

car_emissions

2025-03-03

```
carData <- read_csv("carData.csv")

## New names:
## Rows: 220 Columns: 9
## -- Column specification
## ----- Delimiter: "," chr
## (1): car dbl (8): ...1, day, con, rep, hc, co2, co, dev
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...1`

Yugo_emissions <- carData |>
  select(day, co, car, dev) |>
  mutate(dev = ifelse(dev > 0, "Yes", "No")) |>
  filter(car == "Yugo") |>
  group_by(day, dev) |>
  summarise(avg_emission = mean(co, na.rm = TRUE))

## `summarise()` has grouped output by 'day'. You can override using the `.groups`
## argument.

Yugo_Co <- ggplot(Yugo_emissions, aes(x = day, y = avg_emission, colour = dev, group = dev)) +
  geom_line(size = 1.5) +
  geom_point(size = 3) +
  scale_color_manual(values = c("Yes" = "orange", "No" = "blue")) +
  labs(
    title = "Yugo Carbon Monoxide Emissions Over Time",
    x = "Day of Observation",
    y = "Avg CO Emissions (ppm)",
    colour = "Device Installed?"
  ) +
  theme_light(base_size = 14)

## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.

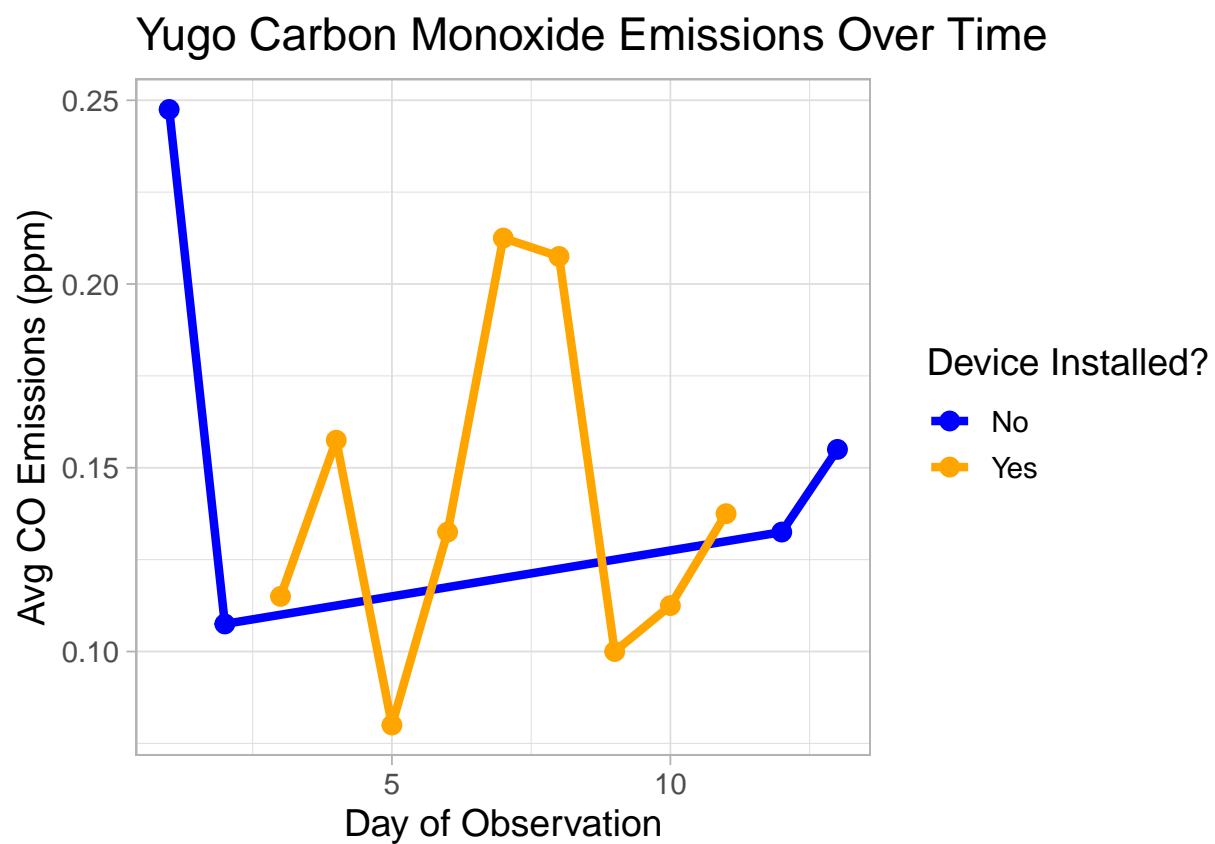
Bentley_emissions <- carData |>
  select(day, co, car, dev) |>
  mutate(dev = ifelse(dev > 0, "Yes", "No")) |>
  filter(car == "Bentley") |>
  group_by(day, dev) |>
  summarise(avg_emission = mean(co, na.rm = TRUE))

## `summarise()` has grouped output by 'day'. You can override using the `.groups`
```

```
## argument.
```

```
Bentley_Co <- ggplot(Bentley_emissions, aes(x = day, y = avg_emission, colour = dev, group = dev)) +  
  geom_line(size = 1.5) +  
  geom_point(size = 3) +  
  scale_color_manual(values = c("Yes" = "orange", "No" = "blue")) +  
  labs(  
    title = "Bentley Carbon Monoxide Emissions Over Time",  
    x = "Day of Observation",  
    y = "Avg CO Emissions (ppm)",  
    colour = "Device Installed?"  
  ) +  
  theme_light(base_size = 14)
```

Yugo_Co



Bentley_Co

Bentley Carbon Monoxide Emissions Over Time

