



What Makes The Housing Market “Hot”?

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Introduction

- Since the end of 2020, home prices have been on an uphill trend, along with the demand for houses.
- Housing markets throughout the United States have gained traction and some have become known as being “hot” for their popularity amongst home buyers
- We want to know what makes those markets **hot**!



Business Questions

1. Which regions of the United States have the hottest housing markets?
2. Is there a cutoff for the market hotness ranking where a significant difference between markets becomes apparent?
3. Does the allure of the certain metropolitan areas (favorable place to live) play into their assigned hotness rank?
4. How has time (months, years) impacted the hotness of metropolitan areas?
5. Can we predict the hotness rank of a metropolitan area?

Data Explanation



Two datasets:

1. Historical monthly data for metropolitan market trends and statistics on active listings
2. Historical Hotness Market Index data for metropolitan areas

[Realtor.com Logo](#)



“Metropolitan statistical area” –
Data on 384 metropolitan statistical areas of the United States – pulled from the United States Census Bureau

- 2020 population counts
- 2021 population estimates

[Wiki Logo](#)



Target Variable: Hotness Rank
from 1-300

Methods

Checking For Duplicates

No duplicates were found in any of the three datasets

Data Type Conversion

Ensured that variable types correctly corresponded with variable values

Merging Datasets

Once individual datasets were cleansed, they were merged to get market data and population data in one place

Sub-setting Datasets

Focused on years 2020 & 2021 and only allowed for quality records from Realtor.com

Handling Missing Data

Removed any row with missing data to ensure data integrity and independence among metro areas



