

Real Estate Growth Mapping using Tableau

Module 3: Business

KENNETH HUA



Project scope

- ▶ My REIT (Real-estate) needs to **determine the top 5 areas with the highest growth in housing prices** to know where to target their investments and development projects.
- ▶ The impact hypothesis is that current market trends will continue, and that areas with high, sustained growth will continue to demonstrate strong growth in the next 5-10 years.
- ▶ Risks: Economic uncertainties, natural disasters, pandemics, social factors

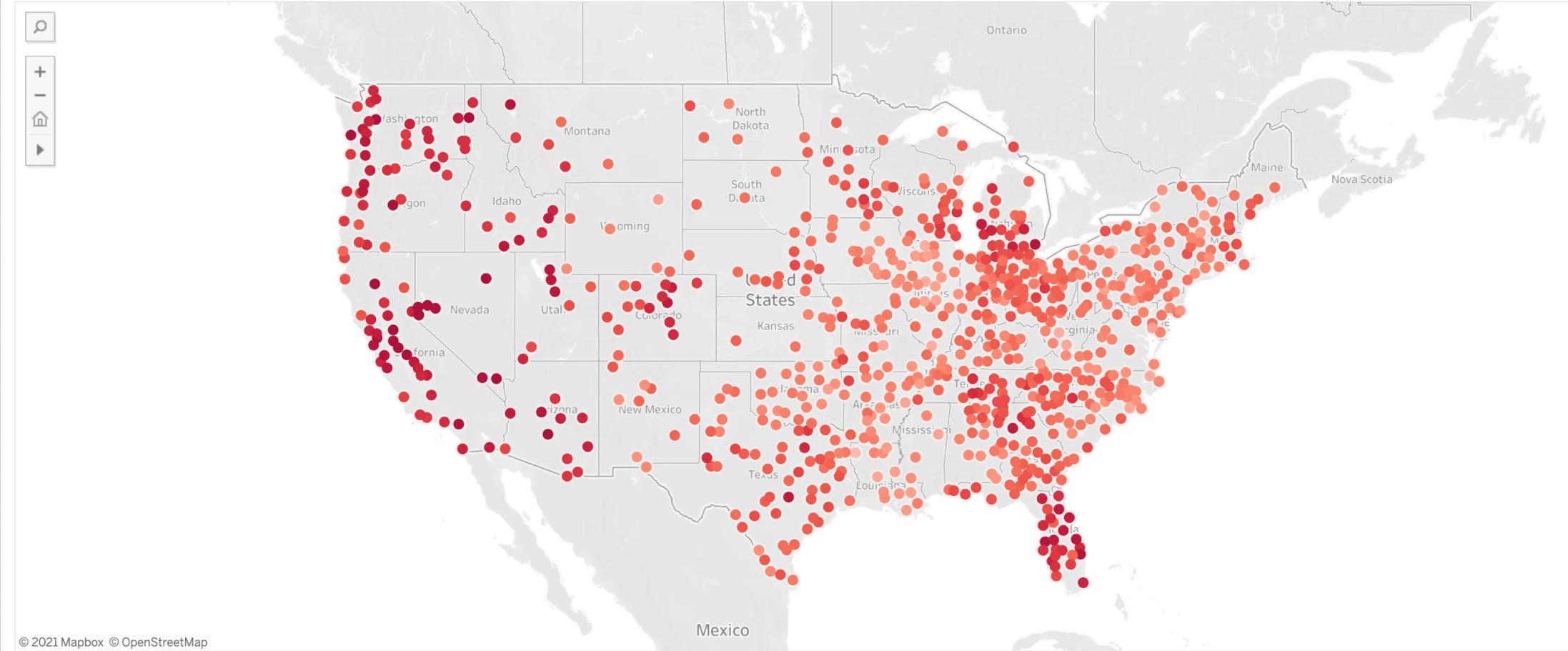


Methodology

- ▶ Using Zillow Open DataSet, we obtained housing price data from 2000-2021.
- ▶ We calculated the difference between each year, to obtain the percentage change year to year
- ▶ We averaged the year to year change from 2012-2021 to find the **Average Year to Year Change**, the metric we use to determine the highest growth Metropolitan Areas in the U.S

