

# ANALYSING THE IMPACT OF CAR FEATURES

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By Sathish

Data Analyst

Bangalore, India

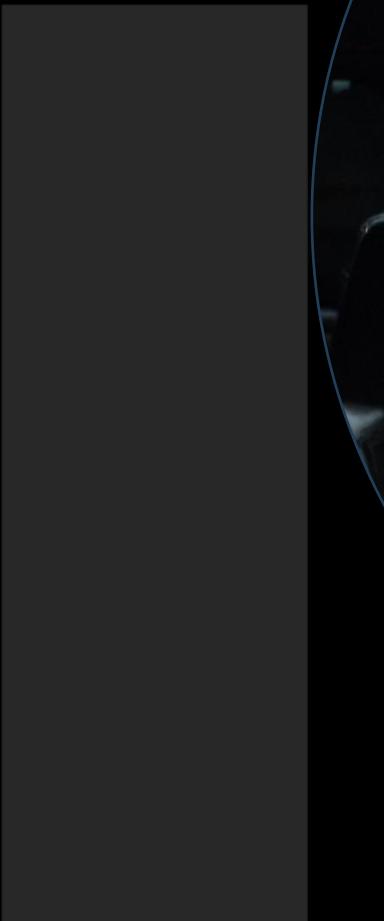
sathishgudri@gmail.com

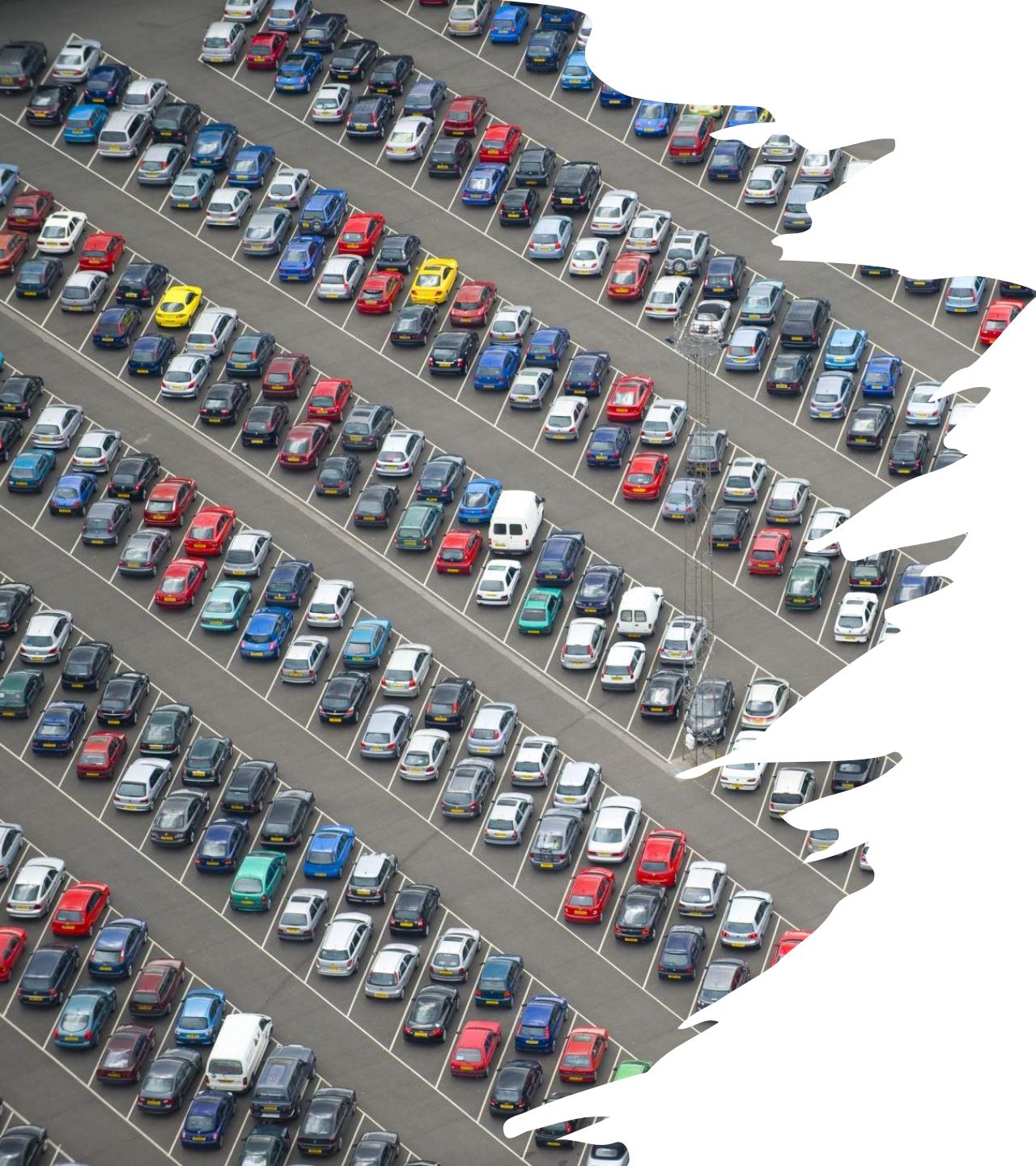
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# Project Description

- The automotive industry has been rapidly evolving over the past few decades, with a growing focus on fuel efficiency, environmental sustainability, and technological innovation. With increasing competition among manufacturers and a changing consumer landscape, it has become more important than ever to understand the factors that drive consumer demand for cars.
- The client has asked How can a car manufacturer optimize pricing and product development decisions to maximize profitability while meeting consumer demand?

# Approach



This problem could be approached by analyzing the relationship between a car's features, market category, and pricing, and identifying which features and categories are most popular among consumers and most profitable for the manufacturer.



