

Hand-on Data Visualization

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Number of Car Models by Manufacturer

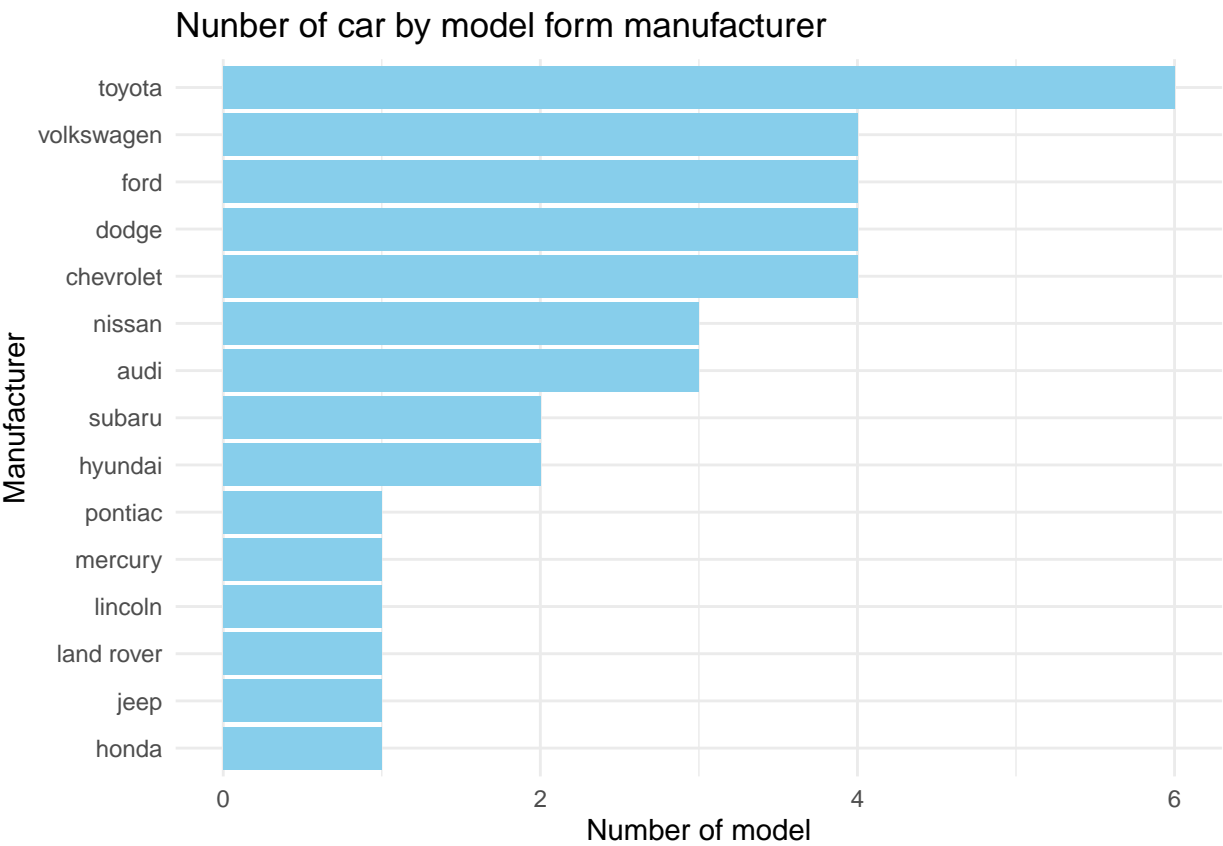
Overview

This data visualization presents the distribution of car models among various manufacturers using a bar chart. The x-axis represents the number of unique car models, while the y-axis displays different manufacturers. Each bar is colored in a sky-blue shade for clarity.

Insights

The height of each bar indicates the count of distinct car models associated with the respective manufacturer. Manufacturers with taller bars offer a more diverse range of car models, showcasing a broader product lineup. Conversely, shorter bars indicate manufacturers with a smaller number of distinct car models.