Average Yearly Growth Rates from 2012-2021

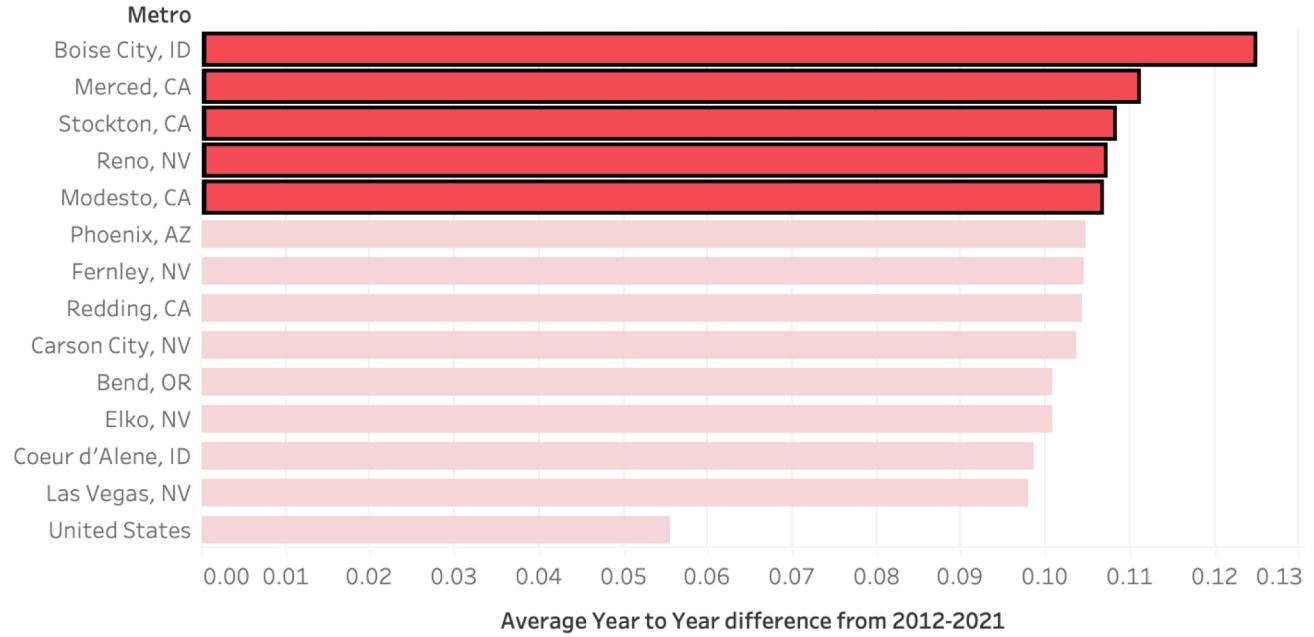
Avg Diff
0.0000 0.1000



- ▶ High growth areas are typically located in the Western Region, Florida, and parts of Michigan
- ▶ Low growth areas are typically located in the Midwest, Northeast, and South

