CS 6301 Data Visualization

December 1, 2018

Team 8

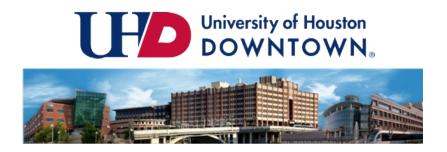Michael Stringfellow,
Karen Nogueira Gomes de Souza &
Shobh Raj Masta

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Michael Stringfellow,
Karen Nogueira Gomes de Souza &
Shobh Raj Masta

Where to Buy?

..

Problem Statement:

We would like to determine factors that we feel are important to the stability and attractiveness of real estate markets in the U.S. We will then analyze the data behind the factors we believe are important to eventuall d..

Goals:

1. Determine what factors we feel are the most important in identifying attractive real estate markets.
2. Gather the data behind these factors for the markets in which we wish to invest.
3. Explore and investigate the data in part to validate our assumptions that they are important.
4. Develop a custom scoring system to rate each city based on the factor data we gathered.
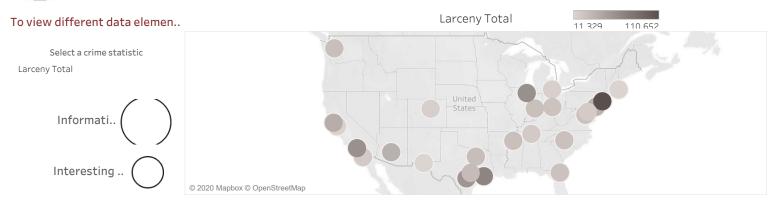5. Determin which city from the list of Top 25 most populous cities as of 2017 in which we would like ..

Data Sources:

Crime Data

To view different data elemen..

Select a crime statistic

Larceny Total

Informati..

Interesting ..

Larceny Total

11,329   110,652

United States

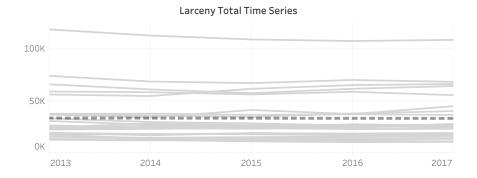© 2020 Mapbox © OpenStreetMap

Data Citation:
FBI Universal Crime Reporting. (2018).
Offenses Known to Law Enforcement
2013-2017 . Retrieved from https://ucr.fb..

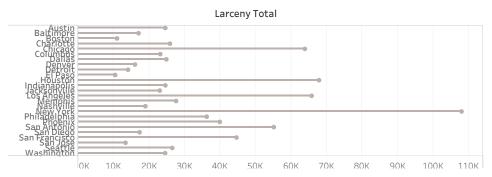For UCR crime definitions, please clic..

For more information on the FBI UCR program please click the im..

Larceny Total Time Series

100K

50K

0K

2013   2014   2015   2016   2017

Larceny Total

Austin
Baltimore
Boston
Charlotte
Chicago
Columbus
Dallas
Denver
Detroit
El Paso
Houston
Indianapolis
Jacksonville
Los Angeles
Memphis
Nashville
New York
Philadelphia
Phoenix
San Antonio
San Diego
San Francisco
San Jose
Seattle
Washington

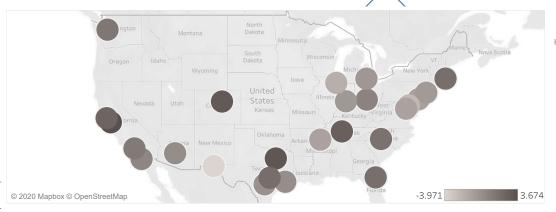0K   10K   20K   30K   40K   50K   60K   70K   80K   90K   100K   110K

Zillow® Market Health Index

For more information on the dashboard, click the information icon ..

Select an MHI Statistic used for ..

MHI Variation from the Mean

The Market Health Index, an ordinal measure ranging from 0 to 10, illustrates the current health of a region's housing market relative to other markets across the country. For example, if a metro area has a value of 8 on the Market Health Index, the metro is healthier than 80% of all metro areas covered by Zillow in the US. By construction, the index says nothing about the degree of health; it cannot be cl..
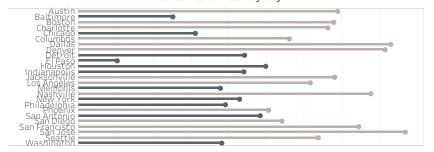
To learn more about Zillow research and browse the data they have available click the icon below.

Zillow®

To learn about the Zillow methodology for calculating the Market Health Index click the icon b..

Zillow®

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-3.971   3.674

Market Health Index by City

MHI Difference from National Mean by City

Zillow® Price per Sq. Ft.

To view different data elements ..

Select an Pricing Statistic
Average Rent to List ..

For more information on the
dashboard, click the information icon .

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4.08   19.80

United
States

Data Citation:
Zillow Research Data. (2018). Market
Health Index . Retrieved from https://w..

