HW_4

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This is a visualization of solar energy project costs and their associated money incentives as reported to the New York State Energy Research and Development Authority. These projects were designated as commercial or industrial. These visualizations demonstrate the number of projects' cost and incentive at each dollar amount. I chose them because it allows you to see how the data are distributed. I could have done a histogram, but I liked the look of the dot plot and there weren't so many data points as to make a dot plot unfeasible.

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.0 --

## v ggplot2 3.3.3     v purrr   0.3.4
## v tibble  3.1.0     v dplyr   1.0.5
## v tidyr   1.1.3     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.1

## Warning: package 'tibble' was built under R version 4.0.4

## Warning: package 'tidyr' was built under R version 4.0.4

## Warning: package 'dplyr' was built under R version 4.0.4

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(tinytex)
```

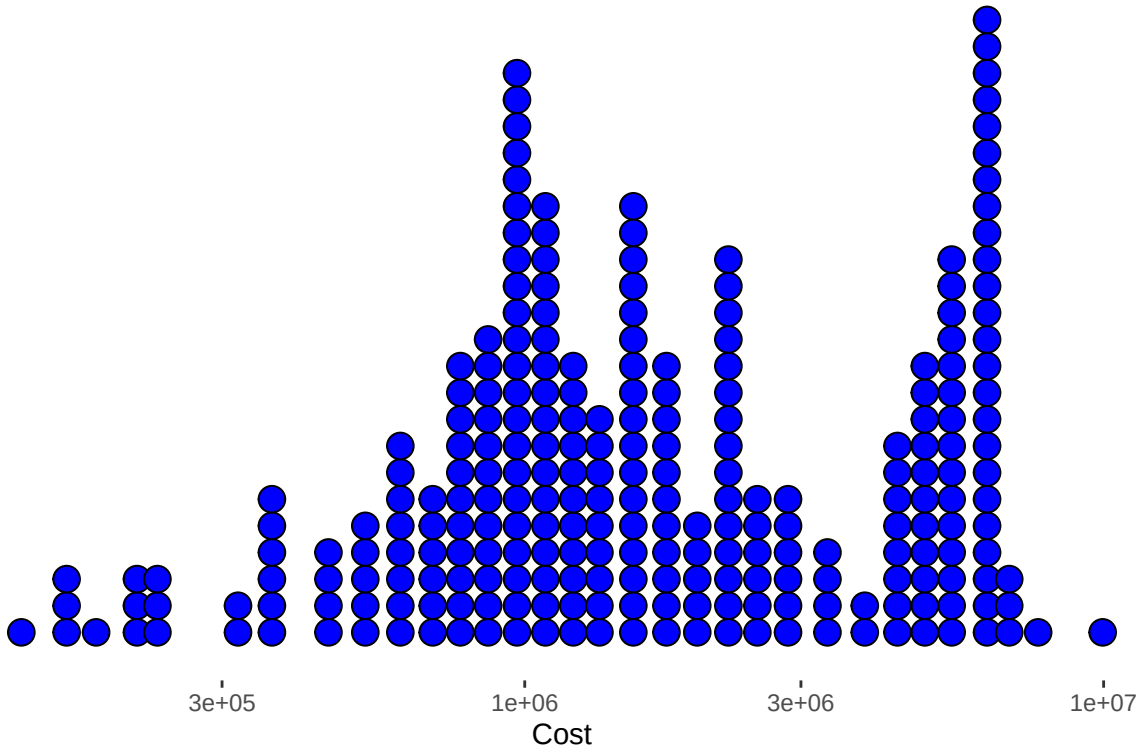
```
Solar_Electric_Programs <- read_csv("Solar_Electric_Programs_NYSERDA.csv")
