

Task B1
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Dataset Used: Australian Vehicle Prices

<https://www.kaggle.com/datasets/nelgiriyeewithana/australian-vehicle-prices>

The following dataset has been chosen to analyze and visualize the Australian vehicle market.

Description: Highlighted fields are used in visualization.

Dimension / Measure	Description	Data Type	NOIR
Brand	Name of the car manufacturer	Qualitative	Nominal
Model	Name or code of the car model		
Car/Suv	Type of the car (car or SUV)		
Title	Title or description of the car		
ColourExtInt	Colour of the car (exterior and interior)		
Location	Location of the car (city and state)		Ordinal
UsedOrNew	Condition of the car (used or new)		
Transmission	Type of transmission (manual or automatic)		
DriveType	Type of drive (front-wheel, rear-wheel, etc.)		
FuelType	Type of fuel (petrol, diesel, hybrid, etc.)		
BodyType	Shape or style of the car body		
CylindersinEngine	Number of cylinders in the engine	Quantitative	Ratio
Engine	Engine capacity or power (in litres or kW)		
FuelConsumption	Fuel consumption rate (in L/100km)		
Doors	Number of doors in the car		

Seats	Number of seats in the car		
Price	Price of the car (in AUD or A\$)		
Kilometres	Distance travelled by the car (in km)		
Year	Year of manufacture or release		Interval

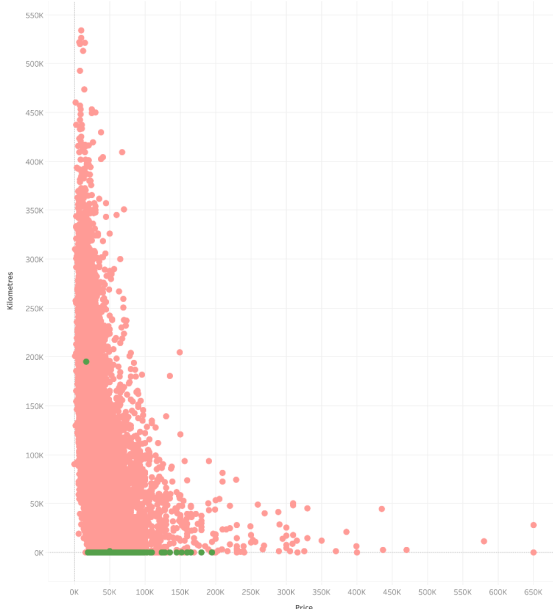
Following are the queries for this task:

1. Find relationship between price of a used and new vehicle based on distance (kilometers) traveled by the vehicle.
2. Average prices of used and new cars for each state in Australia. This query is further divided to check the average price in the same category for automatic or manual transmissions of vehicles.
3. Average prices of cars for each fuel type. (Further split into automatic and manual transmissions of vehicles like above).
4. Total sale of each body type of vehicle in Australia.

Visualizations:

<https://public.tableau.com/app/profile/khurush.bengali./viz/B1AustralianVehiclePriceVisualization/AustralianVehiclePrices?publish=yes>