To learn more about Zillow research
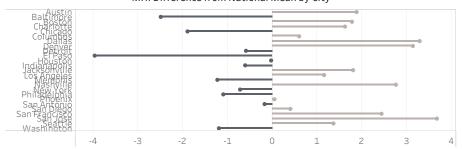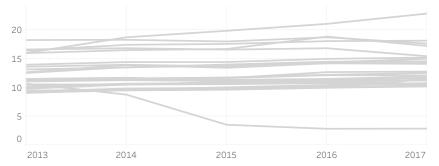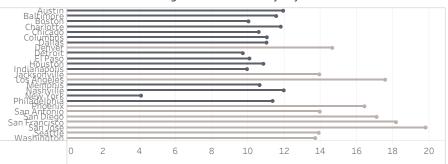and browse the data they have
available click the icon below.

Zillow®

To learn about the Zillow
methodology click the icon below.

Zillow®

Average Rent to List Ratio Time Series

Average Rent to List Ratio By City
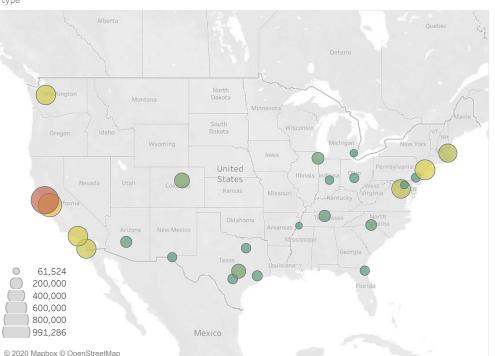
Average Sale Price and Rental Price
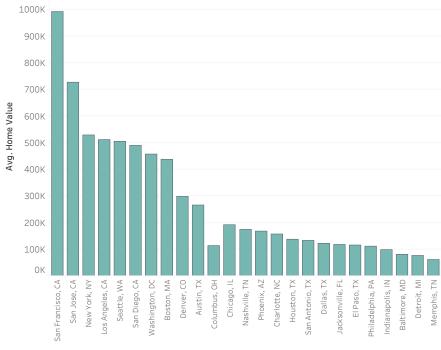
Zillow provides data on sold homes, including median sale price for various housing types. It also provides the Zillow Rent Index (ZRI): A smoothed measure of the median estimated market rate rent across a given region and housing type

For more information on the dashboard, click the information icon to the right.

Select Buy or Rent
Buy

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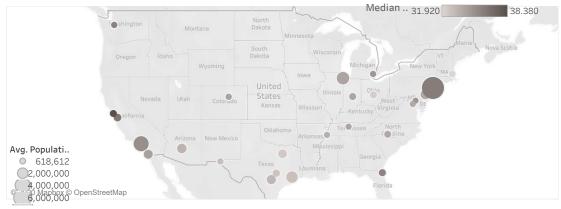
Population Data Through the Census ACS

The American Community Survey (ACS) is a national survey that uses continuous measurement methods. In this survey, a series of monthly samples produce annual estimates for the same small areas (census tracts and block groups) formerly surveyed ..

For more information on the dashboard, click the inform..

Avg. Populati..
○ 618,612
2,000,000
4,000,000
6,000,000

Median .. 31.920 ▬▬▬ 38.380

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To learn more about the American Commun..

AMERICAN COMMUNITY SURVEY
U.S. CENSUS BUREAU
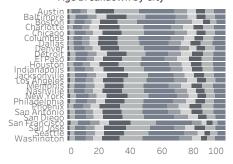
For frequently asked questions about the US Census, please cli..

United States Census Bureau

To learn more about American Fact Finder and browse the data they have available click..

AMERICAN FactFinder

Age Breakdown by City

Austin
Baltimore
Boston
Charlotte
Chicago
Columbus
Dallas
Denver
Detroit
El Paso
Houston
Indianapolis
Jacksonville
Los Angeles
Memphis
Nashville
New York
Philadelphia
Phoenix
San Antonio
San Diego
San Francisco
San Jose
Seattle
Washington

0   20   40   60   80   100

Age Group Heatmap

| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-34 | 35-44 | 45-54 | 55-59 | 60-64 | 65-74 | 75-84 | 85+ |

Austin
Baltimore
Boston
Charlotte
Chicago
Columbus
Dallas
Denver
Detroit
El Paso
Houston
Indianapolis
Jacksonville
Los Angeles
Memphis
Nashville
New York
Philadelphia
Phoenix
San Antonio
San Diego
San Francis..
San Jose
Seattle
Washington

Percent Change over the Last 5 Yrs

10.00%

5.00%

Average

0.00%

2013   2014   2015   2016   2017

Zillow® Market Liquidity

To view different data elements ..

Select an Market Liquidity Metric
Market Liquidity

Liquidity describes the degree to which an asset or security can be quickly bought or sold in the **market** without affecting the asset's price. Mar..

For more information on the dashboard, click the information icon ..

