Uncovering Market Trends: Real Estate and Income Correlation in the Tri-State Area

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Objective:

Primary Objective:

Examine the relationship between household incomes and real estate prices in select ZIP codes of the tri-state area from 2011 to 2021.

Secondary Objective:

Compare income levels and price per square foot between state capital cities and secondary cities to understand geographic influences on real estate trends.

Data Collection & Cleanup:

Data Collection:

After selecting our datasets from Kaggle (USA Real Estate Dataset and US Household Income by ZIP Code), we explored and cleaned the data to include only relevant information.

Cleanup Process:

- Filtered data pertaining to the tri-state area.
- Cleaned and combined datasets by utilizing ZIP codes as the merging key.
- Leveraged the **psycopg2** library within a Jupyter notebook to establish connections to PostgreSQL databases and transform the data into dataframes.
- JSONified the data and accessed it using the Flask library.
- Integrated user-activated visualizations into our webpage using the D3 JavaScript library.

Data Analysis:

After collecting and cleaning the data, we ended up with 33,000 unique zip codes in the tri-state area ready to be analyzed. We further narrowed our exploration to 5 zip codes near the capital of each state.

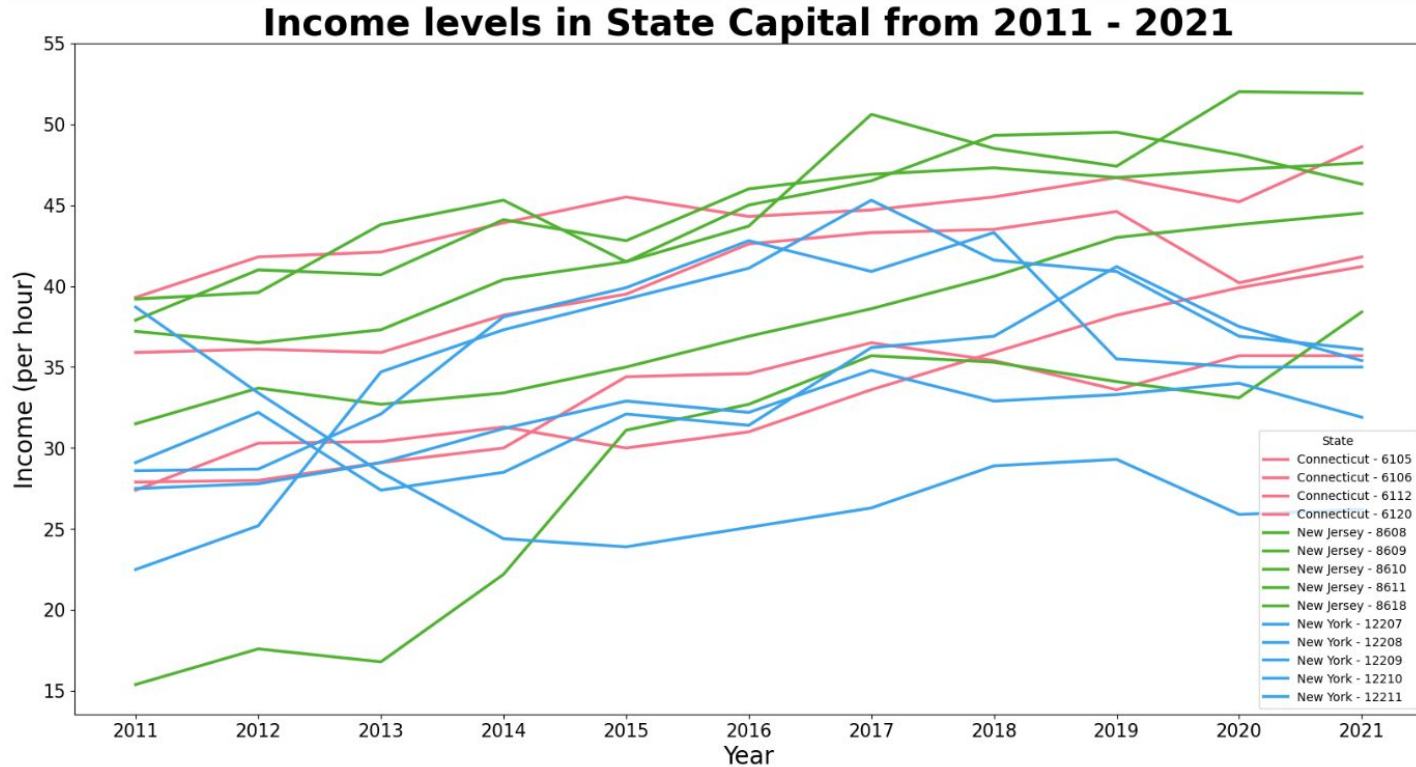**Albany, New York (Capital of New York)**