# Tech Stacks Used



**MICROSOFT EXCEL**  
DATA CLEANING & WRANGLING



**MICROSOFT POWER BI**  
DATA ANALYSIS AND VISUALIZATION



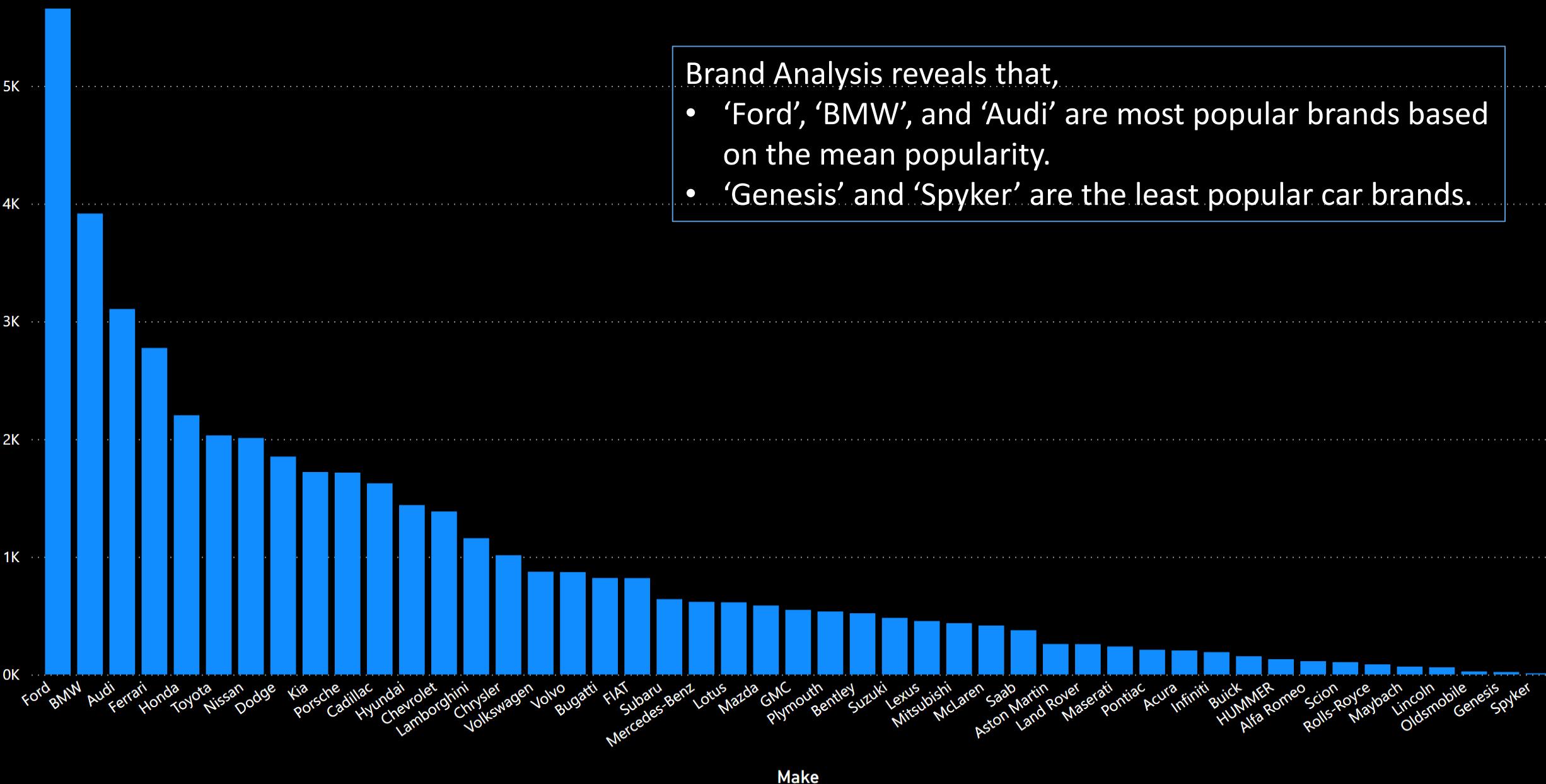
**MICROSOFT POWERPOINT**  
INSIGHT PRESENTATION

# Brand Analysis

Understanding the  
popularity based on  
the Brand

# Average of Popularity by Make

6K

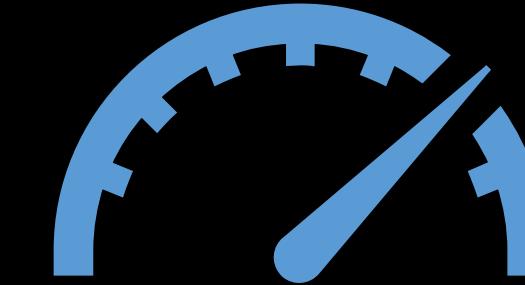


Brand Analysis reveals that,

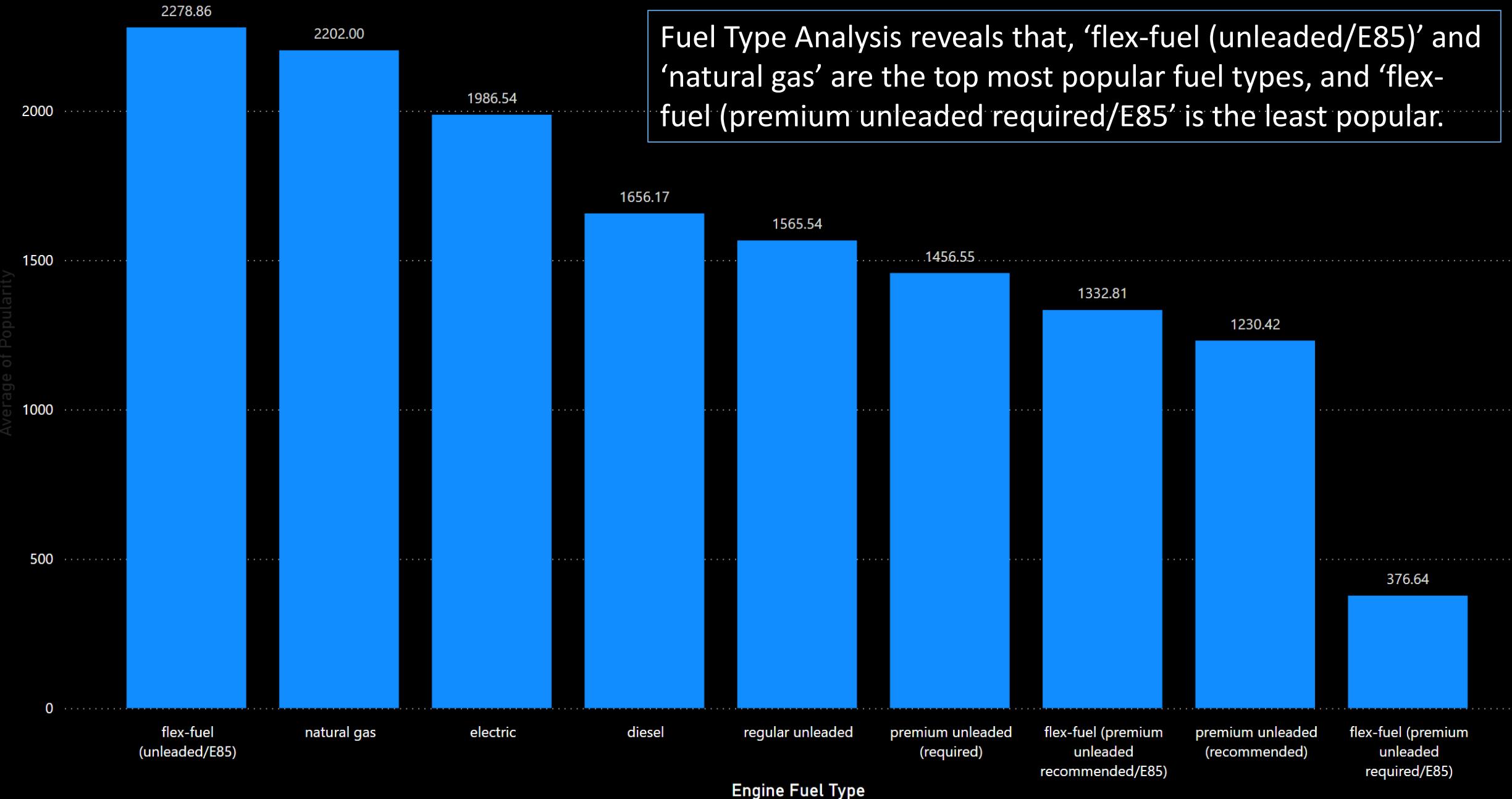
- ‘Ford’, ‘BMW’, and ‘Audi’ are most popular brands based on the mean popularity.
- ‘Genesis’ and ‘Spyker’ are the least popular car brands.