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Data Citation:
Zillow Research Data. (2018). Days on Market and Sales to Price Ratio . Retrie..
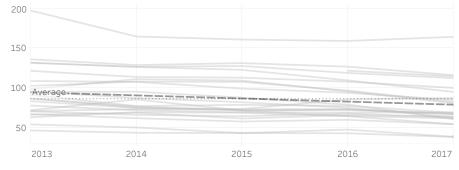
To learn more about Zillow research and browse the data they have available click the icon below.
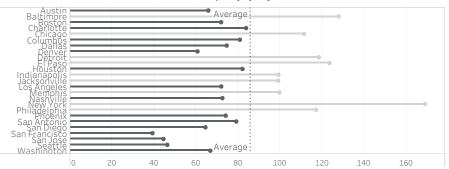
Zillow®

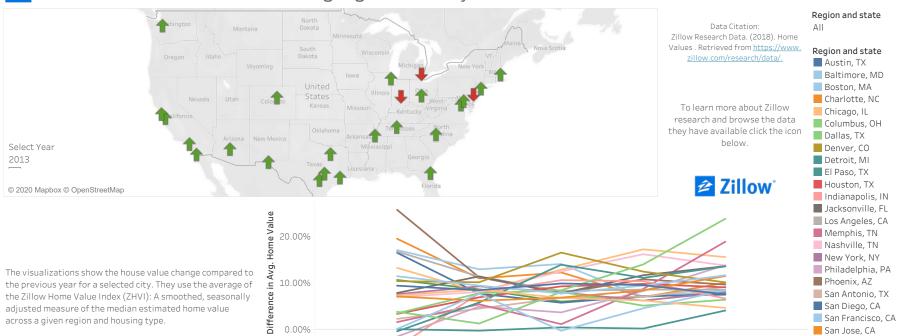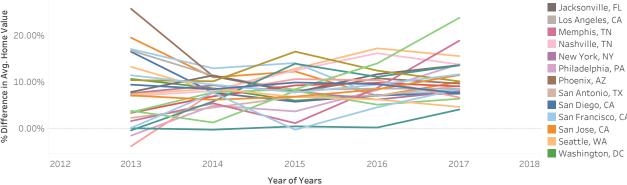To learn about the Zillow methodology click the icon below.

Zillow®

Market Liquidity Time Series

Market Liquidity by City

House value changing over the years

Data Citation:
Zillow Research Data. (2018). Home Values . Retrieved from https://www.zillow.com/research/data/.

To learn more about Zillow research and browse the data they have available click the icon below.

Select Year
2013

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The visualizations show the house value change compared to the previous year for a selected city. They use the average of the Zillow Home Value Index (ZHVI): A smoothed, seasonally adjusted measure of the median estimated home value across a given region and housing type.

Region and state
All

Region and state
- Austin, TX
- Baltimore, MD
- Boston, MA
- Charlotte, NC
- Chicago, IL
- Columbus, OH
- Dallas, TX
- Denver, CO
- Detroit, MI
- El Paso, TX
- Houston, TX
- Indianapolis, IN
- Jacksonville, FL
- Los Angeles, CA
- Memphis, TN
- Nashville, TN
- New York, NY
- Philadelphia, PA
- Phoenix, AZ
- San Antonio, TX
- San Diego, CA
- San Francisco, CA
- San Jose, CA
- Seattle, WA
- Washington, DC

![bea] # GDP in different cities

For more information on the dashboard, click the information icon to the right.

Gross Domestic Product (GDP) is the total value of all goods and services produced by economic activity in an economy. GDP is used in the visualuzation to compare the dollar strengh among cities.The GDP deflator in the base year is always equal to 100.
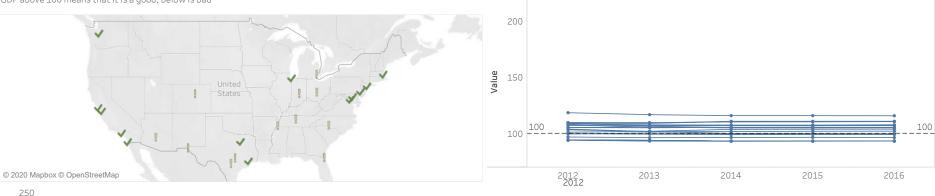GDP above 100 means that it is a good, below is bad

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Description
RPPs: Services: Other

GDP deflator

New Y.. Washi.. San Fr.. San Jo.. Boston.. Philad.. Baltim.. Los An.. Housto.. San Di.. Chicag.. Dallas, .. Seattl.. Detroit.. Denver.. Phoeni.. Austin,.. Charlo.. El Paso.. Indian.. Jackso.. Memp.. Nashvi.. San An.. Colum..

Summary Dashboard - Making an Informed Decision

Utilizing the analysis and selected data points, we have calculated a simple rank score to determine what the best market for us to invest in is. Below are the results.

The score is based on 5 segements of 25 points possible per segment. The lower score wins. The best possible score would be a 5 and the worst a 125.

Legend:
- Crime Score along Table (Down)
- Market Liquidity Score along Table (..
- MHI Score along Table (Down)
- Population Score along Table (Down)
- Price SqFt Score along Table (Down)

Cities (top to bottom): Austin, Seattle, Denver, Boston, San Jose, Dallas, Columbus, Charlotte, San Diego, San Francisco, Phoenix, Jacksonville, Nashville, San Antonio, Los Angeles, New York, Houston, Washington, El Paso, Indianapolis, Chicago, Detroit, Philadelphia, Memphis, Baltimore