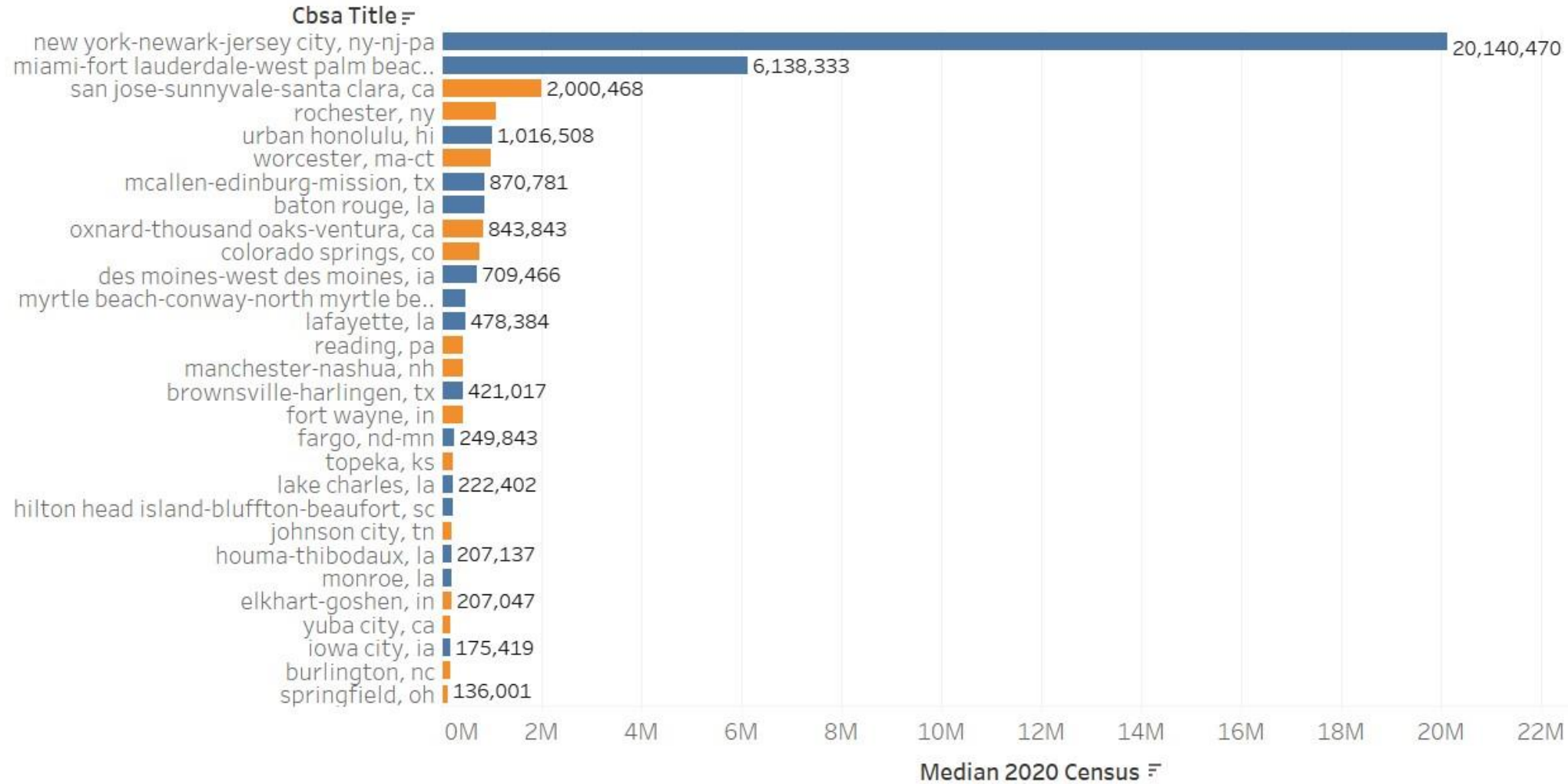
Analysis



Main Takeaways

- Denser, highly-populated metropolitan areas do not tend to be as “hot” as areas with lower population counts in 2020
- California & the Midwest have the highest concentration of hotly-ranked metropolitan housing areas in 2020
- Hotness ranking increases and decreases per metropolitan area from year to year → even the hotter areas get colder over time
- The hotness rank target variable was very unreliable for predictive modeling (300 classes)

Median 2020 Population for Metro Areas with Top 5 & Bottom 5 Hotness Ranks

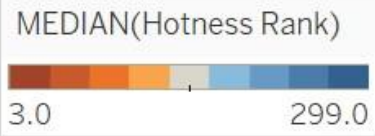
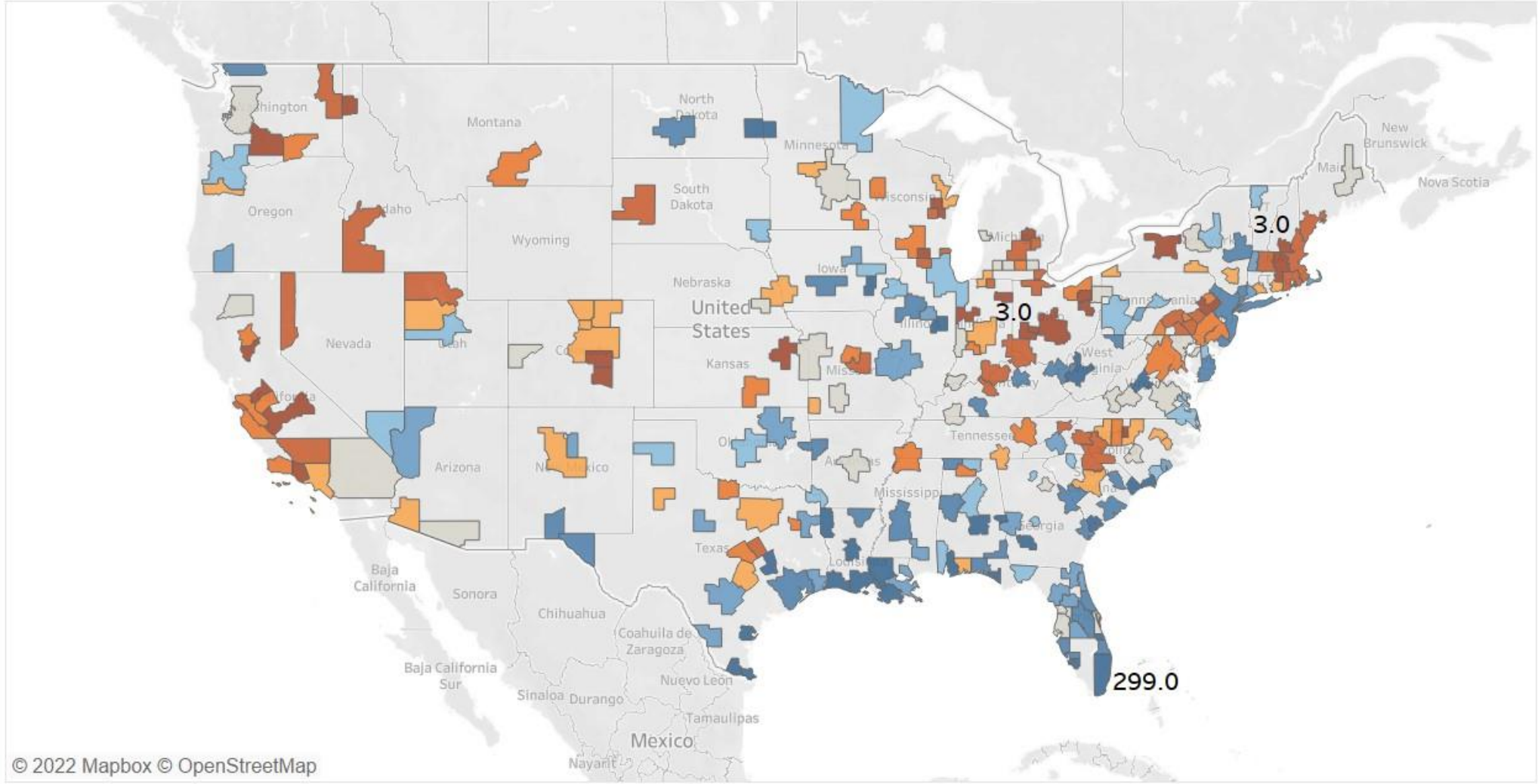


Top 5 & Bottom 5 ...

