New Vehicle Registration Analysis

Presented by:
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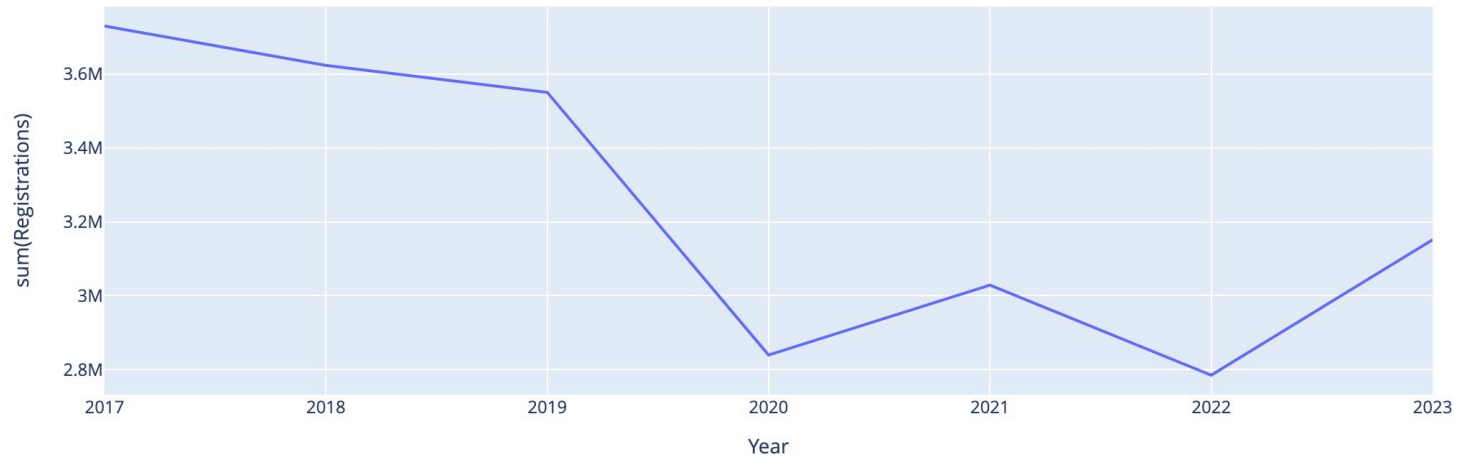# New Vehicle Registration Analysis

3,151,573

New vehicles were registered in Canada in 2023

Total Vehicle Registration By Year

Total Registrations by Year

The Process

The Process

01

Data Identification
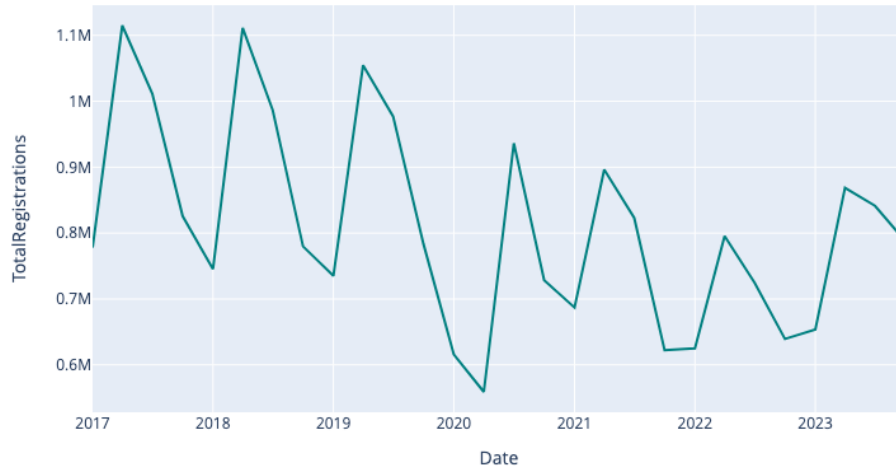
Statcan.gc.ca

02

Data Preparation

PySpark

03

Data Analysis

Pandas
Plotly
etc…

Data Preparation

| Raw Data	Cleaned Data
17 columns	7 columns (2 newly added)
10780 rows	4480 rows
Null Values	0 null values
Redundant Rows	Only useful data
Improper naming/values	Corrected naming/values