Top Growth Areas

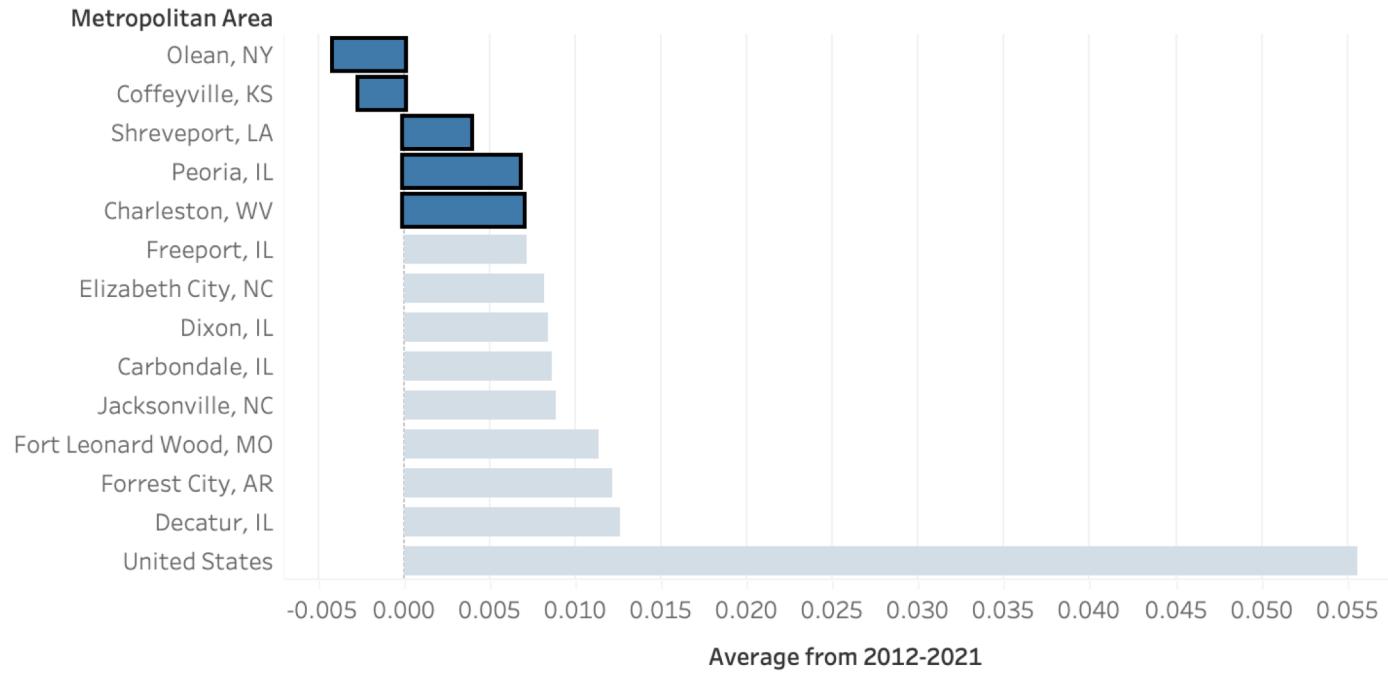
Top Growth Metropolitan Areas in the U.S.



- ▶ Top growth areas are typically located in the Western Region (CA Central Valley, Mountain West)
- ▶ High growth areas have a average YTY growth rate of ~9-13%, compared to the U.S average of 5.5%

Bottom Growth Areas

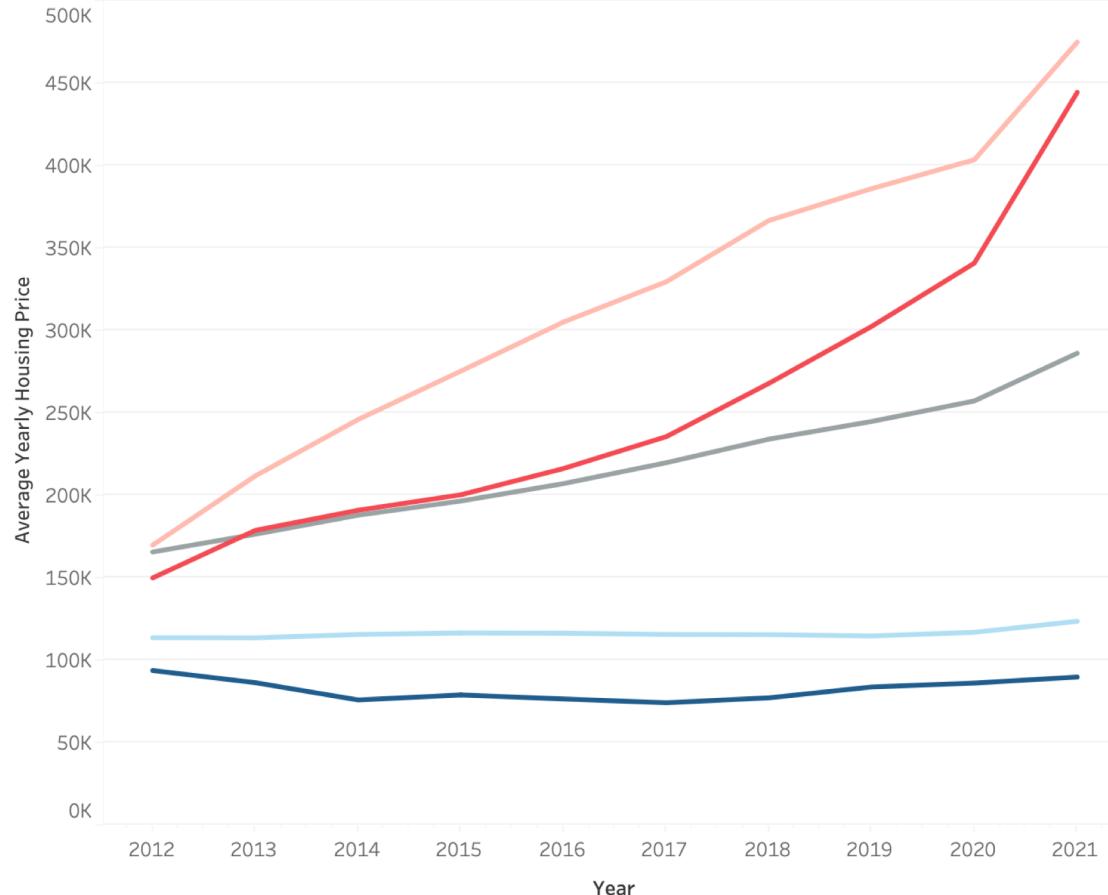
Bottom Growth Metropolitan Areas in the U.S.



