

Affordable Housing Project

Final Capstone Project

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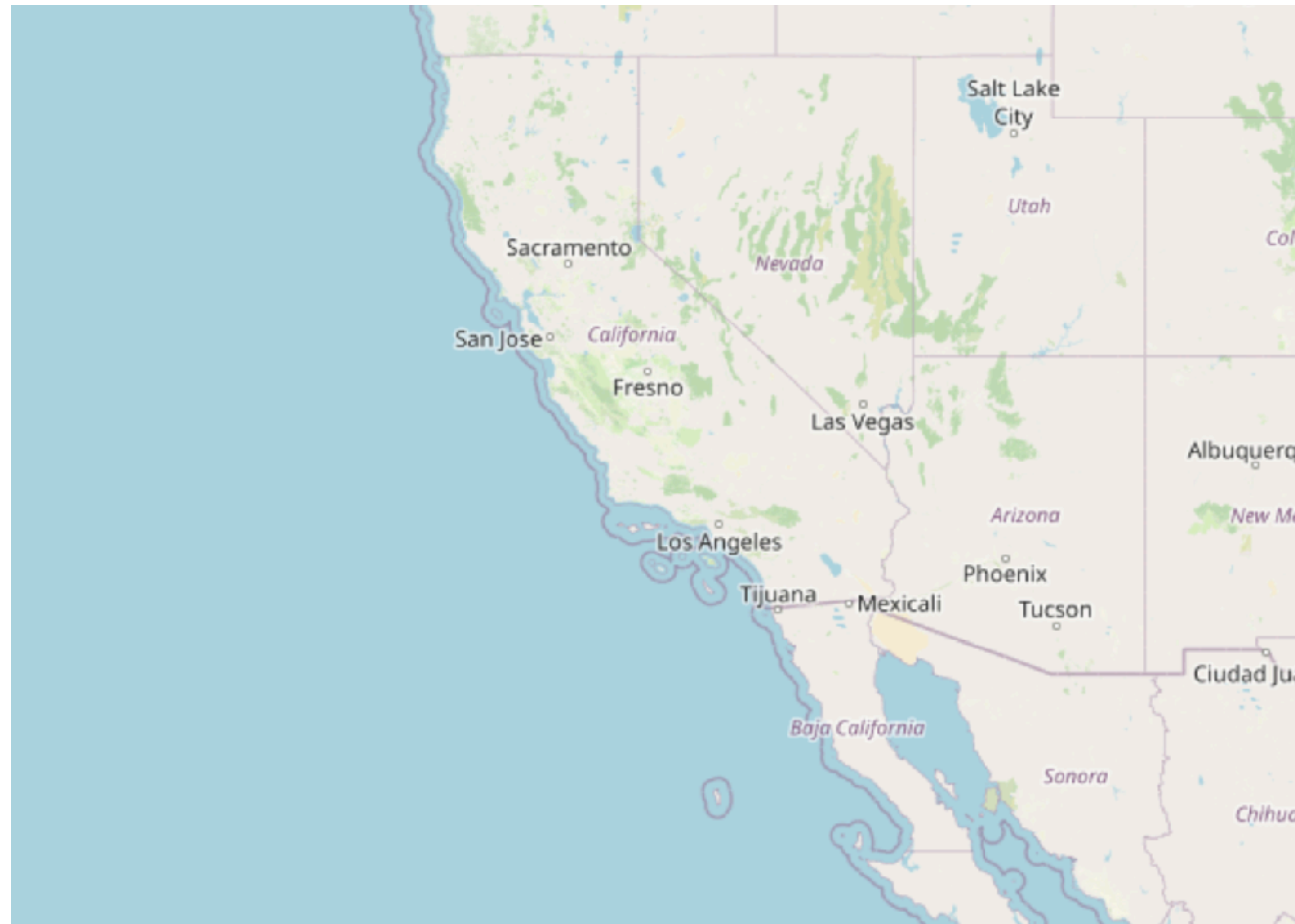
Housing in San Francisco Bay Area

- Nine Counties in Bay Area
- Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma, and San Francisco
- Most expensive place to live in the United States
- Study helps to find an optimal location for affordable housing project with close proximity to the restaurants or venues