Data Analysis

Total Registrations by Date

Total Registrations by Quarter

- Quarter 2
- Quarter 3
- Quarter 4
- Quarter 1

27.7%   28.2%
22.8%   21.3%
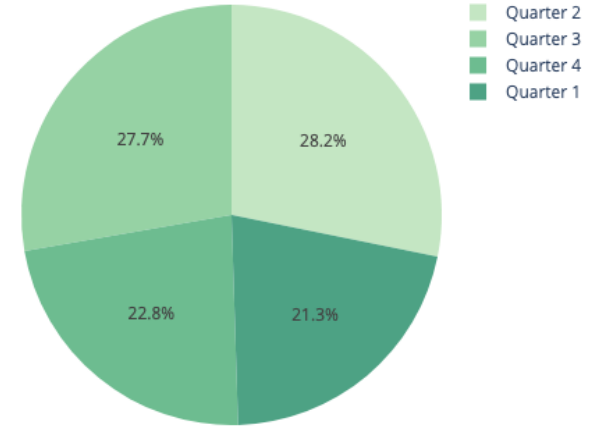
New vehicle registrations tend to increase in the 2nd quarter and decrease every year, before it picks up again in the 2nd quarter of the next year.
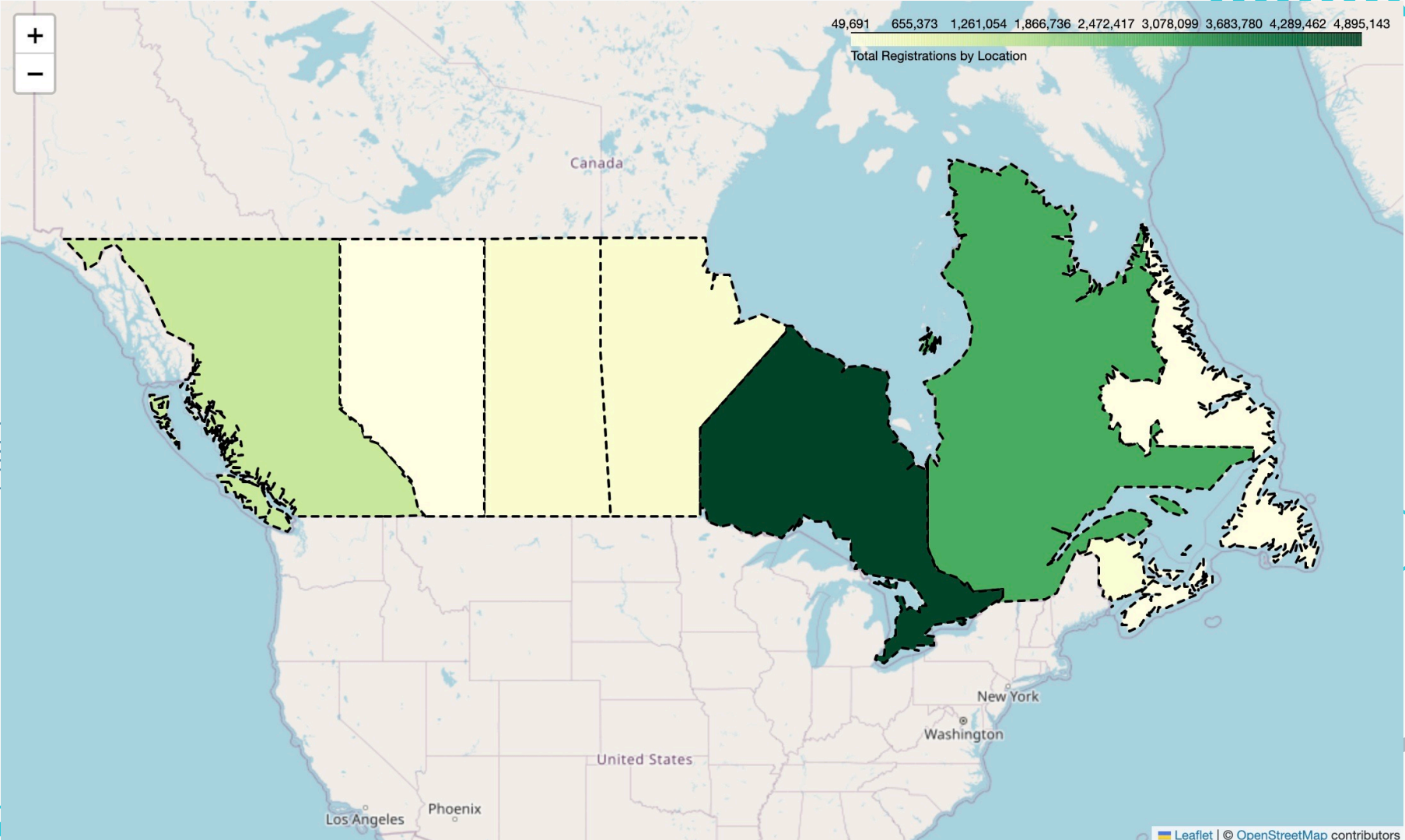
Data Analysis