Bottom 5

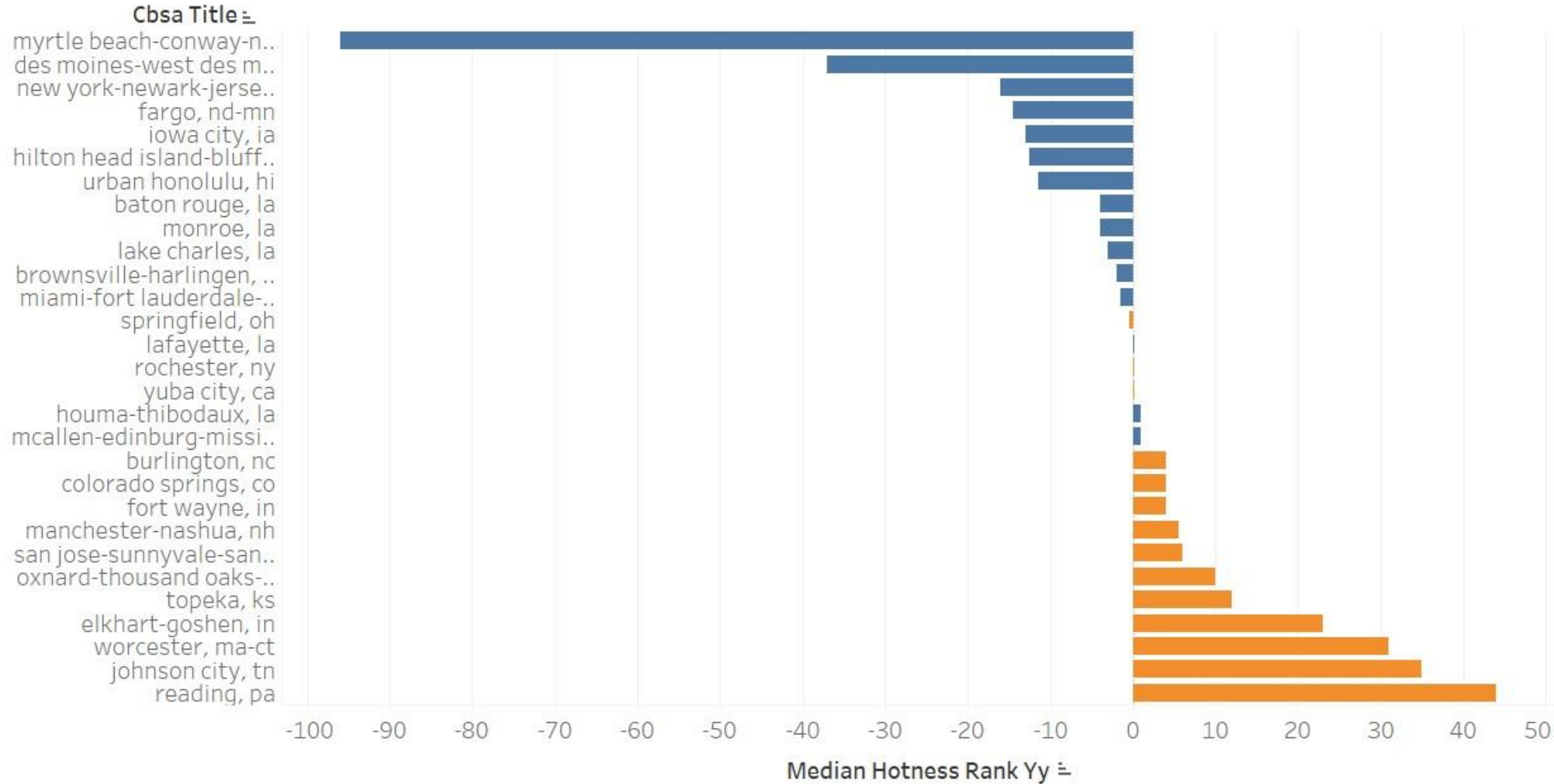
Top 5

2020 Median Hotness Ranking Distribution Across Represented U.S. Metro Areas



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Median Yearly Change in Hotness Rank for Metro Areas With Top 5 & Bottom 5 Ranks



Top 5 & Bottom 5 Hotness

Bottom 5

Top 5

Risks & Rewards



Risks

Predictive modelling piece needs more work and attention for proper classification

Not enough data on “livability” of metro areas

Potential for ethical issues

Rewards

Useful knowledge for home buyers, home sellers, real estate agents, etc.

Benefits the companies & businesses nearby hot metropolitan areas

Stay ahead of the housing market

The background of the slide is composed of two main parts. On the left and right sides, there are vertical panels showing a close-up of green, elongated leaves, possibly from a plant like a banana or a similar tropical species. The leaves are slightly out of focus, creating a soft, naturalistic texture. In the center, there is a vertical rectangular area with a light pink or peach-colored background. Overlaid on this pink area is a subtle, abstract geometric pattern consisting of several thin, intersecting lines that create a series of soft, triangular and quadrilateral shapes in varying shades of pink and white. The overall aesthetic is clean, modern, and nature-inspired.

Thank you