Commute

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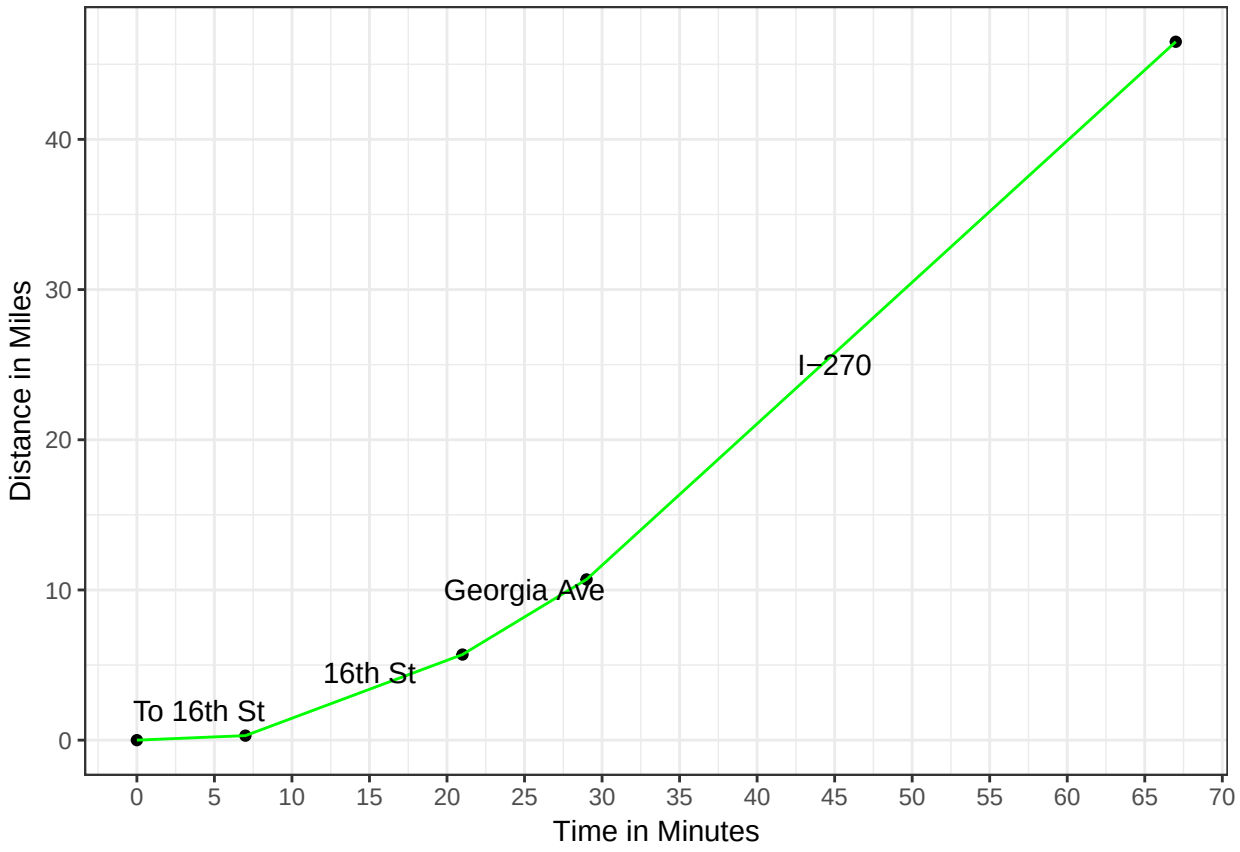
```
date<-as.Date(c("09/20/2018","09/20/2018"),"%m/%d/%Y")
leave.at<-as.Date(c("8:10","15:23"),"%H:%M")
time.total<-c(78,76)
home.exit<-c("Main",NA)
time.to.from.16<-c(7,14)
time.16<-c(14,9)
time.16.to.from.270<-c(8,18)
time.270<-c(38,35)
through.bethesda<-c(0,1)
afternoon<-c(0,1)
day<-c("Thursday","Thursday")
construction<-c(1,0)
accident<-c(0,0)
weather<-c("clear", "clear")

commute<-data.frame(date,
                    leave.at,
                    time.total,
                    home.exit,
                    time.to.from.16,
                    time.16,
                    time.16.to.from.270,
                    time.270,
                    through.bethesda,
                    afternoon,
                    day,
                    construction,
                    accident,
                    weather)
```

```
#distances in miles
d.to.16<-0.3
d.16<-5.4
d.16.to.270<-5
d.270.fred<-35.8

distance.segment.0<-0
distance.segment.1<-d.to.16
distance.segment.2<-(distance.segment.1+d.16)
distance.segment.3<-(distance.segment.2+d.16.to.270)
distance.segment.4<-(distance.segment.3+d.270.fred)

distance.to.work<-c(distance.segment.0,distance.segment.1,distance.segment.2,distance.segment.3,distanc

segments<-c("","To 16th St","16th St","Georgia Ave", "I-270")

time.segment.0<-0
time.segment.1<-commute$time.to.from.16[1]
time.segment.2<-(time.segment.1+commute$time.16[1])
```

```
time.segment.3<-(time.segment.2+commute$time.16.to.from.270[1])
time.segment.4<-(time.segment.3+commute$time.270[1])

time.to.work<-c(time.segment.0,time.segment.1,time.segment.2,time.segment.3,time.segment.4)

position.to.work<-data.frame(segments, distance.to.work,time.to.work)
```

```
library("ggplot2")
commute.map<-ggplot(position.to.work, aes(x=time.to.work,y=distance.to.work))+
  geom_point()+geom_line(color="green")+
  annotate("text",x=c(0,4,15,25,45),y=c(0,2,4.5,10,25),label=position.to.work$segments)+
  xlab("Time in Minutes")+ylab("Distance in Miles")+scale_x_continuous(breaks=c(0,5,10,15,20,25,30,35,4
commute.map
```



Scatters of Day, Leave Time, Bethesda, vs. Time

```
commute.scatter.leave<-ggplot()
```

Regressions

```
commute.reg<-lm(time.total~leave.at, data=commute)
summary(commute.reg)
```

```
##
## Call:
## lm(formula = time.total ~ leave.at, data = commute)
##
## Residuals:
##  1  2
##  1 -1
##
## Coefficients: (1 not defined because of singularities)
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)       77          1      77  0.00827 **
## leave.at          NA         NA      NA       NA
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.414 on 1 degrees of freedom
```