Total Registrations by Location
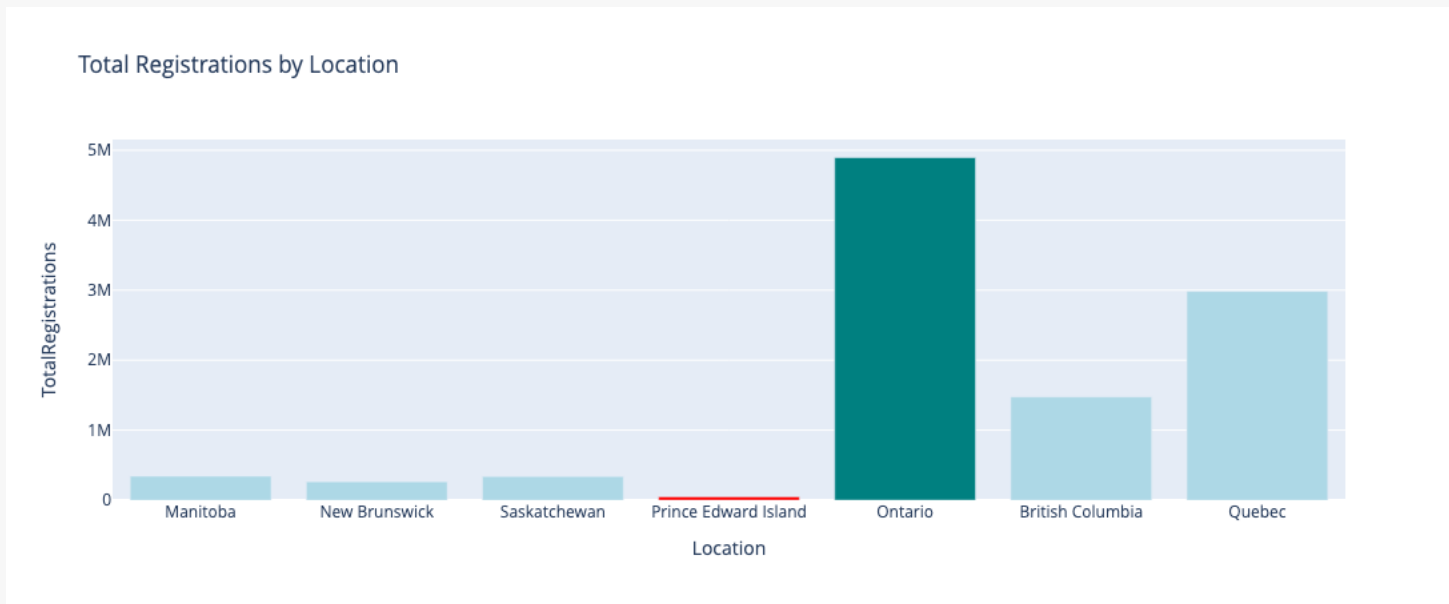
Ontario has the highest number of vehicle registrations, by far, while Prince Edward Island has the lowest. Data for Newfoundland and Labrador, Nova Scotia and Alberta are currently not available due to contractual limitations of the existing data-sharing agreement.
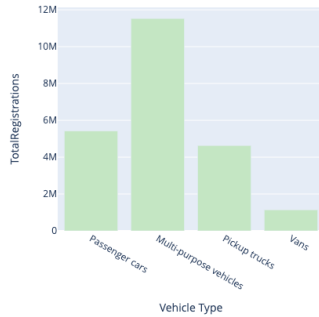
Total Registrations by Location