> 12207
> 12208
> 12209
> 12210
> 12211

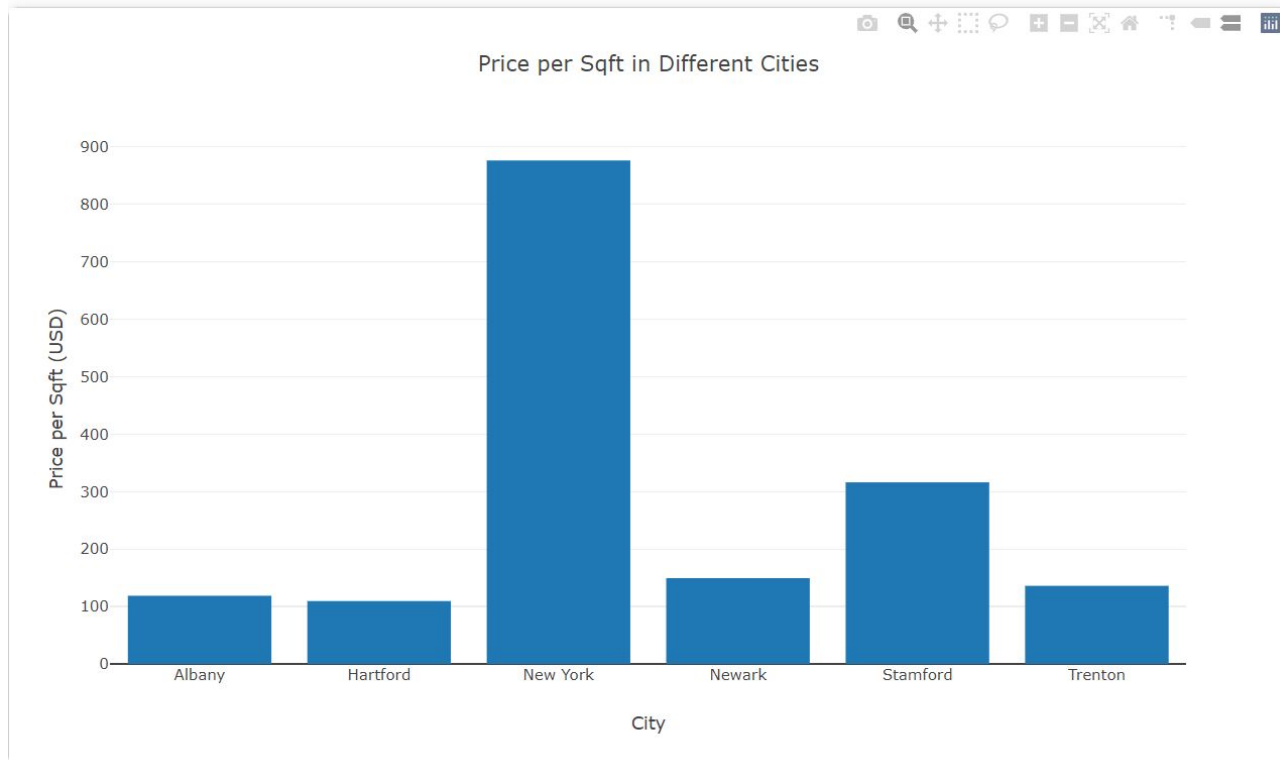**Hartford, Connecticut (Capital of Connecticut)**

