

Untitled

Introduction to R for Public Health Researchers

- I am a section
 - I am a subsection

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com> (<http://rmarkdown.rstudio.com>). **bold** *italicize* When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
library(stringr)
library(plyr)
library(pander)

b1 = read.csv("http://johnmuschelli.com/intro_to_r/data/Bike_Lanes.csv", as.is =TRUE)
b12 = b1
b12$numLanes = factor(b12$numLanes)
mod2 = lm(length ~ numLanes, data = b12)

mod = lm(length ~ factor(numLanes), data = b1)
smod = summary(mod)
ci = confint(mod)
mat = cbind(smod$coefficients[, "Estimate"], ci)
mat = data.frame(mat)
colnames(mat) = c("Beta", "Lower", "Upper")
mat$CI = paste0("(", round(mat$Lower, 2),
               ", ", round(mat$Upper, 2), ")")
mat = mat[, c("Beta", "CI")]
mat$Variable = rownames(mat)
rownames(mat) = NULL
mat$Variable = str_replace(mat$Variable, fixed("factor(numLanes)"), "Number of Lanes: ")
mat = mat[, c("Variable", "Beta", "CI")]
mat$Variable = plyr::revalue(mat$Variable, c("(Intercept)" = "B0"))
```

I am a section

I am a subsection

```
pander(mat)
```

| Variable | Beta | CI |
|--------------------|--------|------------------|
| B0 | 308.4 | (189.53, 427.22) |
| Number of Lanes: 1 | -30.48 | (-150.7, 89.75) |
| Number of Lanes: 2 | -50.83 | (-171.42, 69.76) |

```
pander(smod)
```

| | Estimate | Std. Error | t value | Pr(> t) |
|-------------------|----------|------------|---------|-----------|
| factor(numLanes)1 | -30.48 | 61.29 | -0.4972 | 0.6191 |
| factor(numLanes)2 | -50.83 | 61.48 | -0.8267 | 0.4085 |
| (Intercept) | 308.4 | 60.59 | 5.09 | 4.006e-07 |

Fitting linear model: length ~ factor(numLanes)

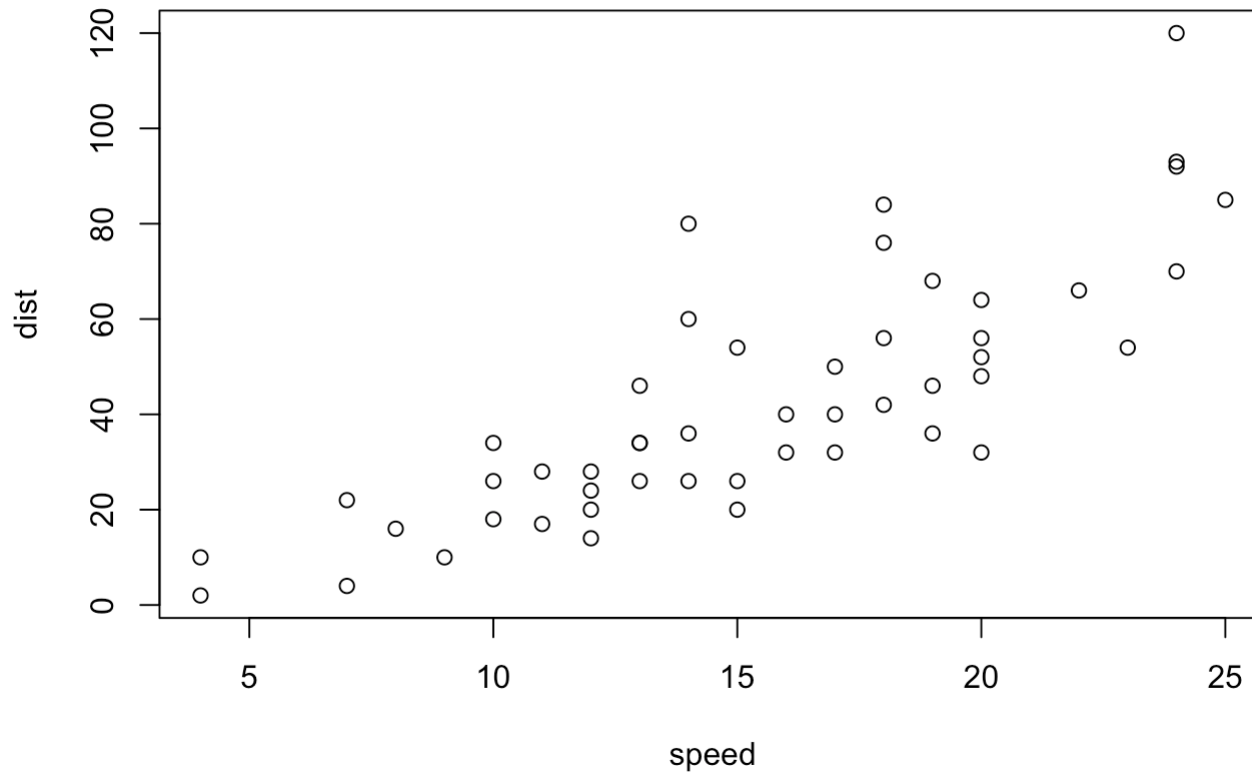
| Observations | Residual Std. Error | R ² | Adjusted R ² |
|--------------|---------------------|----------------|-------------------------|
| 1631 | 277.7 | 0.001564 | 0.0003378 |

```
pander(mod)
```

Fitting linear model: length ~ factor(numLanes)

| | Estimate | Std. Error | t value | Pr(> t) |
|-------------------|----------|------------|---------|-----------|
| factor(numLanes)1 | -30.48 | 61.29 | -0.4972 | 0.6191 |
| factor(numLanes)2 | -50.83 | 61.48 | -0.8267 | 0.4085 |
| (Intercept) | 308.4 | 60.59 | 5.09 | 4.006e-07 |

You can also embed plots, for example:



My number of cars are 50.

```
pvals = smod$coefficients[, "Pr(>|t|)"]  
pvals = ifelse(pvals < 0.001, "< 0.001", round(pvals, 2))
```

The beta coefficient was significant (308.3767969, $p < 0.001$)

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.