Chart Details



Mean City MPG by Car Class

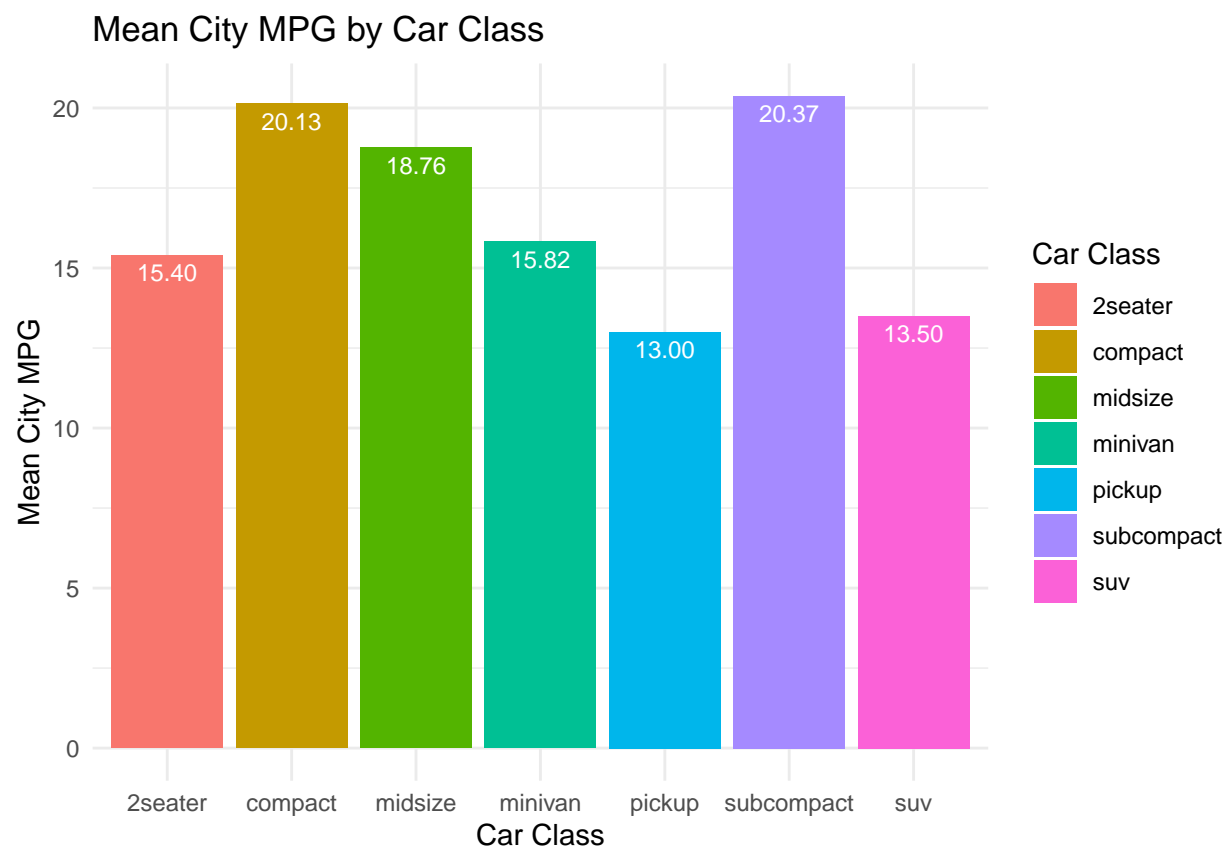
Overview

This data visualization illustrates the mean city miles per gallon (MPG) for various car classes using the `mpg` dataset. The x-axis represents different car classes, and the y-axis displays the average city MPG. Each bar is color-coded to represent different car classes.

Insights

The height of each bar reflects the mean city MPG for the corresponding car class. Taller bars indicate higher average city MPG, suggesting greater fuel efficiency on average for those classes. This chart provides a comparative view of fuel efficiency across car classes, helping to identify classes with superior or inferior mean city MPG.

Chart Details



City and Highway MPG by Car Class

Overview:

This data visualization compares the distribution of city and highway miles per gallon (MPG) for different car classes using the `mpg` dataset. The x-axis represents the car classes, while the y-axis indicates the miles per gallon. Each car class has side-by-side boxplots for both city and highway MPG, providing a visual comparison of the distributions.

Insights:

Boxplot Comparison:

- City and highway MPG distributions are presented side by side for each car class.
- The boxplots allow for a quick comparison of the central tendency, spread, and potential outliers between the two metrics.