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   .default = col_character(),
##   `Zip Code` = col_double(),
##   `Total Inverter Quantity` = col_double(),
##   `Total PV Module Quantity` = col_double(),
##   `Project Cost` = col_double(),
```

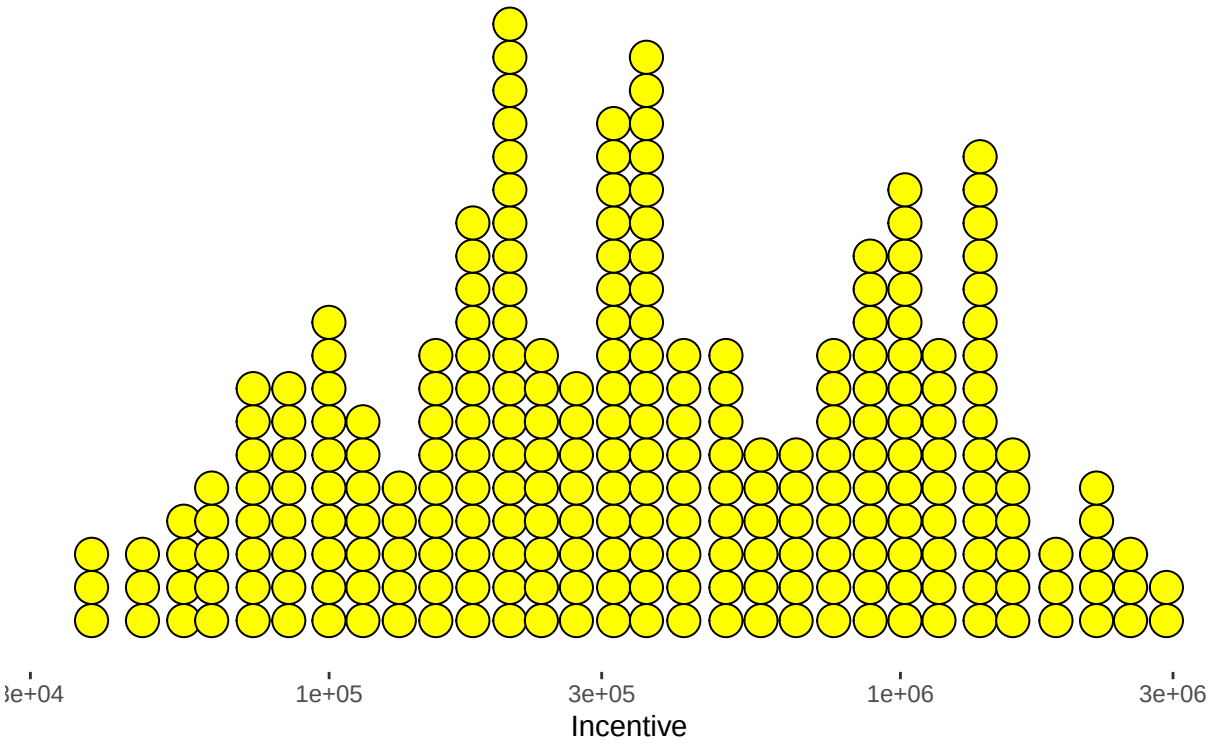
```
##   `$Incentive` = col_double(),
##   `Total Nameplate kW DC` = col_double(),
##   `Expected KWh Annual Production` = col_double()
## )
## i Use `spec()` for the full column specifications.
```

```
Cost.Incentive <- filter(Solar_Electric_Programs, `Program Type` == "Commercial/Industrial (Competitive)
```

```
ggplot(data = Cost.Incentive) +
  geom_dotplot(binwidth = .046, mapping = aes(`Project Cost`), fill = "blue") +
  scale_x_log10() +
  scale_y_continuous(NULL, breaks = NULL) +
  labs(x = "Cost") +
  theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank(),
panel.background = element_blank())
```




```
ggplot(data = Cost.Incentive) +
  geom_dotplot(binwidth = .058, mapping = aes(`$Incentive`), fill = "yellow") +
  scale_x_log10() +
  scale_y_continuous(NULL, breaks = NULL) +
  labs(x = "Incentive") +
  theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank(),
panel.background = element_blank())
```


3e+04
1e+05
3e+05
1e+06
3e+06
Incentive