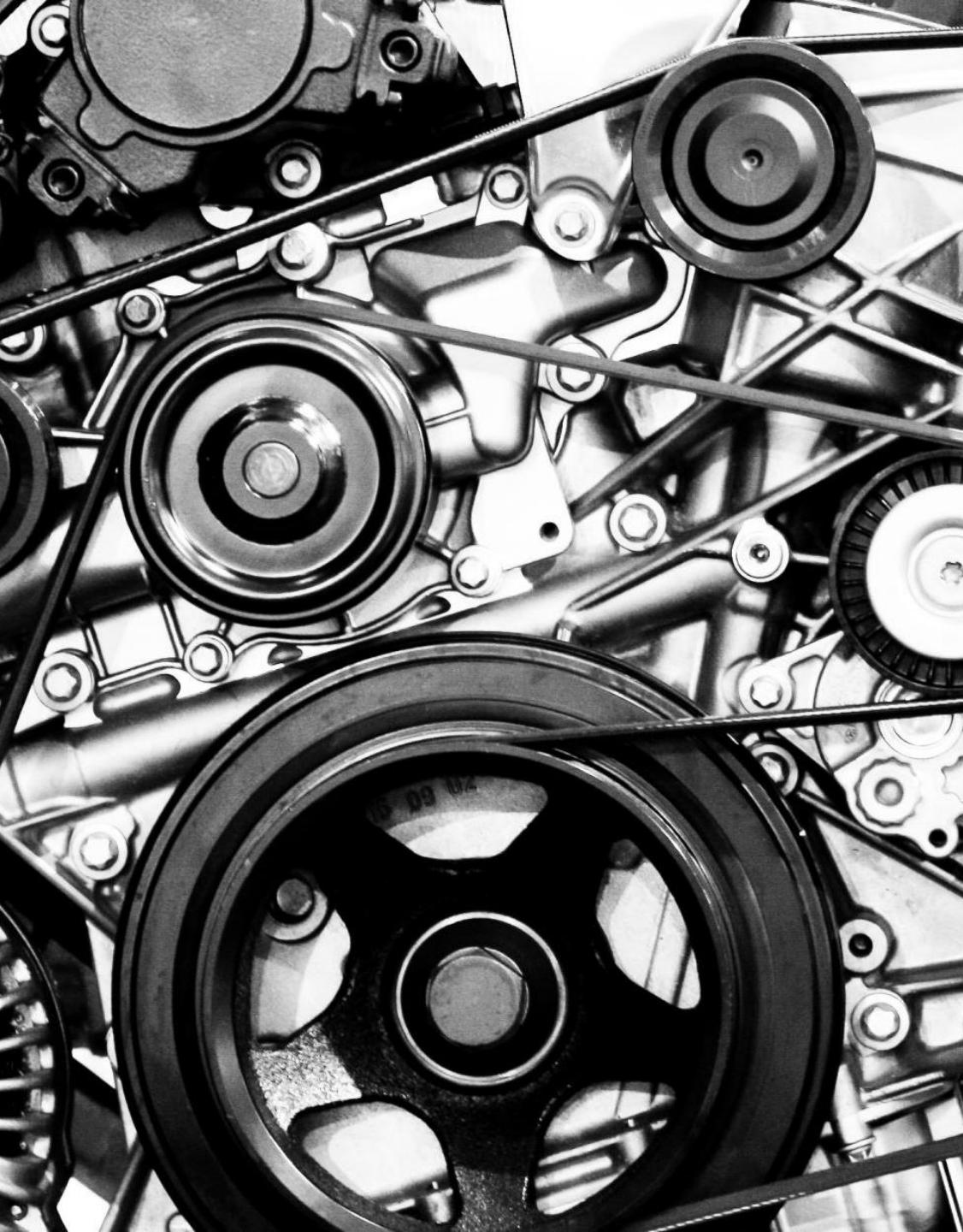
# Fuel Type Analysis

Understanding the popularity based  
on the Engine Fuel Type



# Average of Popularity by Engine Fuel Type

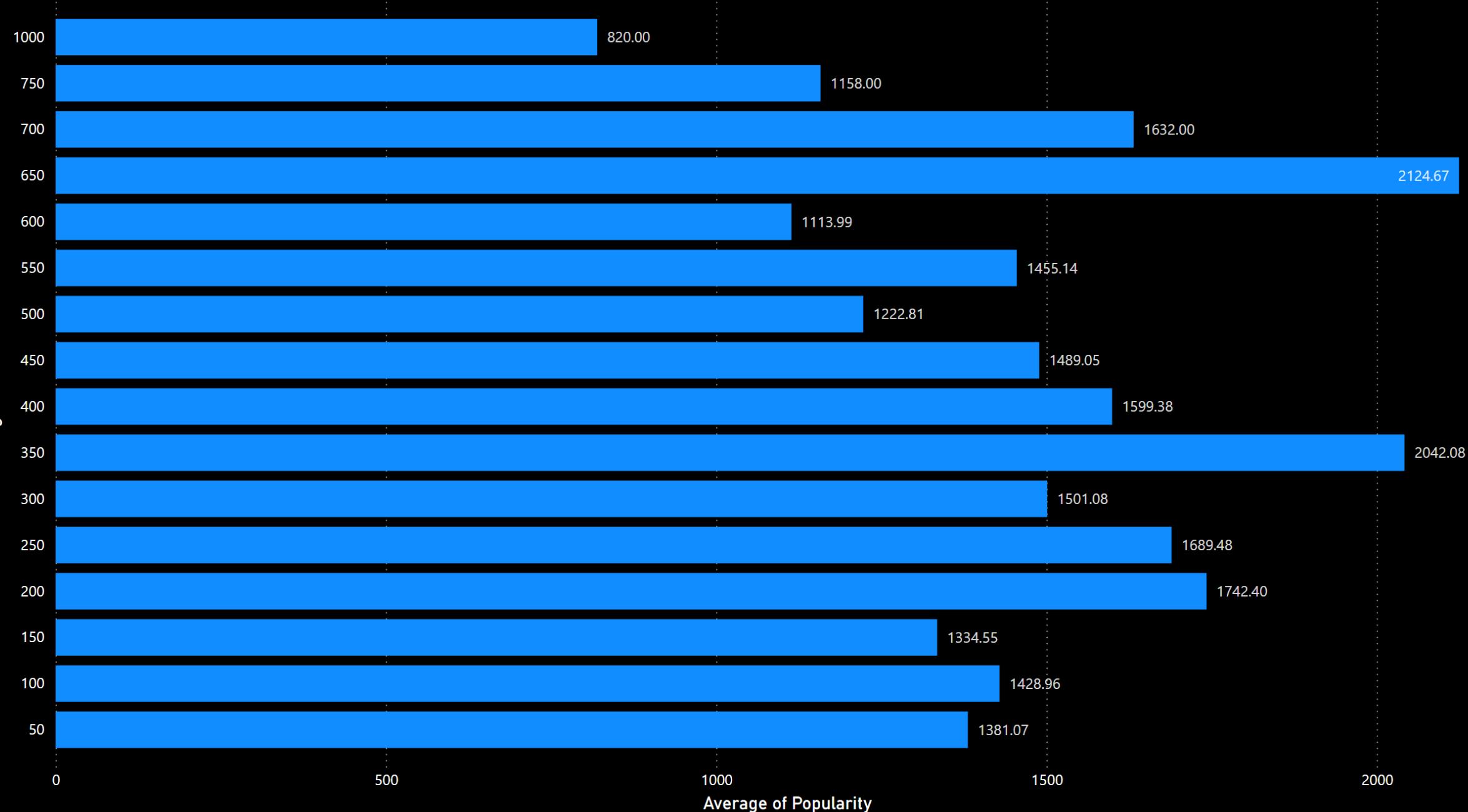




# Engine HP Analysis

Understanding the relationship between Engine HP and Popularity

# Average of Popularity by Engine HP (bins)



# Relationship b/w Engine HP & Popularity

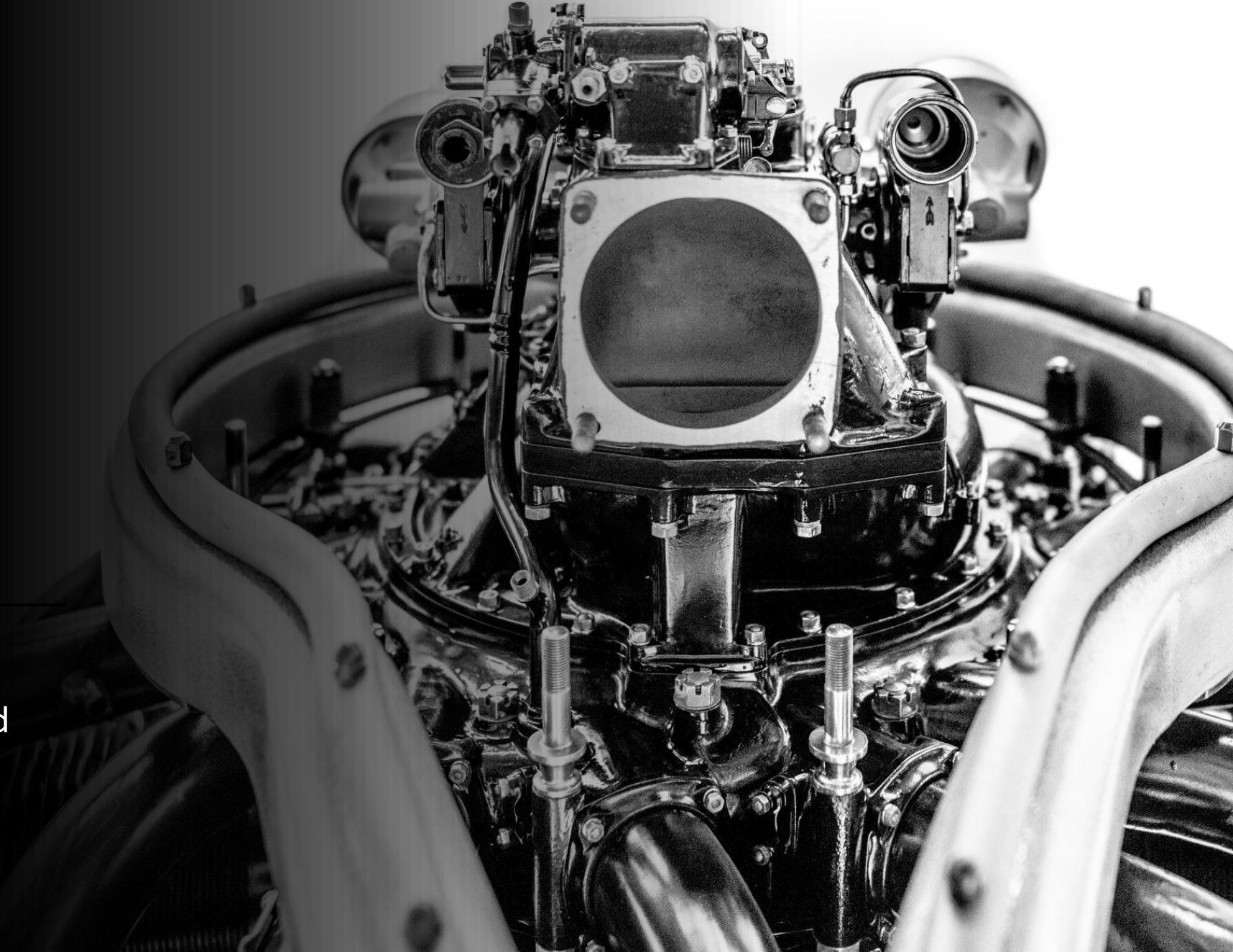


# Insights

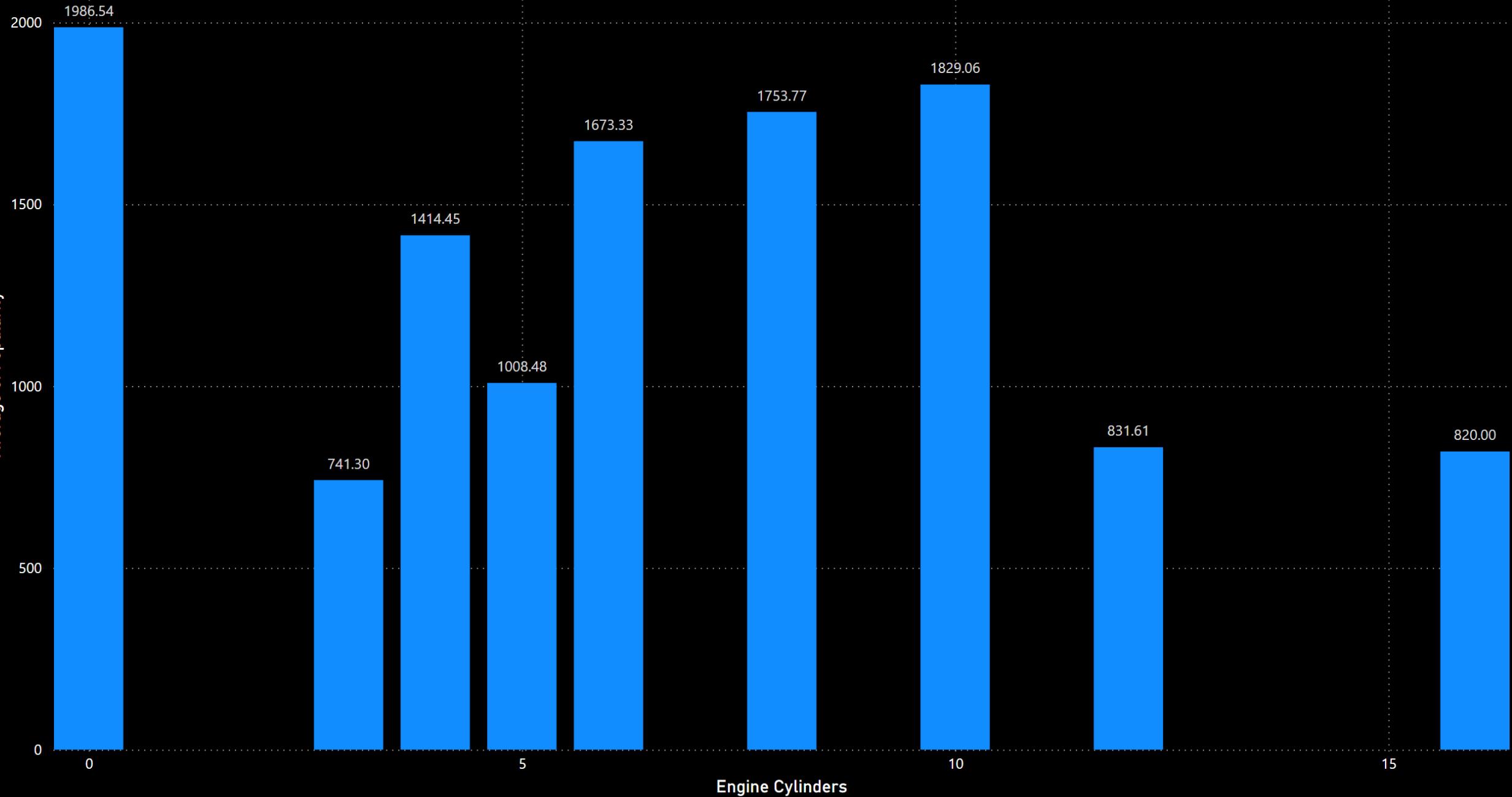
- Engine HP ranging from 650 to 700 are the most popular followed by HP ranging from 350 to 400.
- Scatter plot depicts no direct relationship between the Engine HP and Popularity.