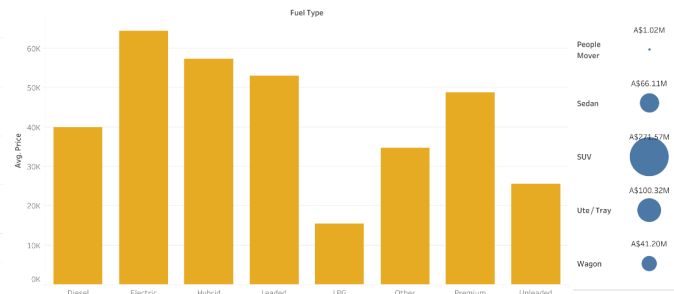
Used/New based on Price and Kilometers

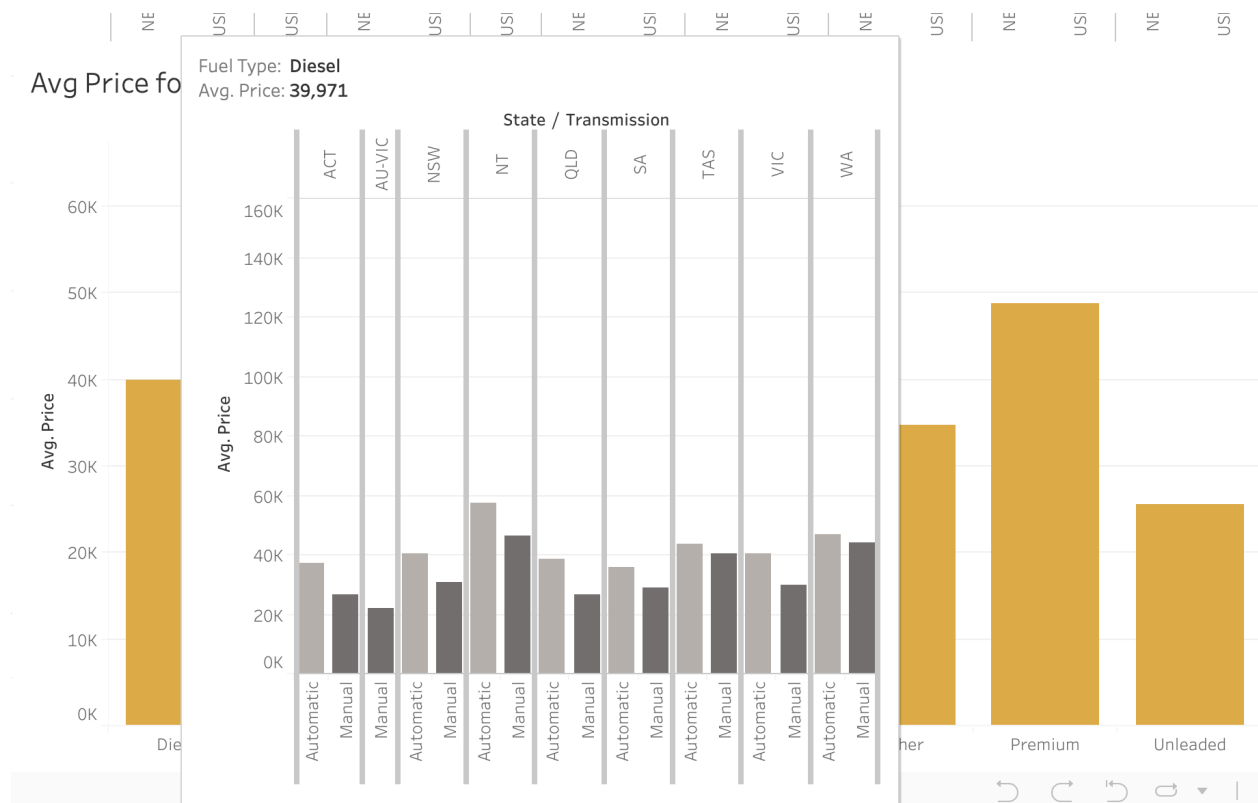


Avg Price for Each State



Avg Price for Cars of Each Fuel Type





Visual Encodings Used:

1. New and Used have differentiated with colour.
2. Circle on kilometer vs price scatter are individual vehicles.
3. Each bar chart has another bar chart as tooltips to provide more details about transmission of the vehicle (Transmissions also differentiated by colour).
4. Size of circle is used to differentiate between total sale per body type of a vehicle.

Findings and Observations:

1. All new cars have the least number of kilometers as expected. Price of the car drops as we see more kilometers on the used vehicle.
2. Average price of a new vehicle is always higher than that of a used vehicle.
3. Further analysis shows people prefer automatic transmission vehicles more than manual transmission vehicles.
4. Based on geographical conditions of Australia, SUV body type have the highest total sales.