Visualizing Texas: beamer_presentation

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Packages

We'll use ggplot2 for visualization, and some light dplyr for data wrangling.

Texas housing data

This data is loaded for you when you install and load the ggplot2 package.

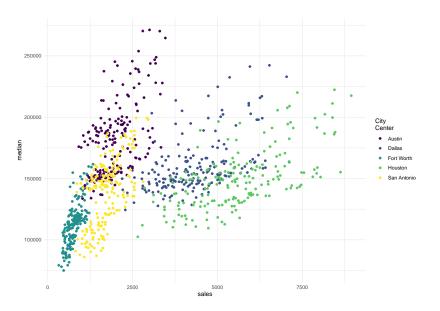
```
## Observations: 935
## Variables: 9
## $ city <chr> "Austin", "Austin", "Austin", "Austin"
## $ year
                                                                    <int> 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 
                                                                    <int> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
## $ month
## $ sales
                                                                    <dbl> 1025, 1277, 1603, 1556, 1980, 1885, 18
## $ volume
                                                                    <dbl> 173053635, 226038438, 298557656, 28919
## $ median
                                                                    <dbl> 133700, 134000, 136700, 136900, 144700
## $ listings <dbl> 3084, 2989, 3042, 3192, 3617, 3799, 39
## $ inventory <dbl> 2.0, 2.0, 2.0, 2.1, 2.3, 2.4, 2.6, 2.6
## $ date
                                                                    <dbl> 2000.000, 2000.083, 2000.167, 2000.250
```

Our data is monthly

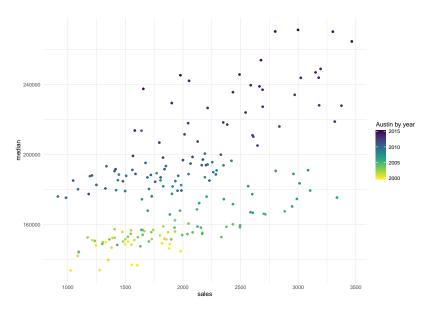
Here is just a sample of rows from one city to show that we have data for each of the 12 months for each year, except for 2015.

```
## # A tibble: 16 x 2
##
        year
                  n
##
       <int> <int>
        2000
##
                 12
    1
        2001
##
    2
                 12
        2002
                 12
##
    3
##
    4
        2003
                 12
##
    5
        2004
                 12
        2005
                 12
##
    6
        2006
                 12
##
    7
##
    8
        2007
                 12
##
    9
        2008
                 12
##
   10
        2009
                 12
## 11
        2010
                 12
## 12
        2011
                 12
44 10
        \Omega
```

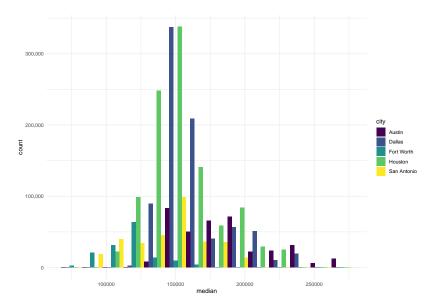
Austin is expensive



Austin prices on the rise

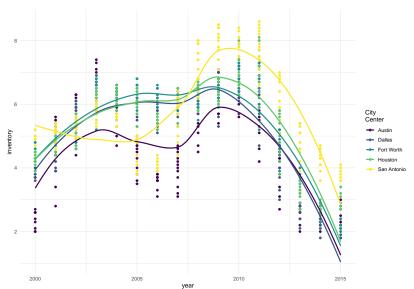


Fort Worth has more affordable housing



The current pace of sales is fast

"Months inventory": amount of time it would take to sell all current listings at current pace of sales.



Thanks to...

- Jennifer Thompson: https://github.com/jenniferthompson/ParamRmdExample
- Garrett Grolemund: https://rmarkdown.rstudio.com/lesson-6.html