# Engine Cylinders Analysis

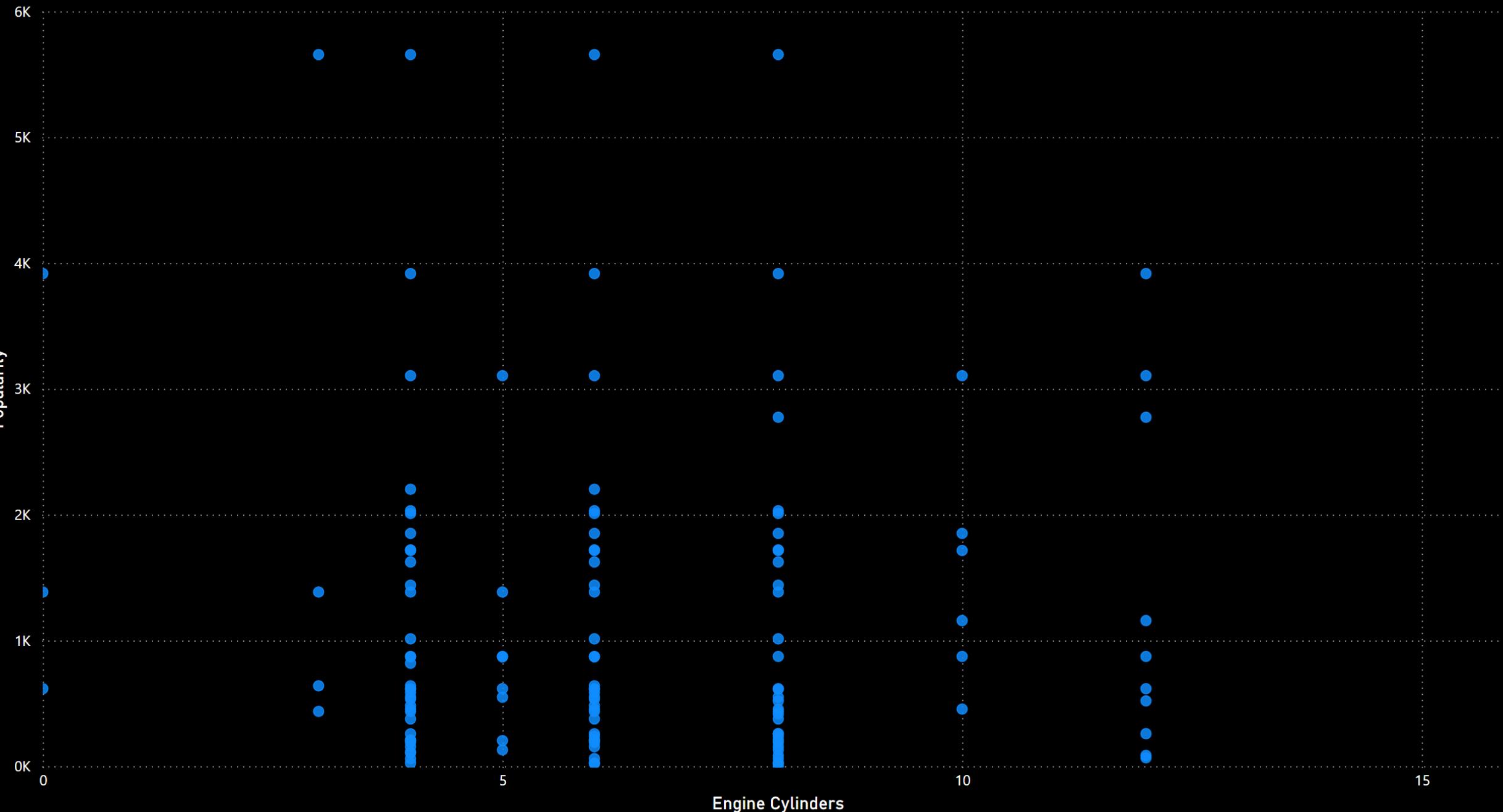
Understanding the relationship between the Engine Cylinders and Popularity and identifying the popular Engine Cylinders.



# Engine Cylinder v/s Popularity



# Relationship b/w Engine Cylinders & Popularity



# Insigths

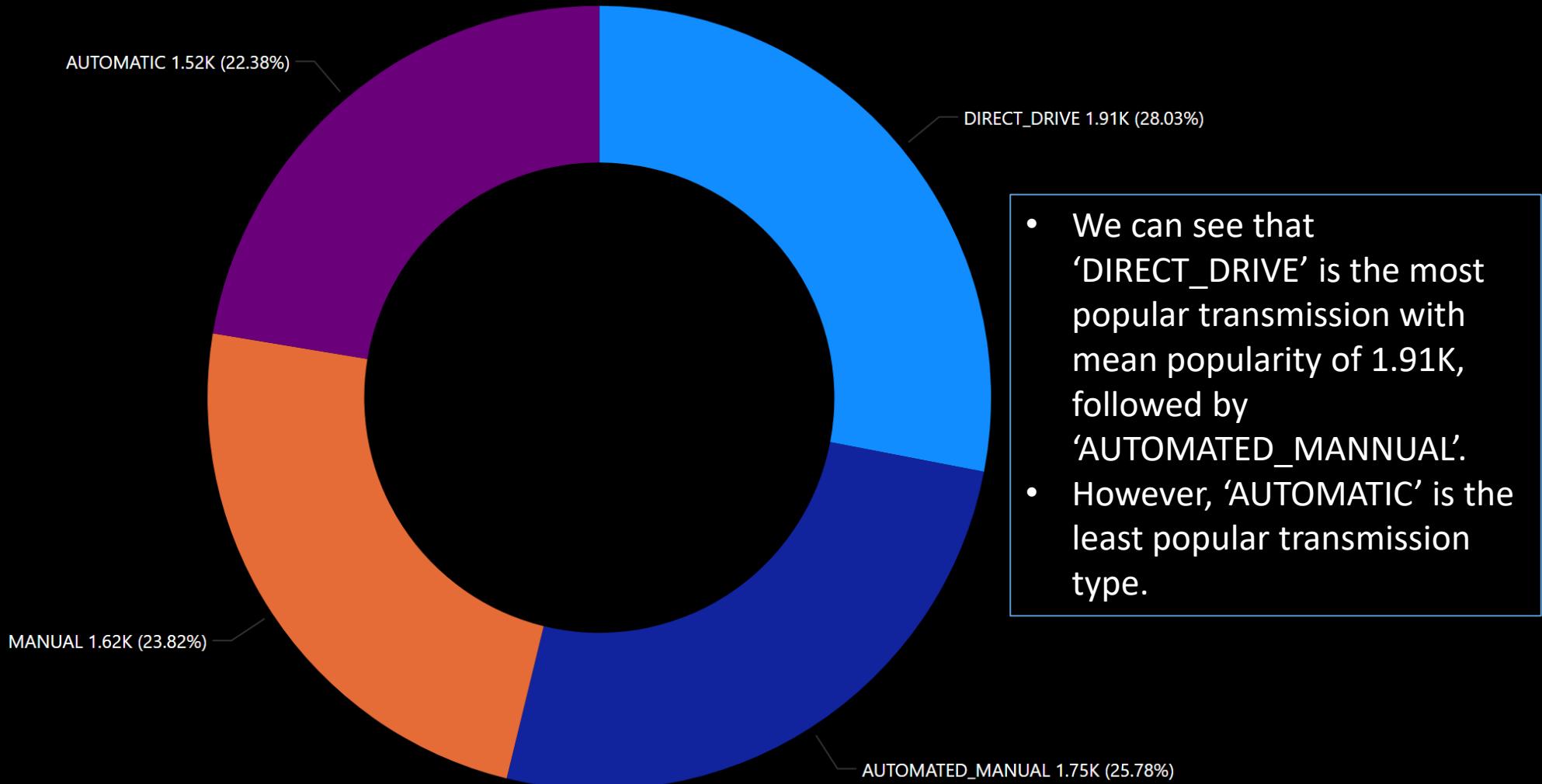
- Engine's having 0 cylinders are the most popular, followed by engine's with 10, 8, 6 cylinders respectively.
- Also, there is no visible relationship between the Engine Cylinders and Popularity.

A close-up, low-angle shot of several interlocking metal gears. The gears have a metallic, slightly reflective surface with visible teeth and some internal mechanical components. The lighting is dramatic, coming from the side to highlight the edges and surfaces of the gears.