- ▶ Bottom growth areas are typically located in the Midwest, Northeast, and South.
- ▶ There are some regions with negative growth rates, but most of the low growth rate regions are stagnating in price, but not decreasing.

Yearly Housing Price (2012-2021)

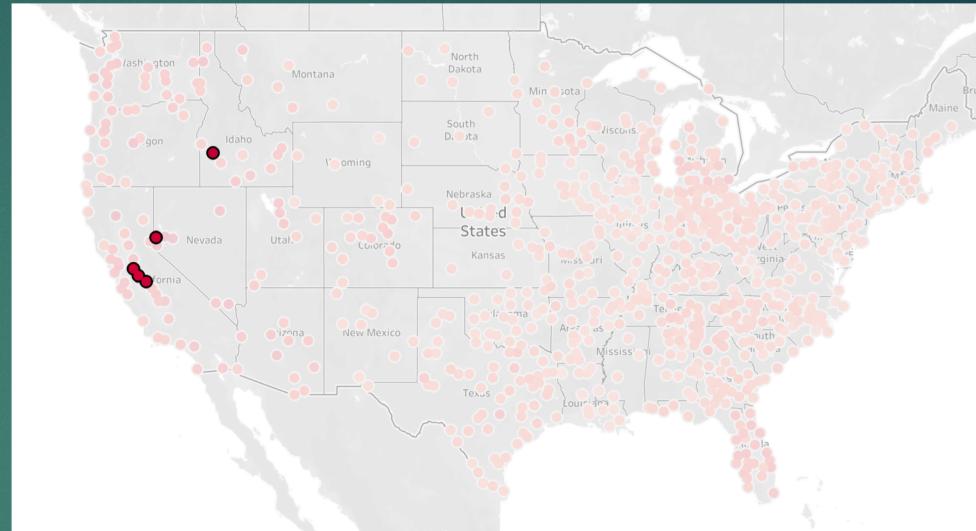
Average Yearly Housing Price



- Top Growth cities vastly outperformed U.S average from 2012-2021
- A house in Boise, ID bought for \$149,805 in 2012 is now valued at \$444,386 in 2021 (196% growth)
- Low Growth cities stagnated in price

Conclusions:

- ▶ The 4 highest growth areas:
 - ▶ Boise, ID
 - ▶ Merced, CA
 - ▶ Stockton, CA
 - ▶ Reno, NV
 - ▶ Modesto, CA
- ▶ The Western Region of the country on average has the highest growth rates compared to other regions
- ▶ REIT can start planning investments in the Metropolitan areas identified above, and should start to build a base of operations in the Western Region of the country



Next Steps:

- ▶ Do more market and geographical research on the 5 areas identified to account for other risks
- ▶ Build predictive model using time-series modeling, to have a more rigorous model for price prediction
- ▶ Incorporate feedback from stakeholders and other project members to iterate on the current analysis