> 06105
> 06106
> 06107
> 06112
> 06120

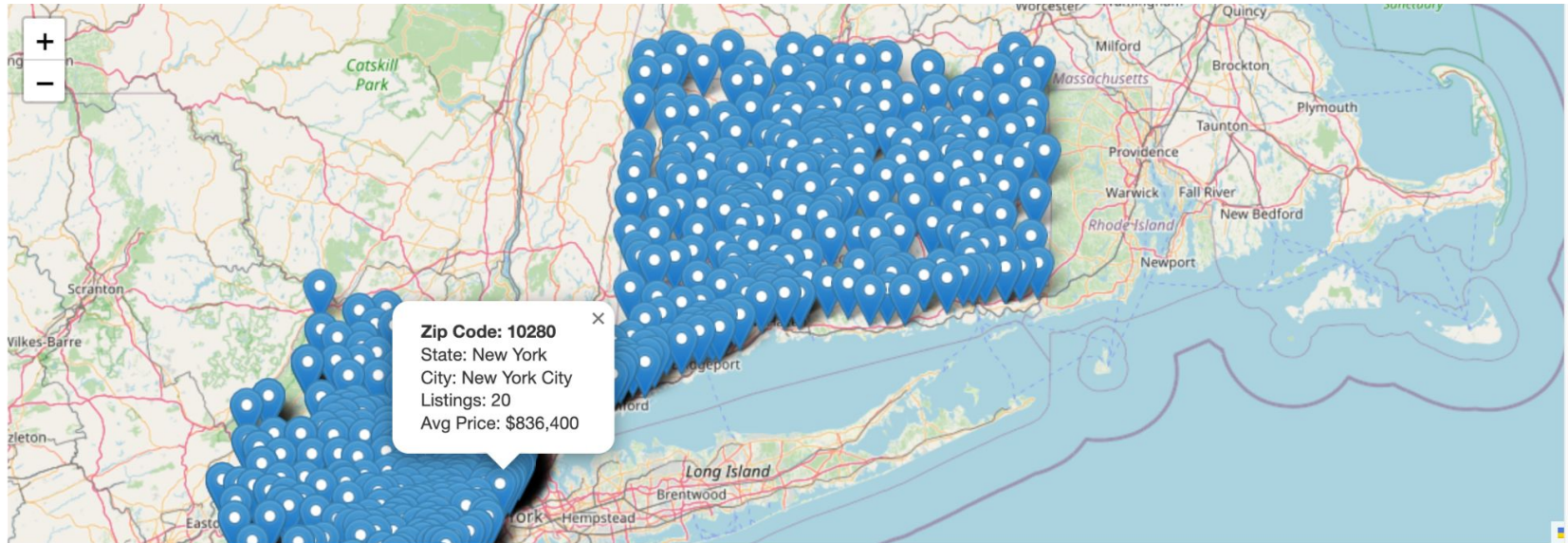**Trenton, New Jersey (Capital of New Jersey)**