# Transmission Type Analysis

Understanding the popularity of models based  
on transmission type

## Transmission Type v/s Popularity



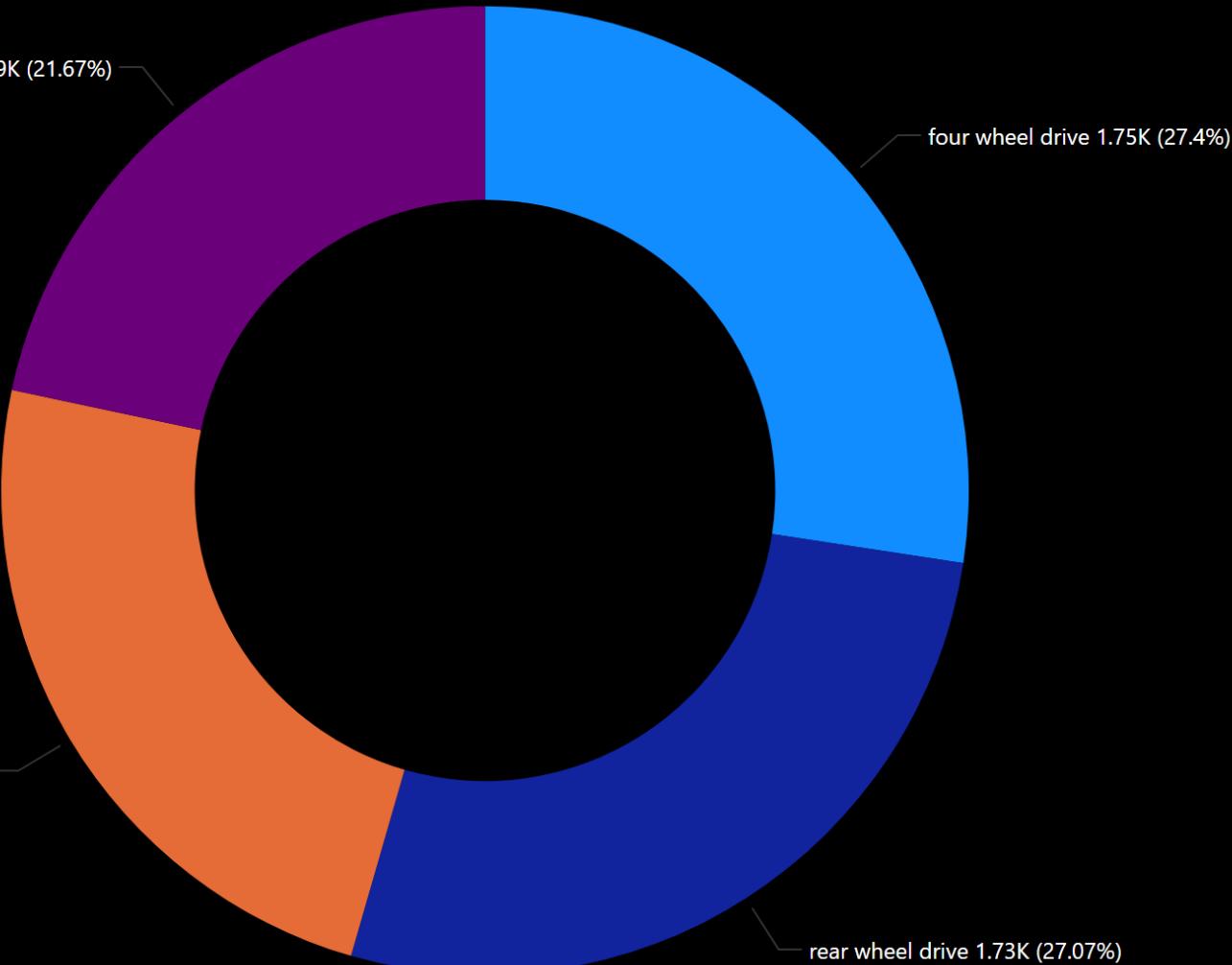


# Driven Wheels Analysis

Understanding the popularity of models based on Driven Wheels

# Driven Wheels v/s Popularity

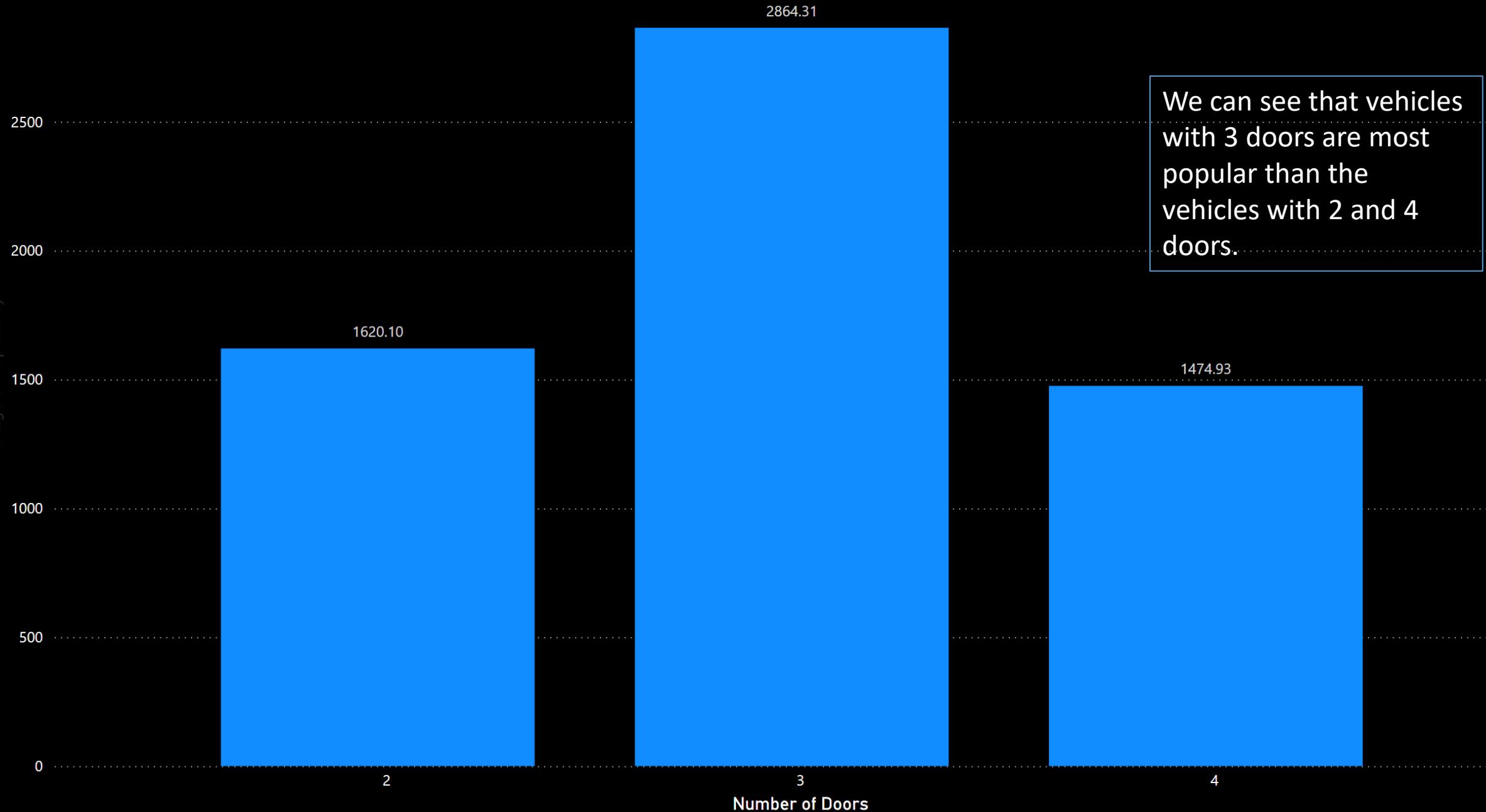
- We can see that, 'four wheel drive' is the most popular with mean popularity of 1.75K, followed by the 'rear wheel drive'.
- 'front wheel drive', being the least popular with 1.39K as mean popularity.



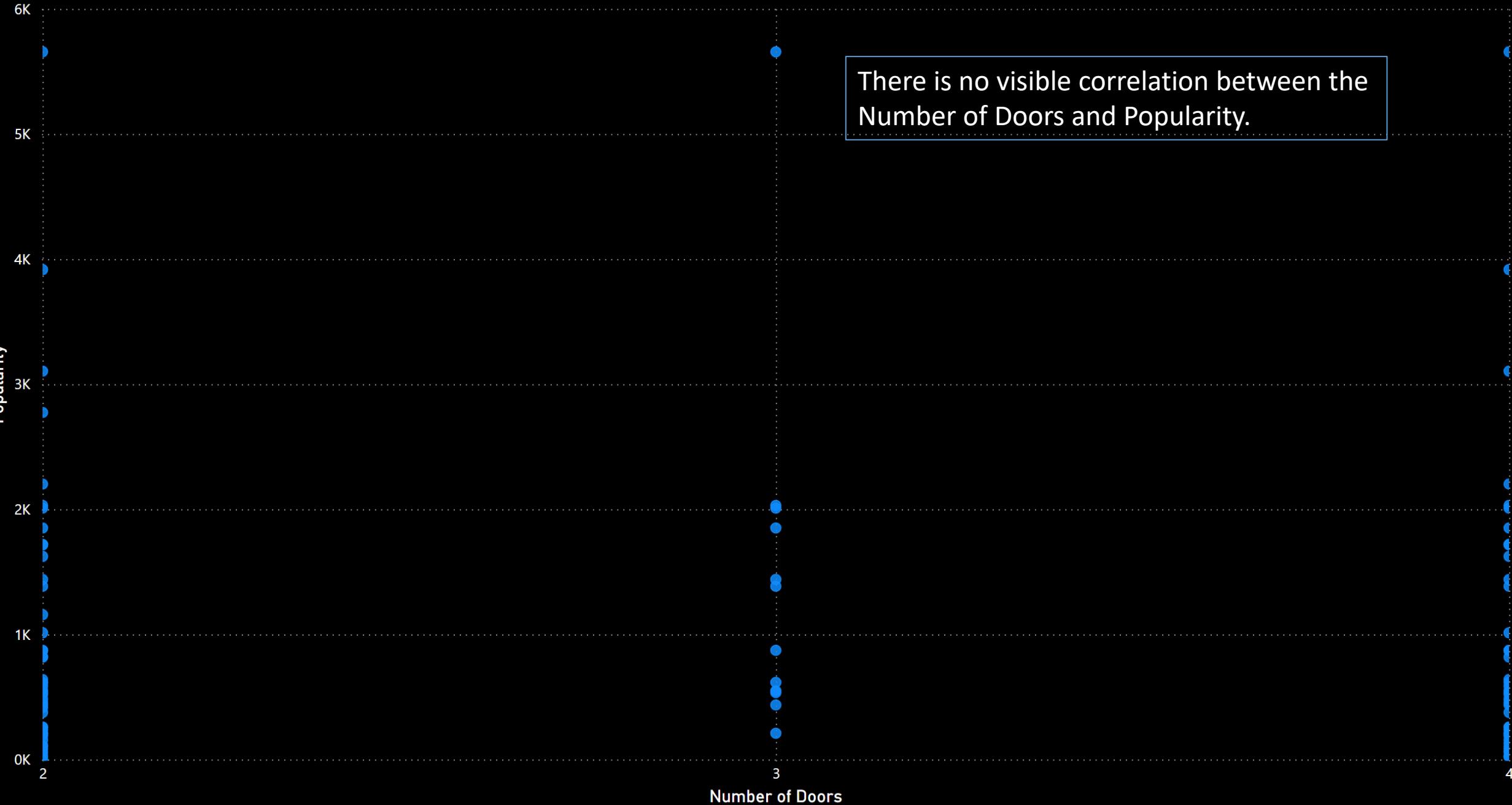
# Number of Doors v/s Popularity

Understanding the relationship  
between number of doors and  
its popularity.

