Border

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# What I learned this week

#### This week I tried a new RMarkdwon output. I tried teh word\_document output, which is really cool and I can see being useful in the future.

# Load libraries

library(tidyverse)  
library(here)

# Bring in data

#Read in from git hub  
A64\_traffic <- readr::read\_csv('https://raw.githubusercontent.com/rfordatascience/tidytuesday/main/data/2024/2024-12-03/A64\_traffic.csv')  
  
##Save to data folder   
readr::write\_csv(A64\_traffic, here::here("Tidy\_Tuesday", "Traffic", "Data", "A64\_traffic.csv"))  
  
##look at data  
glimpse(A64\_traffic)

## Rows: 11,904  
## Columns: 29  
## $ SiteId <dbl> 6867, 6867, 6867, 6867, 6867, 6867, 6867, 6867, 6…  
## $ `Site Name` <dbl> 30361338, 30361338, 30361338, 30361338, 30361338,…  
## $ `Report Date` <dttm> 2021-05-01, 2021-05-01, 2021-05-01, 2021-05-01, …  
## $ `Time Period Ending` <time> 00:14:00, 00:29:00, 00:44:00, 00:59:00, 01:14:00…  
## $ `Time Interval` <dbl> 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,…  
## $ `0 - 520 cm` <dbl> 9, 5, 5, 4, 2, 3, 2, 0, 1, 1, 0, 0, 2, 0, 1, 1, 0…  
## $ `521 - 660 cm` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `661 - 1160 cm` <dbl> 0, 0, 1, 3, 0, 1, 3, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1…  
## $ `1160+ cm` <dbl> 1, 1, 0, 0, 0, 2, 3, 0, 1, 0, 1, 3, 3, 0, 1, 0, 1…  
## $ `0 - 10 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `11 - 15 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `16 - 20 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `21 - 25 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `26 - 30 mph` <dbl> 2, 1, 2, 1, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1…  
## $ `31 - 35 mph` <dbl> 5, 2, 0, 2, 0, 2, 3, 0, 0, 1, 1, 2, 0, 0, 1, 0, 0…  
## $ `36 - 40 mph` <dbl> 1, 2, 1, 3, 1, 1, 2, 0, 0, 0, 0, 1, 0, 0, 0, 2, 0…  
## $ `41 - 45 mph` <dbl> 1, 0, 1, 1, 1, 2, 1, 1, 0, 0, 0, 0, 2, 0, 0, 0, 1…  
## $ `46 - 50 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0…  
## $ `51 - 55 mph` <dbl> 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0…  
## $ `56 - 60 mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `61 - 70 mph` <dbl> 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0…  
## $ `71 - 80 mph` <dbl> 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `80+ mph` <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0…  
## $ `Avg mph` <dbl> 34, 35, 38, 34, 39, 34, 39, 42, 34, 32, 32, 34, 4…  
## $ `Total Volume` <dbl> 10, 6, 6, 7, 2, 6, 8, 1, 2, 1, 1, 3, 5, 0, 2, 2, …  
## $ Name <chr> "TAME Site 30361338 on link A64 eastbound between…  
## $ Longitude <dbl> -0.6946696, -0.6946696, -0.6946696, -0.6946696, -…  
## $ Latitude <dbl> 54.1581, 54.1581, 54.1581, 54.1581, 54.1581, 54.1…  
## $ Status <chr> "Active", "Active", "Active", "Active", "Active",…

# Data wrangling

##check class of SiteId column  
class(A64\_traffic$SiteId)

## [1] "numeric"

##convert to a factor so I can color the location of the site by SiteId  
A64\_traffic$SiteId <- as.factor(A64\_traffic$SiteId)

# Mapping

##get world map  
world <- map\_data("world")  
  
# Filter the UK map to the relevant area  
uk\_map <- world %>%  
 filter(region %in% c("UK")) %>%  
 filter(long > -5 & long < 1 & lat > 52 & lat < 56)  
  
# Plot the UK map with traffic data  
UK\_plot <- ggplot() +  
 geom\_polygon(data = uk\_map,   
 aes(x = long, y = lat, group = group),   
 fill = "lightgrey", color = "black") +  
 geom\_point(data = A64\_traffic,   
 aes(x = Longitude, y = Latitude, color=SiteId)) +  
 labs(title = "Location of England's Road Sensors",  
 caption = "Source: Tidy Tuesday National Highways Traffic Flow dataset",  
 x = "Longitude",  
 y = "Latitude") +  
 theme\_minimal() +  
 theme(plot.title = element\_text(size = 14, face = "bold")) +  
 coord\_fixed(ratio = 1.3) ##adjusts width/height proportion to reduce distortion   
  
UK\_plot