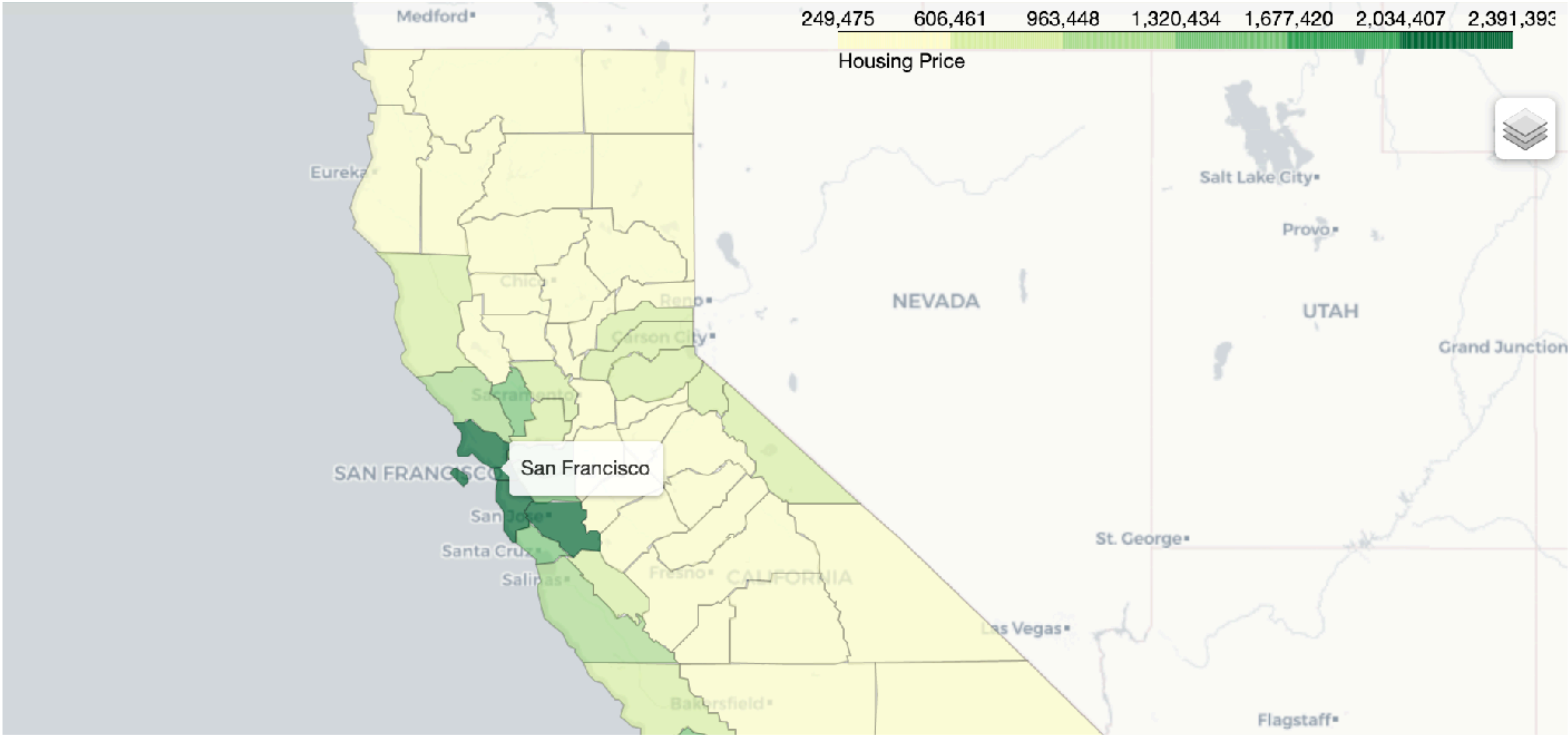
Data Acquisition and Cleaning

- County boundaries extracted from [Open Data Soft](#) website.
- List of counties in California and the subset of those counties in Bay Area from [DataSF](#)(Office of chief Data Officer).
- The dataset for the Average housing price are extracted from [Zillow](#).
- Venue details extracted from Foursquare API.
- Cleaned data contains the data for nine counties in Bay Area.