Metric Differentiation:

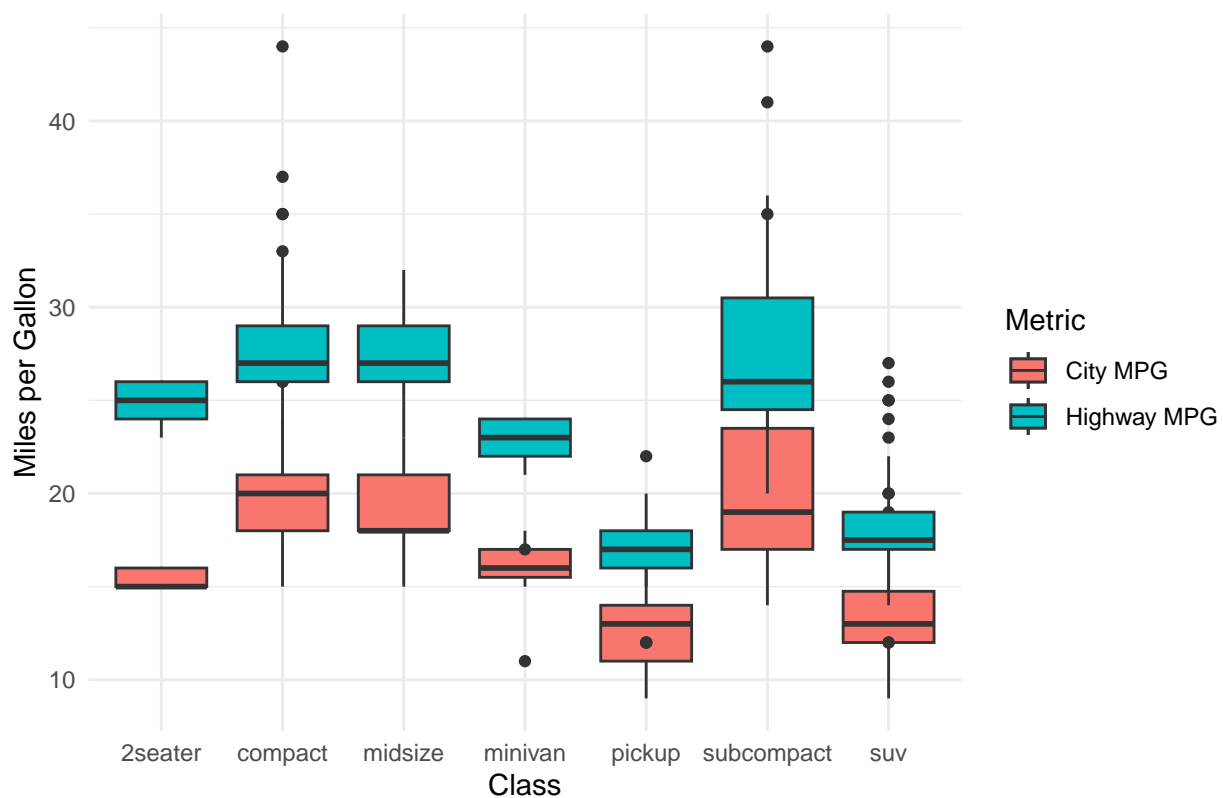
- City MPG boxplots are labeled with “City MPG” in the legend, and highway MPG boxplots are labeled with “Highway MPG,” enhancing clarity in the visualization.

Car Class Variation:

- Identify how city and highway MPG vary across different car classes.
- Assess whether certain car classes tend to have higher or lower MPG values in urban and highway driving conditions.

Chart Details

City and Highway MPG by Car Class



Scatter Plot with Linear Regression

Overview:

This data visualization utilizes a scatter plot with a linear regression line to explore the relationship between engine displacement and highway miles per gallon (MPG) using the mpg dataset. The x-axis represents

engine displacement, while the y-axis displays highway MPG. Each point on the scatter plot represents an individual car, and a linear regression line is fitted to capture the overall trend.

