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)

bl = read.csv("http://johnmuschelli.com/intro_to_r/data/Bike_Lanes.csv", as.is =TRUE)
bl2 = bl
bl2$numLanes = factor(bl2$numLanes)
mod2 = lm(length ~ numLanes, data = bl2)

mod = lm(length ~ factor(numLanes), data = bl)
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"))
```

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```
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)

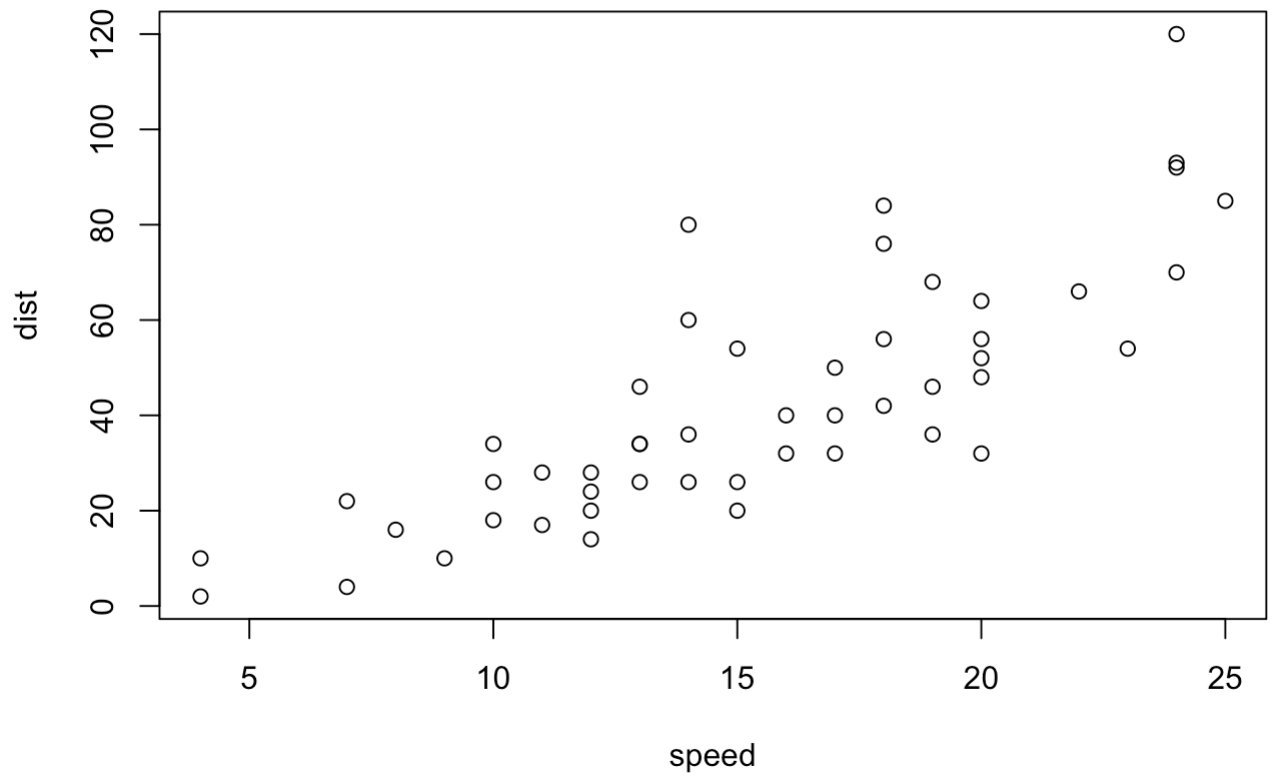
Observations	Residual Std. Error	R^2	Adjusted R^2
1631	277.7	0.001564	0.0003378

```
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.