Lab 7

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11/10/2019

```
library(tidyverse)
```

```
## ── Attaching packages ─────────────────────────────────────────────────────────────────────── tidyv
erse 1.2.1 ──
```

```
## ✔ ggplot2 3.2.1     ✔ purrr   0.3.2
## ✔ tibble  2.1.3     ✔ dplyr   0.8.3
## ✔ tidyr   1.0.0     ✔ stringr 1.4.0
## ✔ readr   1.3.1     ✔ forcats 0.4.0
```

```
## ── Conflicts ────────────────────────────────────────────────────────────────────────── tidyverse_c
onflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
```

```
commute_mode <- readr::read_csv("https://raw.githubusercontent.com/rfordatascience/tidytuesday/master/data/2
019/2019-11-05/commute.csv")
```

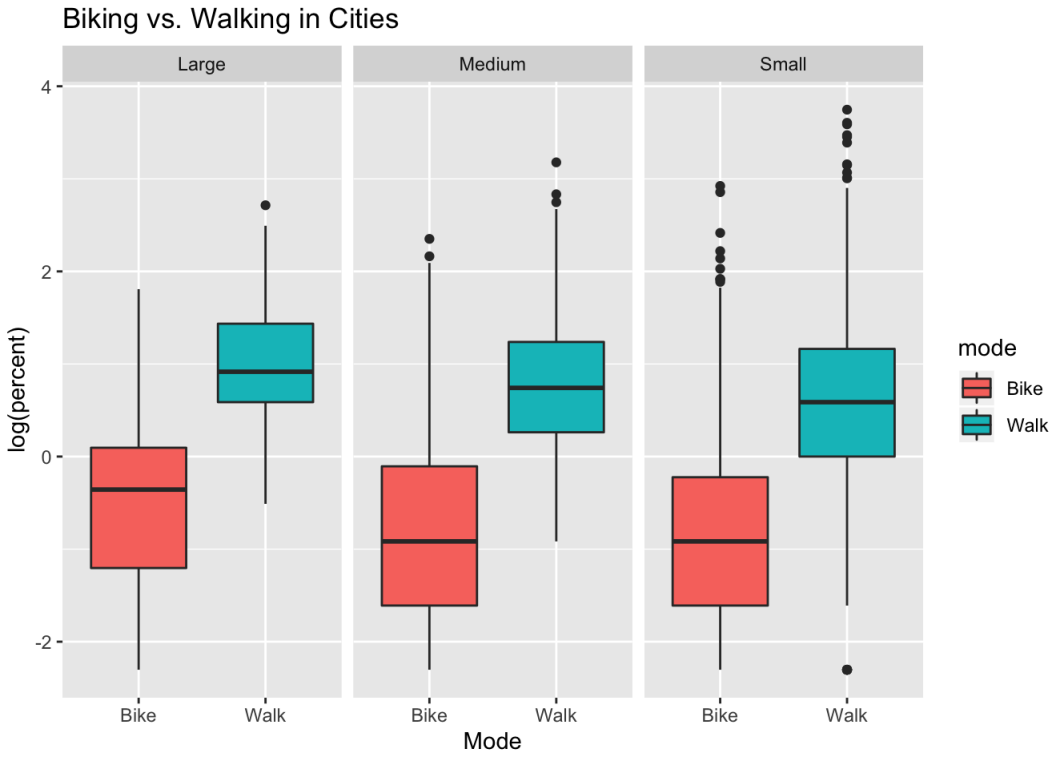
```
## Parsed with column specification:
## cols(
##   city = col_character(),
##   state = col_character(),
##   city_size = col_character(),
##   mode = col_character(),
##   n = col_double(),
##   percent = col_double(),
##   moe = col_double(),
##   state_abb = col_character(),
##   state_region = col_character()
## )
```

```
commute_mode %>% head()
```

```
## # A tibble: 6 x 9
##   city    state  city_size mode      n percent   moe state_abb state_region
##   <chr>   <chr>  <chr>     <chr> <dbl>   <dbl> <dbl> <chr>     <chr>
## 1 Aberde… South… Small     Bike    110     0.8   0.5 SD        North Centr…
## 2 Acwort… Georg… Small     Bike      0     0     0.4 GA        South
## 3 Addiso… Illin… Small     Bike     43     0.2   0.3 IL        North Centr…
## 4 Adelan… Calif… Small     Bike      0     0     0.5 CA        West
## 5 Adrian… Michi… Small     Bike    121     1.5   1   MI        North Centr…
## 6 Agawam… Massa… Small     Bike      0     0     0.2 MA        Northeast
```

```
ggplot(commute_mode, aes(x = as.factor(mode), y = log(percent), fill = mode))+
  geom_boxplot()+
  facet_grid(~city_size)+
  ggtitle("Biking vs. Walking in Cities")+
  xlab("Mode")
```

```
## Warning: Removed 207 rows containing non-finite values (stat_boxplot).
```



Most people walk in cities as compared to biking in them. A possible reason for this is that since cities are more congested, many people walk more. Biking is also common for bigger cities to get around faster and more efficiently as compared to walking, as seen by the increasing median as the city size increases. But not everyone will bike, explaining the greater medians for biking as city size increases, displaying a positive relationship between city size and walking/biking rates.