# Average of Popularity by Number of Doors

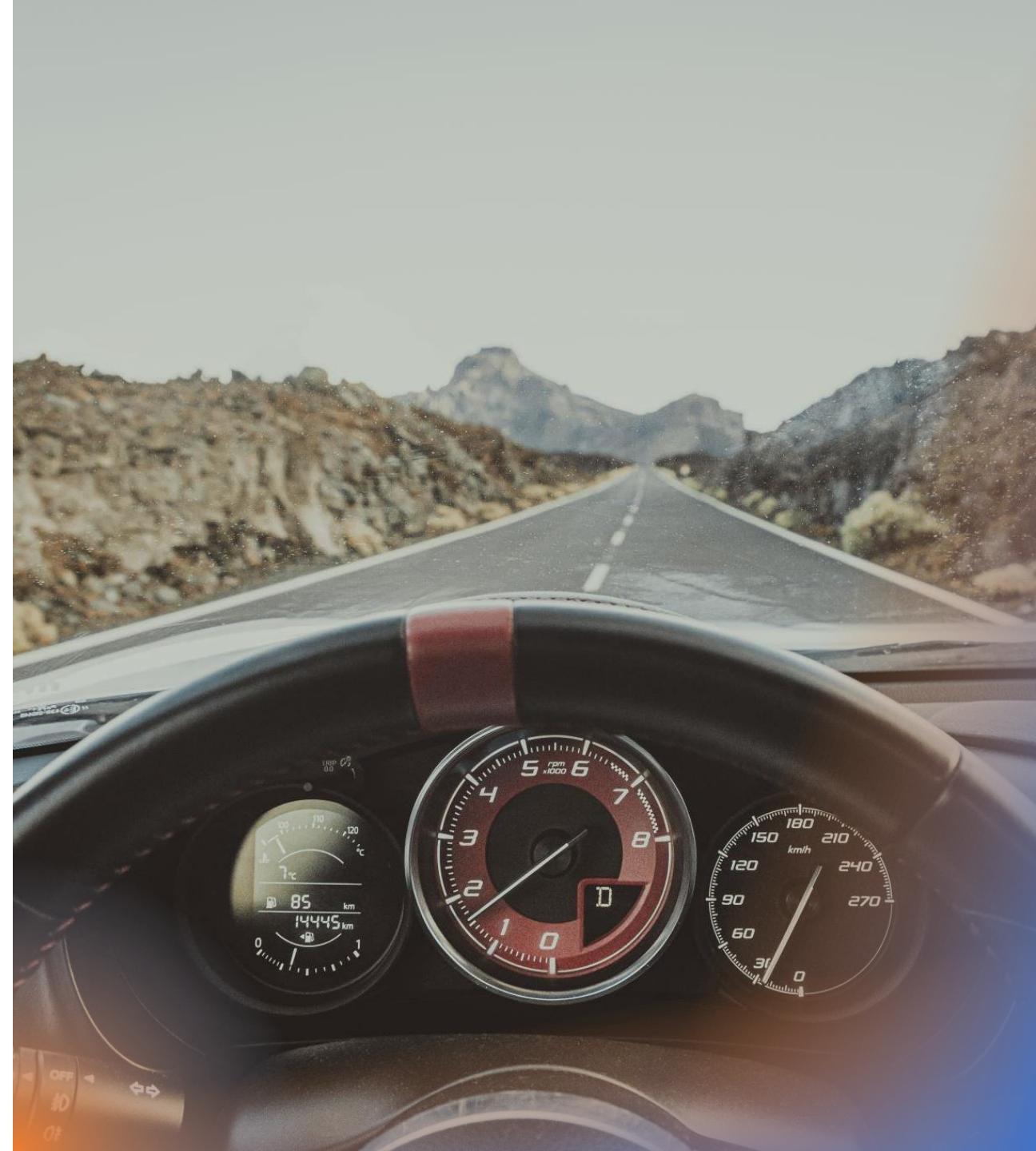


# Relationship b/w Number of Doors & Popularity

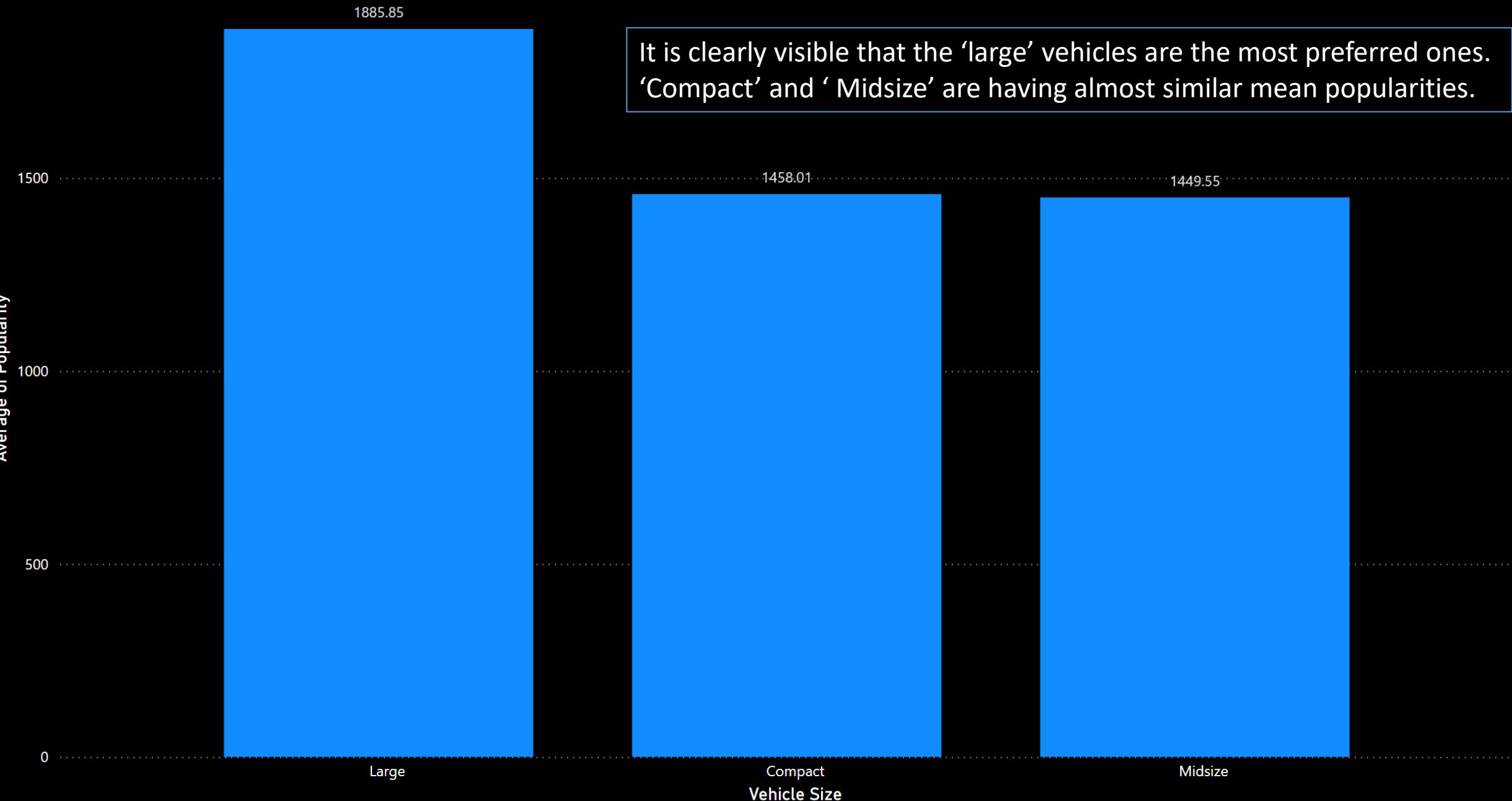


# Vehicle Analysis

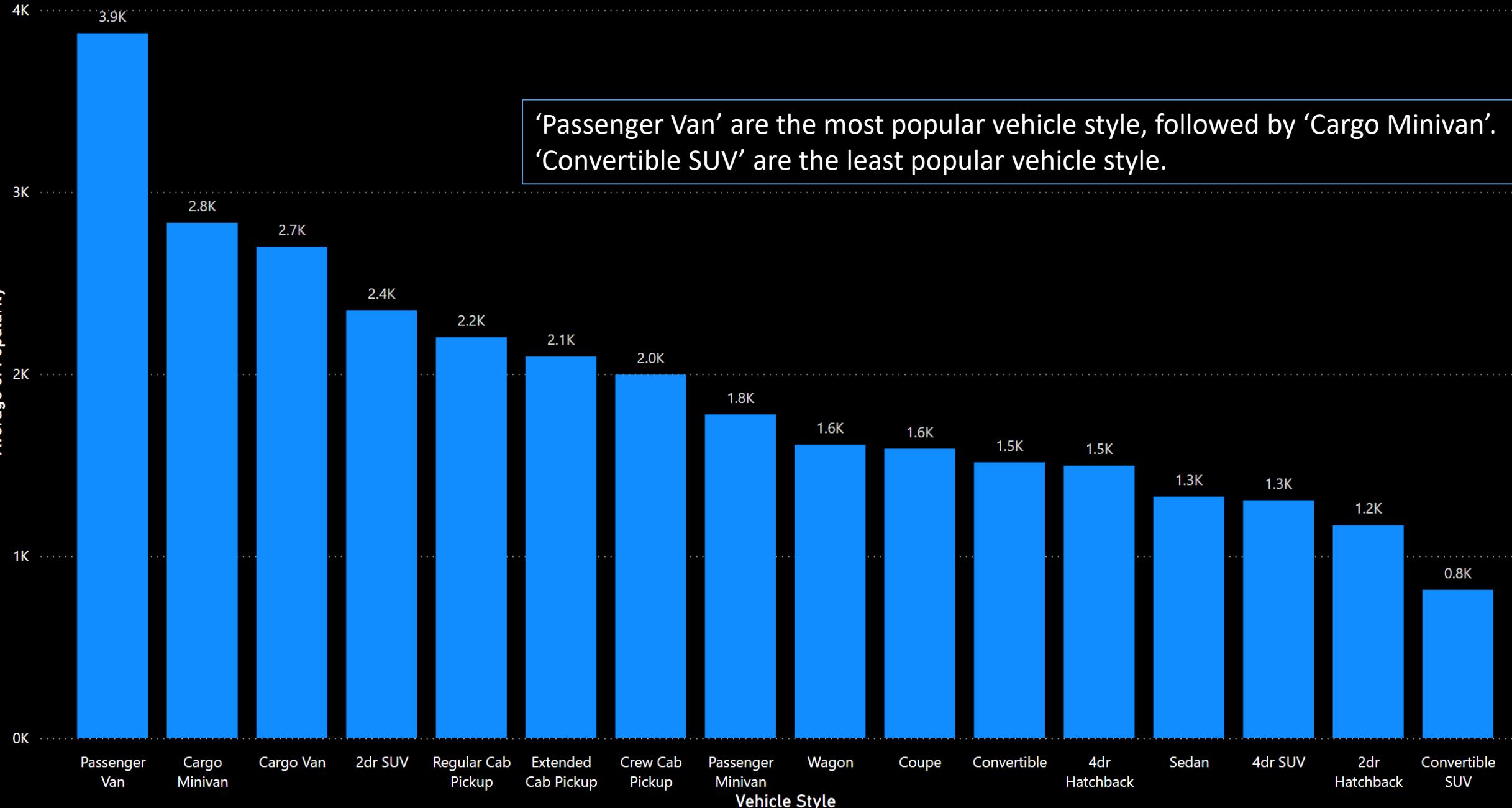
Understanding the relationship  
between Vehicle Size, Vehicle Style  
and its popularity.



# Vehicle Size v/s Popularity



# Vehicle Style v/s Popularity



# Mileage Analysis

Understanding the relationship between  
vehicle mileage and its popularity.