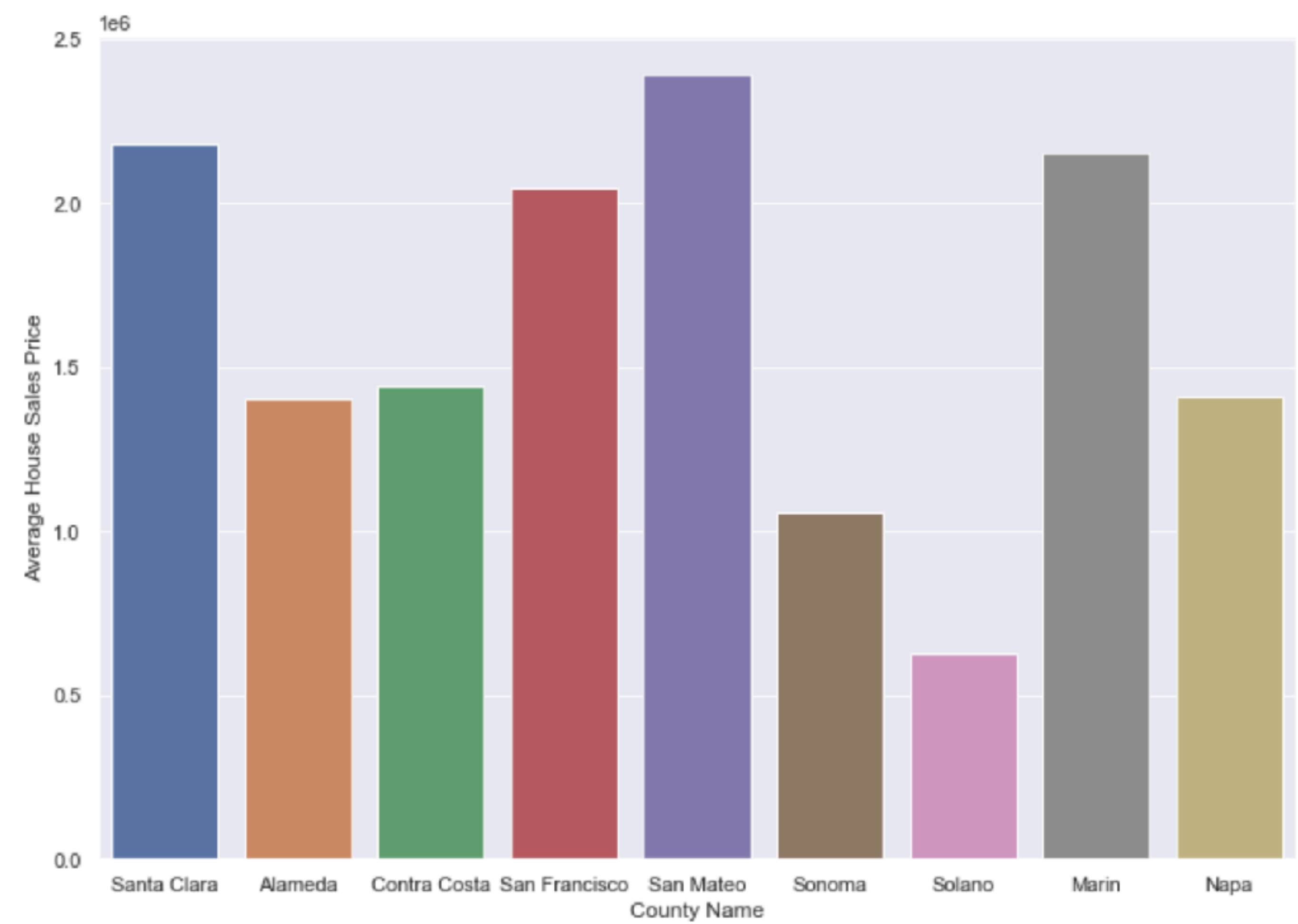
Folium Map for Visualising California



Choropleth Map for Average Housing Price



Bar Plot



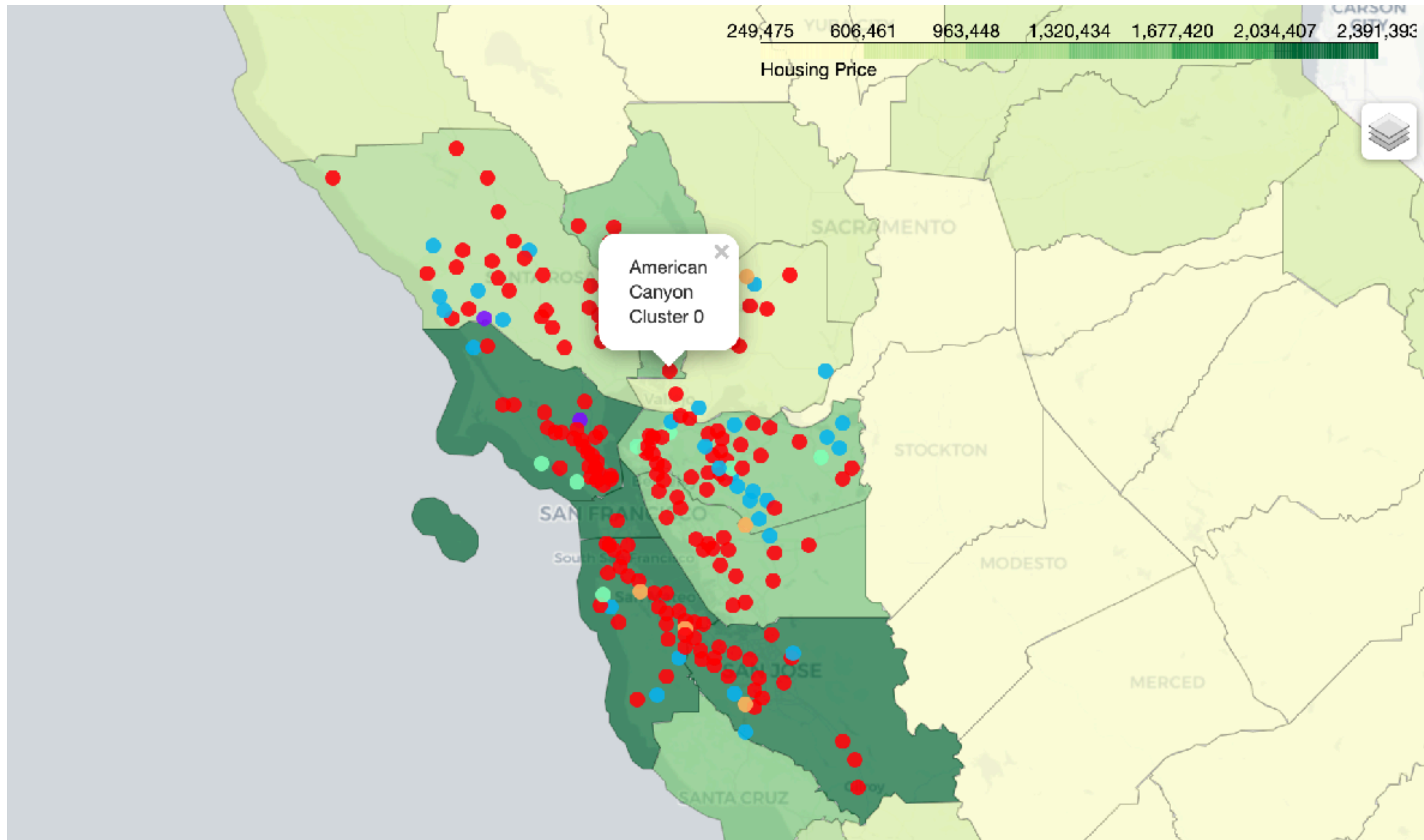
Foursquare API

	City	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Acalanes Ridge	Trail	Train Station	Business Service	Home Service	Xinjiang Restaurant	Fish & Chips Shop	Factory	Fair	Falafel Restaurant	Farm
1	Alameda	Beach	Pizza Place	Café	Bar	Asian Restaurant	Grocery Store	Park	Tea Room	Gym	Tennis Court
2	Alamo	Tennis Court	Golf Course	Pool	Xinjiang Restaurant	Fair	Falafel Restaurant	Farm	Farmers Market	Fast Food Restaurant	Filipino Restaurant
3	Albany	Coffee Shop	Pizza Place	Bar	Pet Store	Park	Indian Restaurant	Burger Joint	Sushi Restaurant	Thai Restaurant	Fast Food Restaurant
4	Alhambra Valley	Baseball Field	Winery	Campground	Fish Market	Factory	Fair	Falafel Restaurant	Farm	Farmers Market	Fast Food Restaurant

K-Means Cluster

Cluster Labels		City	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	2	Acalanes Ridge	Trail	Train Station	Business Service	Home Service	Xinjiang Restaurant	Fish & Chips Shop	Factory	Fair	Falafel Restaurant	Farm
1	0	Alameda	Beach	Pizza Place	Café	Bar	Asian Restaurant	Grocery Store	Park	Tea Room	Gym	Tennis Court
2	2	Alamo	Tennis Court	Golf Course	Pool	Xinjiang Restaurant	Fair	Falafel Restaurant	Farm	Farmers Market	Fast Food Restaurant	Filipino Restaurant
3	0	Albany	Coffee Shop	Pizza Place	Bar	Pet Store	Park	Indian Restaurant	Burger Joint	Sushi Restaurant	Thai Restaurant	Fast Food Restaurant
4	2	Alhambra Valley	Baseball Field	Winery	Campground	Fish Market	Factory	Fair	Falafel Restaurant	Farm	Farmers Market	Fast Food Restaurant

Visualise the clusters in the Folium map



Conclusion and Discussions

- Build to identify the counties that has affordable house sales price
- Data analysis is performed through datasets by adding the coordinates of counties and house sales price averages.
- Helps stakeholders in narrowing down the search for optimal location for new housing projects