Insights:

Scatter Plot:

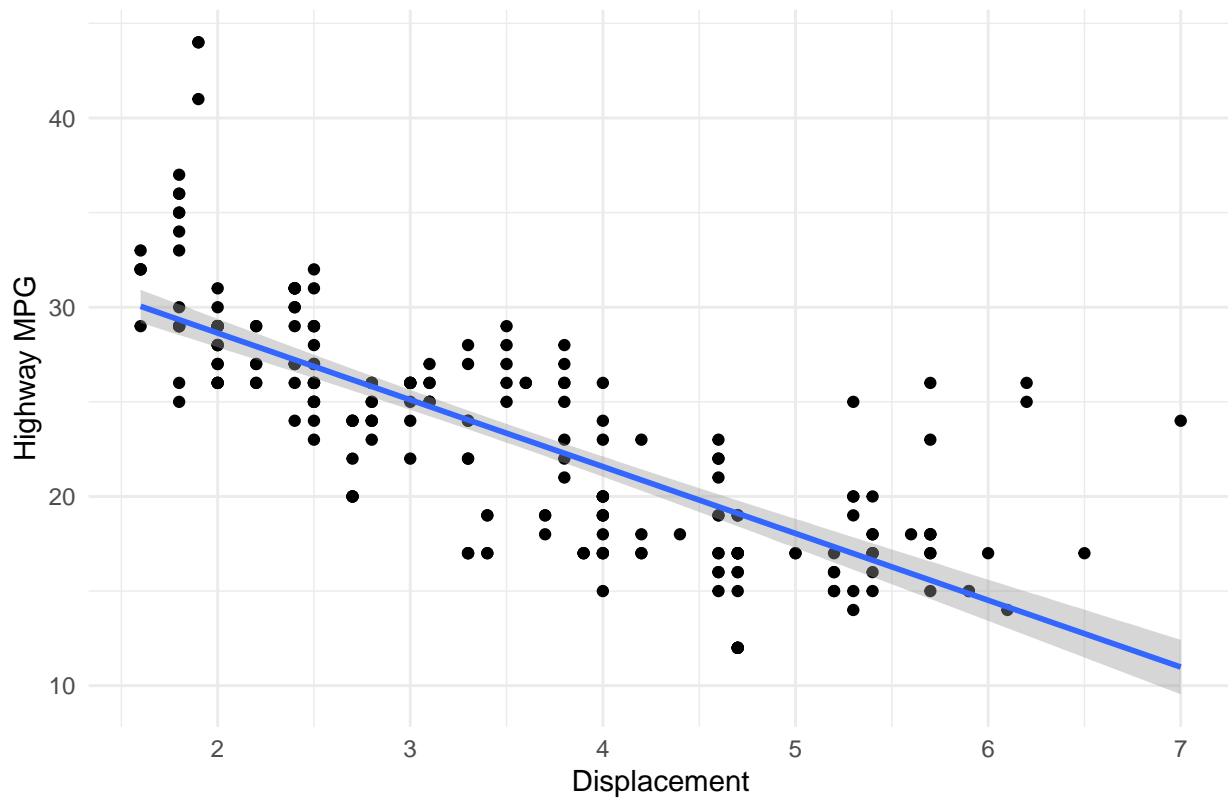
Points on the plot showcase the distribution of highway MPG for different engine displacements. The scatter plot helps visualize any potential patterns or trends in the relationship between engine displacement and highway MPG.

Linear Regression Line:

The linear regression line provides a summarized trend in the data, indicating the general direction of the relationship. It assists in identifying whether there is a positive or negative correlation between engine displacement and highway MPG.

Chart Details

Scatter Plot with Linear Regression



Bar Chart: Mean Highway MPG by Manufacturer

Overview:

This bar chart visualizes the mean highway miles per gallon (MPG) for various car manufacturers using the `mpg` dataset. The x-axis represents the mean highway MPG, and the y-axis displays different manufacturers. Each bar is color-coded based on mean highway MPG, and labels provide specific values for better interpretation.

Insights:

Manufacturer Comparison:

- Bars represent different car manufacturers, sorted by mean highway MPG.
- The chart allows for a quick comparison of mean highway MPG values across manufacturers.

Label Information:

- Each bar is labeled with the precise mean highway MPG value, enhancing clarity and facilitating detailed comparisons.
- Labels are positioned to the right of the bars for easy reference.

Chart Details

