Visualizing Texas: `beamer_presentation`

2019-03-15

Inspired by: https://rmarkdown.rstudio.com/lesson-6.html

Packages

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

```r
library(ggplot2) # plotting
library(dplyr) # wrangling
```

Texas housing data

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

```
txsamp <- txhousing %>%
  filter(city %in% c("Houston", "Fort Worth", "San Antonio"
glimpse(txsamp)

## Observations: 935
## Variables: 9
## $ city      <chr> "Austin", "Austin", "Austin", "Austin"
## $ year      <int> 2000, 2000, 2000, 2000, 2000, 2000, 20
## $ month     <int> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
## $ 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.

```
txsamp %>%
  filter(city == "Austin") %>%
  count(year)
```

```
## # A tibble: 16 x 2
##     year     n
##    <int> <int>
## 1  2000    12
## 2  2001    12
## 3  2002    12
## 4  2003    12
## 5  2004    12
## 6  2005    12
## 7  2006    12
## 8  2007    12
## 9  2008    12
```
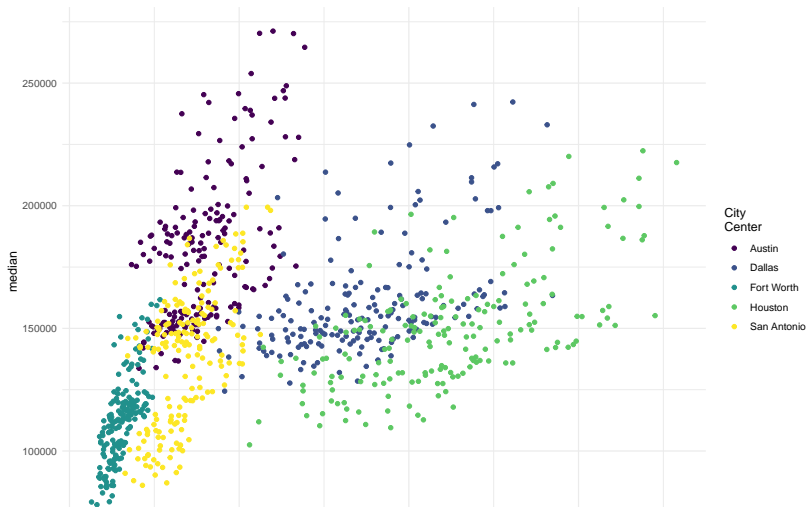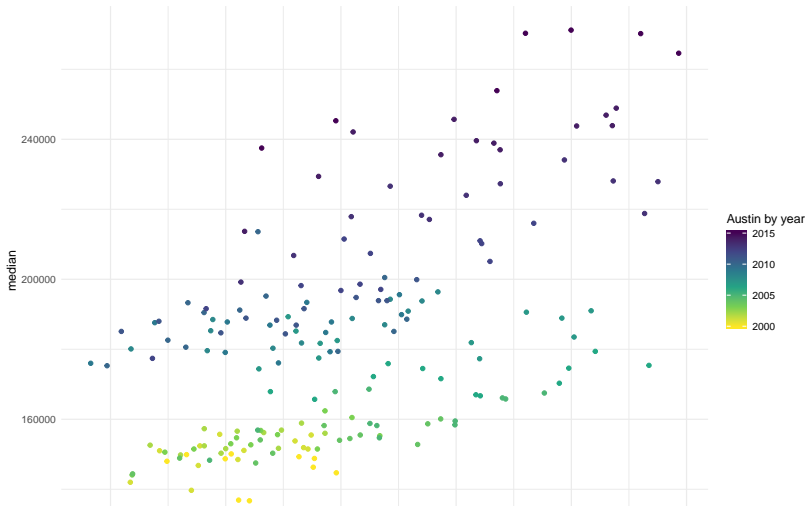
Austin is expensive

```
ggplot(data = txsamp, aes(x = sales, y = median)) +
   geom_point(aes(colour = city)) +
   scale_colour_viridis_d("City\nCenter", option = params$v
```

Austin prices on the rise

```
ggplot(data = filter(txsamp, city == "Austin"), aes(x = sal
    geom_point(aes(colour = year)) +
    scale_colour_viridis_c("Austin by year", option = params
```

Fort Worth has more affordable housing

```r
library(scales) # to make y-axis in non-scientific notation
ggplot(txsamp, aes(x = median, fill = city)) +
  geom_histogram(aes(weight = sales), position = "dodge", b
    scale_fill_viridis_d(option = params$viridis_palette)+
    scale_y_continuous(labels = comma)
```
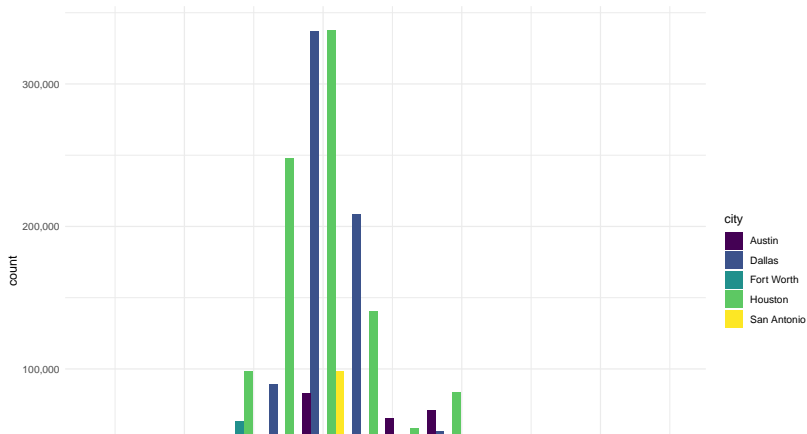
The current pace of sales is fast

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

```
ggplot(data = txsamp, aes(x = year, y = inventory, colour =
  geom_point() +
  geom_smooth(se = FALSE) +
  scale_colour_viridis_d("City\nCenter", option = params$vi
```