Hills, Leimart Park	below	above	above	Y
91343	0	North Hills	Northridge, Granda Hills, Van Nuys	below	above	below	Y
91411	1	Van Nuys	Sherman Oaks, Valley Village	below	above	below	Y
90046	25	Hollywood Hills, Los Angeles	Beverly Hills, Hollywood, Studio City	above	below	below	Y
90066	19	Mar Vista, Los Angeles	Culver City, Marina Del Rey, Venice Beach	above	below	below	Y
90028	18	Hollywood, Los Angeles	Hollywood Hills, Koreatown, Studio City	below	above	above	Y
90026	15	Echo Park, Los Angeles	Silver Lake, Hollywood	below	above	below	Y
90020	1	Koreatown, Mid-Wilshire, Los Angele	Central LA, Koreatown, Miracle Mile	below	above	below	Y
90042	2	Windsor Hills, Los Angeles	Hyde Park, Inglewood, Ladera Heights	above	below	above	Y

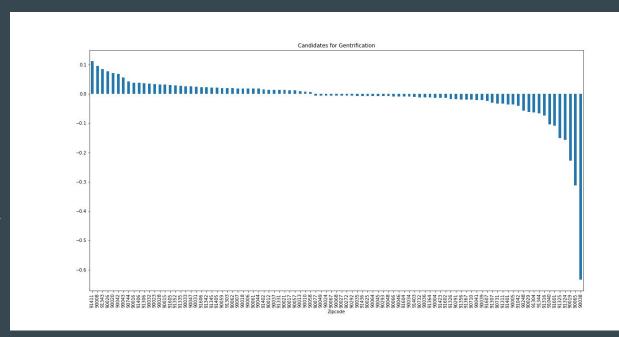
Los Angeles County Housing Price Growth Variance

- Variance in price growth represents uncertainty in the market
- This graph is function of how much change is going on in an area, measured by housing price growth variance
- If you look closely, you can see that outliers are responsible for raising the average at any given time



Los Angeles County Housing Price Variance

- Based on the hypothesis that sudden changes in growth variance are indicative of gentrification
- Certain zip codes go with the flow of the rest of the market, but still have a high uncertainty in their price
- Most identifiable zip codes include Van Nuys, Baldwin Hills, North Hills



Summary

Potentially Gentrified Neighborhoods								
	Van Nuys	Baldwin Hills	North Hills					
Avg Household Income	\$75,904	\$37,031	\$75,904					
Median Age	37	32	38					
Poverty Rate	13.24%	29%	13.24%					
Unemployment Rate	3.2%	4%	3.2%					
Yoga Studio Count	1	1	0					
Crime Level	Mid - Mid	High -High	Mid - Mid					
Starbucks Count	9	5	2					

Summary

Summary of Findings

- Cities with a higher income population seems to cluster around the beach areas, and low income population is clustered near downtown LA/110 freeway.
- Starbucks locations are a milestone of gentrification, as they show up only in middle income areas.
- Yoga studio count based on postal code should not be considered an indicator for potential gentrification. It does however strongly correlate to higher income neighborhoods.
- Zip codes most suitable for abnormal housing price changes are Van Nuys, North Hills, and Baldwin Hills
- Baldwin Hills has a higher crime rate, leaving Van Nuys and North Hills as most likely to be gentrified

Post Mortem

Difficulties:

- We are exploring the gentrification in Los Angeles, which is a big city with more than 20 counties and hundreds zip code. For example, the data extracted from starbucks was at the lat and lon, however, other data info was extracted by zip code. It was difficult to merge the data.
- We have limited permission to get accurate data from gov website.

Additional Research:

- Analyze historical income changes in the different neighborhoods in LA County
- School rating

Q & A