# Relationship b/w Highway MPG & City MPG

140

120

100

80

60

40

20

0

city mpg

20

40

60

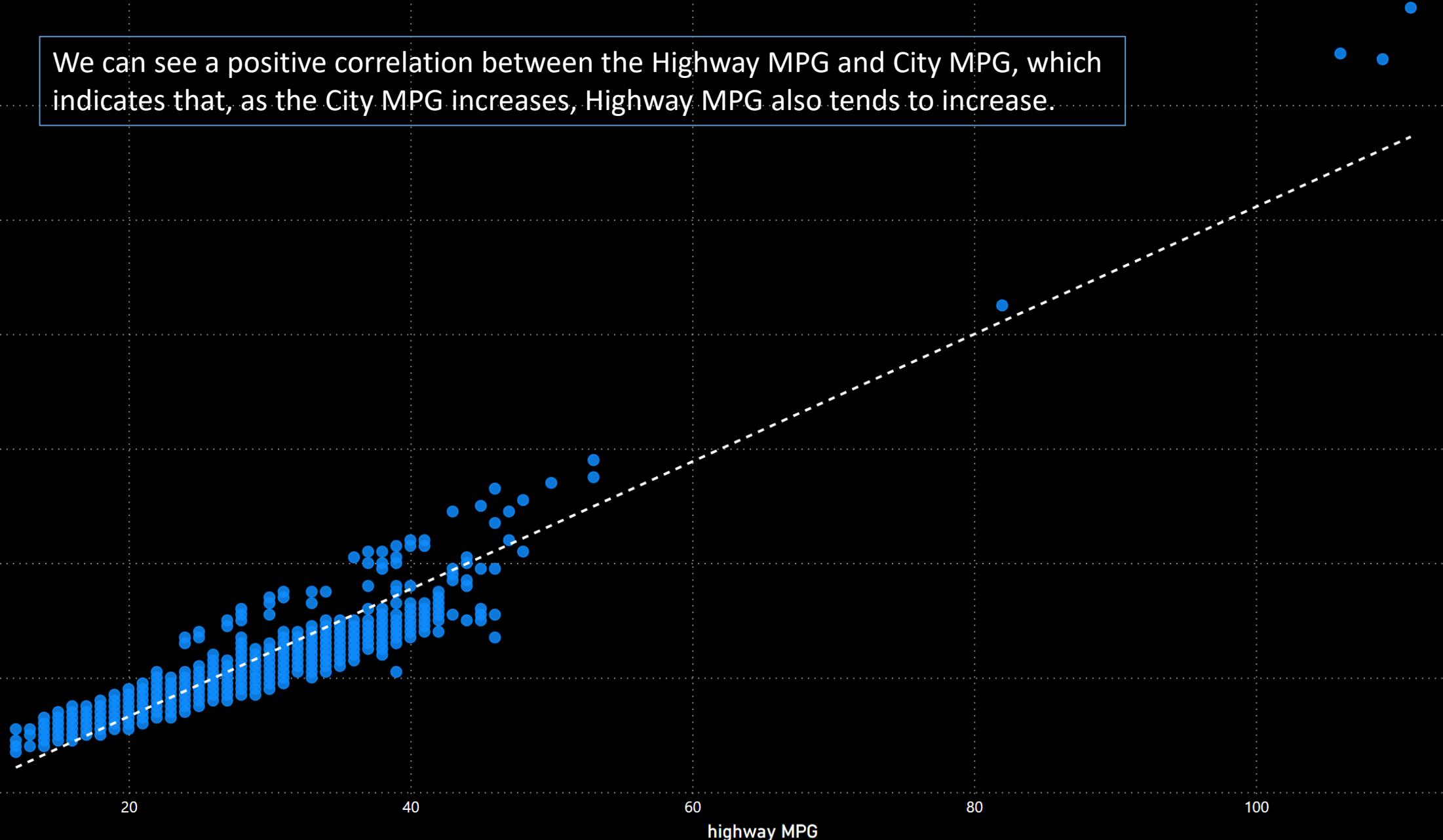
80

100

120

highway MPG

We can see a positive correlation between the Highway MPG and City MPG, which indicates that, as the City MPG increases, Highway MPG also tends to increase.



# Relationship b/w Highway MPG & Popularity

6K



5K



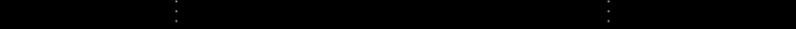
4K



3K



2K



1K



0K

20

40

60

80

100

120

highway MPG

However, there is no direct relationship is visible between the Highway MPG and Popularity.

# Average of Popularity by highway MPG (bins)

4K

3.9K

It is clear that, High mileage providing vehicles are most popular.

3K

Average of Popularity

2K

2.0K

1.9K

1.5K

1.5K

1.8K

1.7K

0.6K

1K

0K

10

20

30

40

50

80

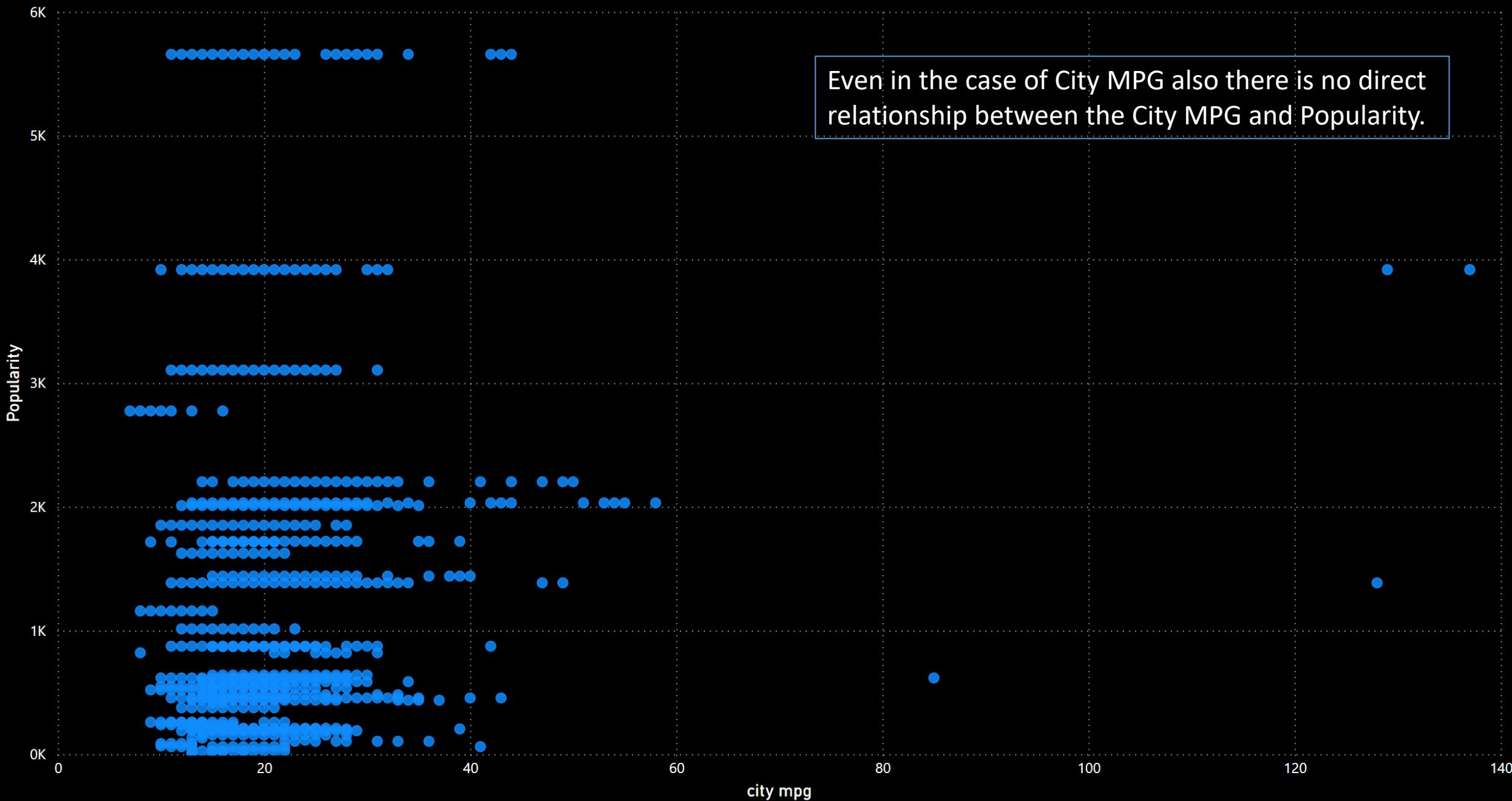
100

110

highway MPG (bins)

110

# Relationship b/w City MPG & Popularity



# Average of Popularity by city mpg (bins)

4K

3.9K

It is clear that, even in the case of City MPG, high mileage providing vehicle is the popular one. Interestingly, vehicles with City Mileage ranging from 40 to 50 are placed second.