> 08608
> 08609
> 08610
> 08611
> 08618

Income levels in State Capital
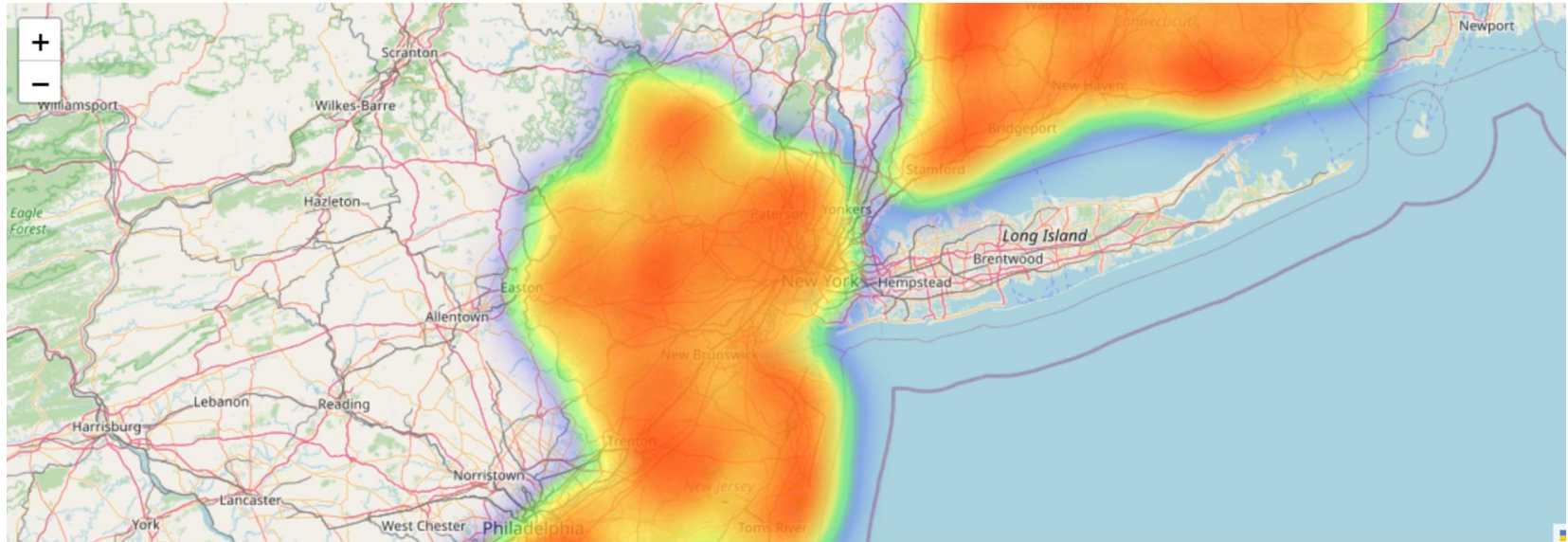

Income levels in State Capital from 2011 - 2021

House Prices By Cities

Price per Sqft in Different Cities

Real Estate Listings in Tri-State

Zip Code: **10280**
State: New York
City: New York City
Listings: 20
Avg Price: $836,400

Real Estate Price in Tri-State

Insights & Conclusions:

Based on the analysis of household incomes and real estate prices in the Tri-State Area, several conclusions can be drawn:

- **Geographic Advantage**: Proximity to major bodies of water and metropolitan areas significantly influences household incomes and real estate prices, indicating that geographic location plays a critical role in financial prosperity and property value appreciation.

- **Influence of Metropolitan Areas**: Cities near major urban centers like New York City experience substantially higher real estate costs, reflecting the strong economic influence of these metropolitan hubs on nearby property markets.

- **State Capitals vs. Secondary Cities**: The data shows that state capital cities do not always have the highest real estate prices compared to secondary cities, suggesting that factors other than political or administrative significance, such as local economic conditions and quality of life, impact real estate trends.

- **Regional Variations**: There are notable disparities in housing prices within the same state, with secondary cities like Stamford exhibiting significantly higher real estate values than their state capitals, underscoring the importance of regional economic dynamics and development patterns.

Overall, these insights highlight the complex interplay between geographic location, proximity to major urban centers, and regional economic conditions in shaping real estate markets in the Tri-State Area. Further research and analysis could delve deeper into these findings and explore additional factors influencing the real estate landscape in the region.

Thank you!