3K

Average of Popularity

2K

1.8K

1.6K

1.4K

1.7K

2.3K

2.1K

1.7K

0.6K

1K

0K

0

10

20

30

40 50

80

120

130

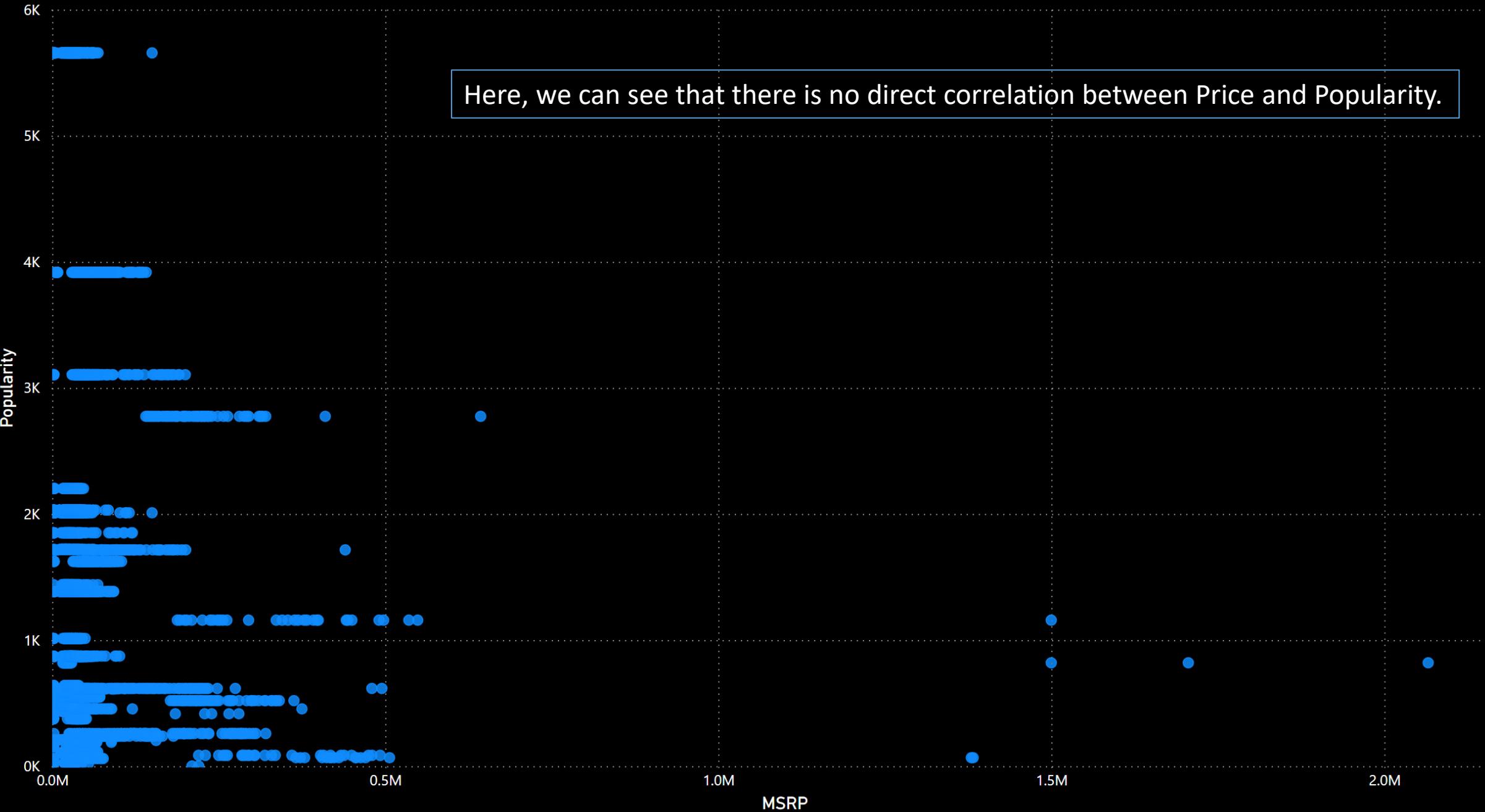
city mpg (bins)

# Price Analysis

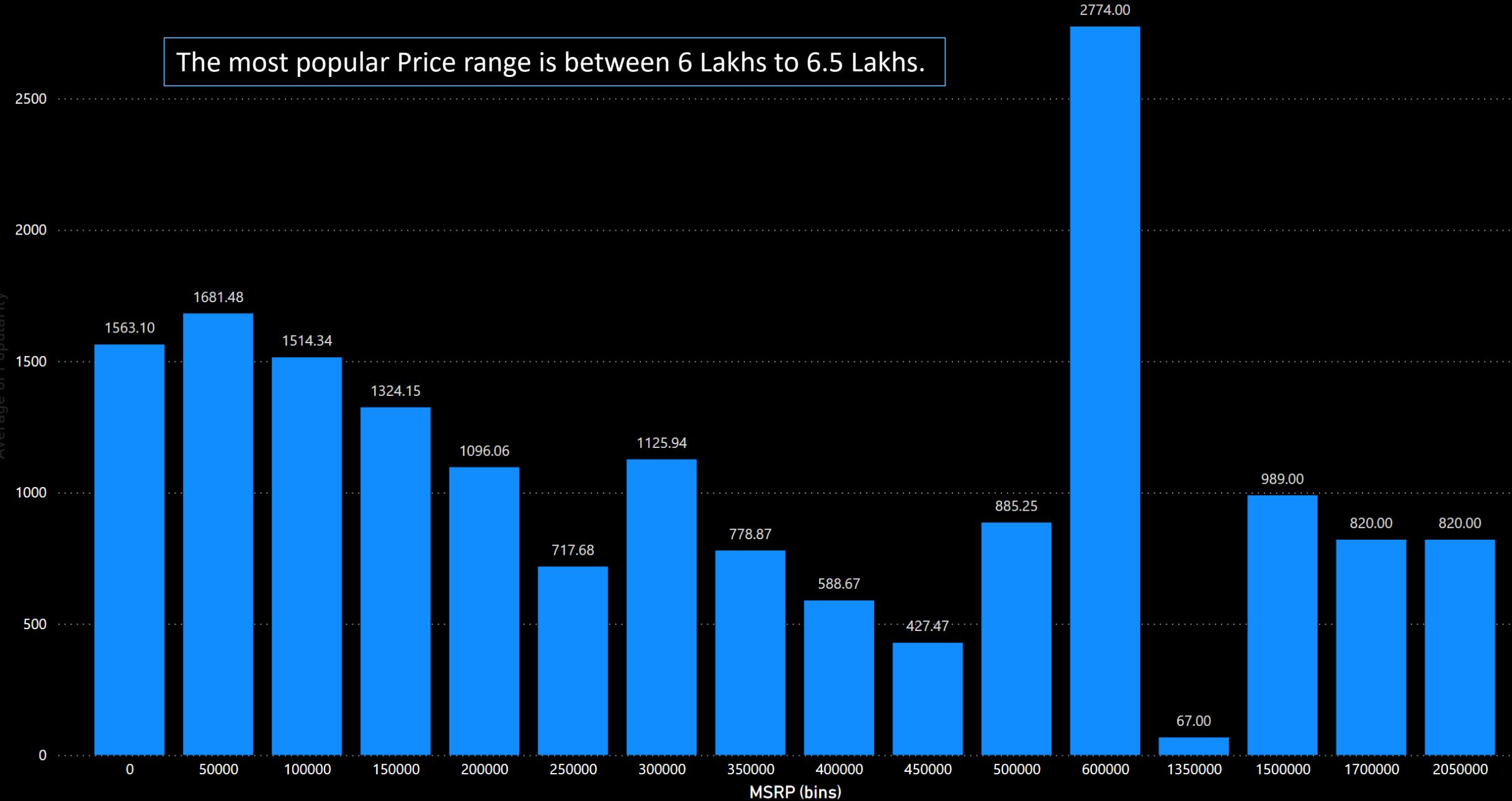
Understanding the relationship between  
Price and Popularity.



# Relationship b/w MSRP & Popularity



# Average of Popularity by MSRP (bins)



The most popular Price range is between 6 Lakhs to 6.5 Lakhs.

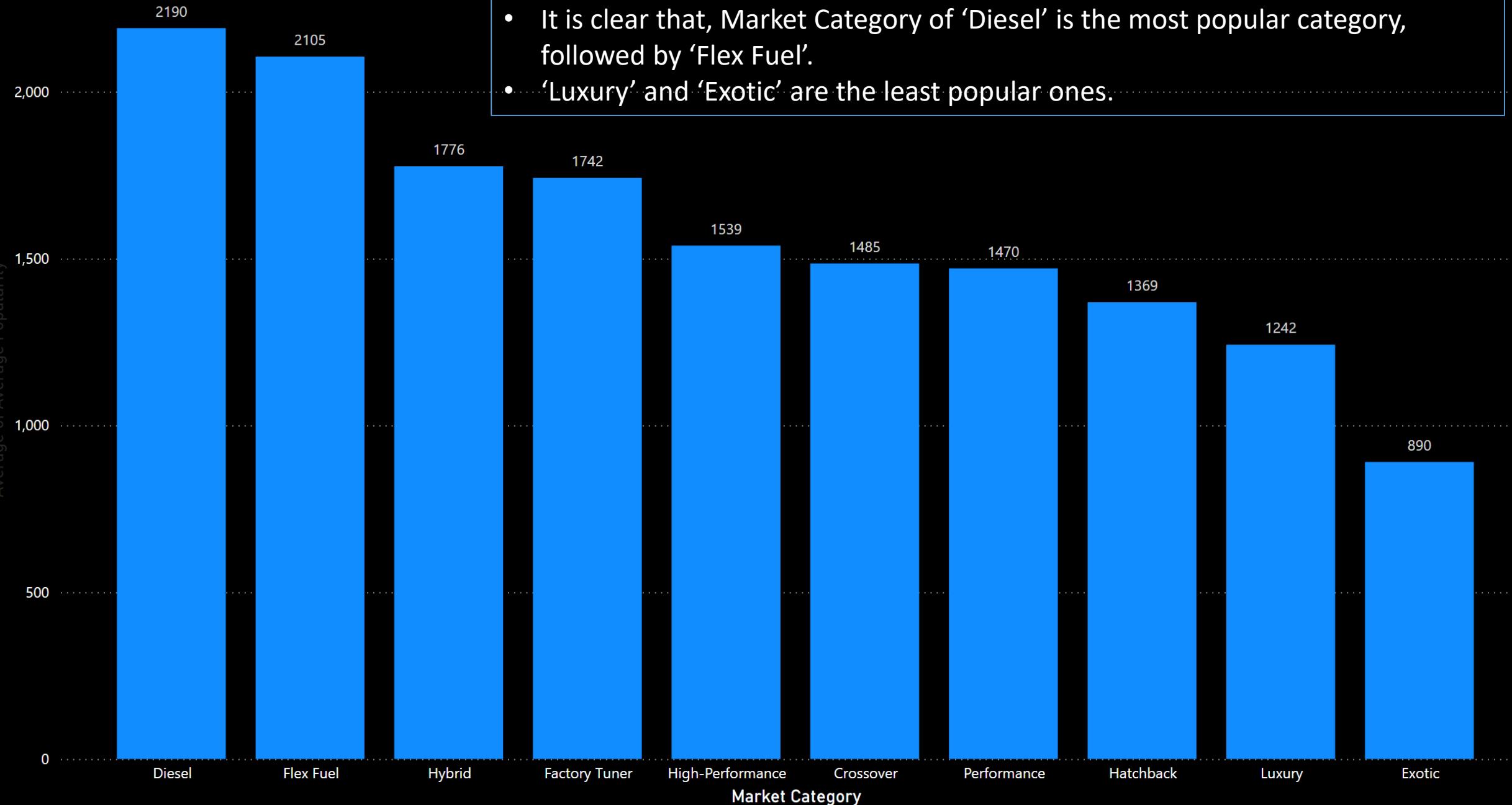


# Market Category Analysis

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Understanding the Popularity by Market Category

# Average Popularity by Market Category



- It is clear that, Market Category of 'Diesel' is the most popular category, followed by 'Flex Fuel'.
- 'Luxury' and 'Exotic' are the least popular ones.

# Thank You

Access the Excel workbook and the Power BI report related to this analysis from the below provided link.

[Microsoft Excel](#)

[Microsoft Power BI](#)