49,691   655,373   1,261,054   1,866,736   2,472,417   3,078,099   3,683,780   4,289,462   4,895,143
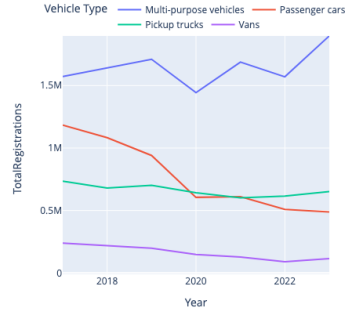
Data Analysis

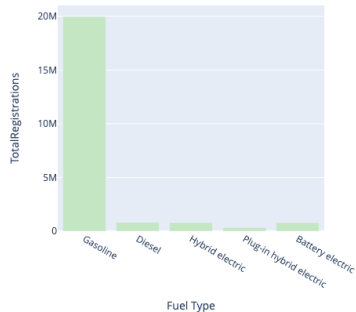Total Registrations by Vehicle Type
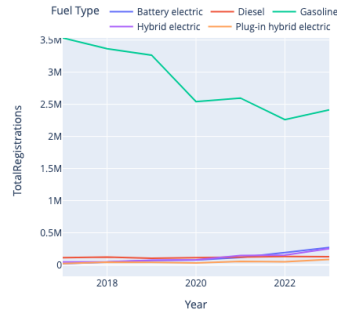

Overall Registrations by Vehicle Type (2017-2023)

Multi-purpose vehicle is the highest registered vehicle of all types and continues to rise while the registrations of all others have fallen over time.

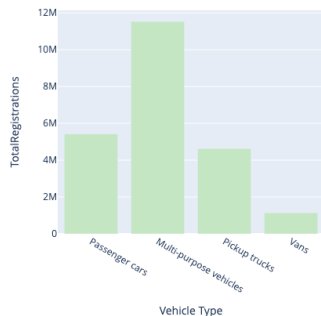Total Registrations by Fuel Type

Overall Registrations by Fuel Type (2017-2023)

Gasoline-type is the highest registered fuel type by a huge margin, but we can see that it's total registrations has fallen over the years while the registration of Battery electric-type vehicles has increased the most

Data Analysis

Total Registrations by Vehicle Type

Overall Registrations by Vehicle Type (2017-2023)

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Total Registrations by Fuel Type

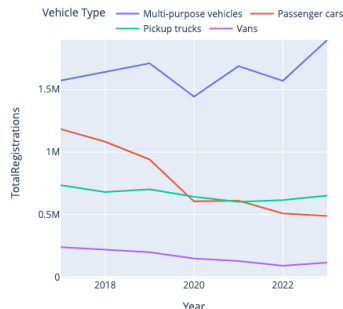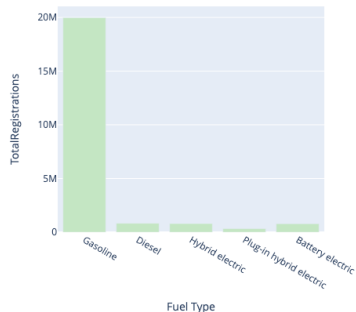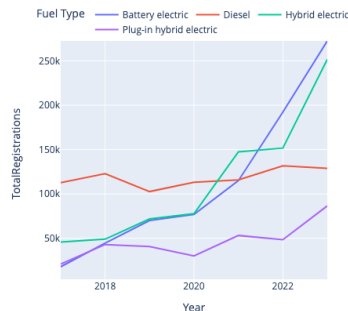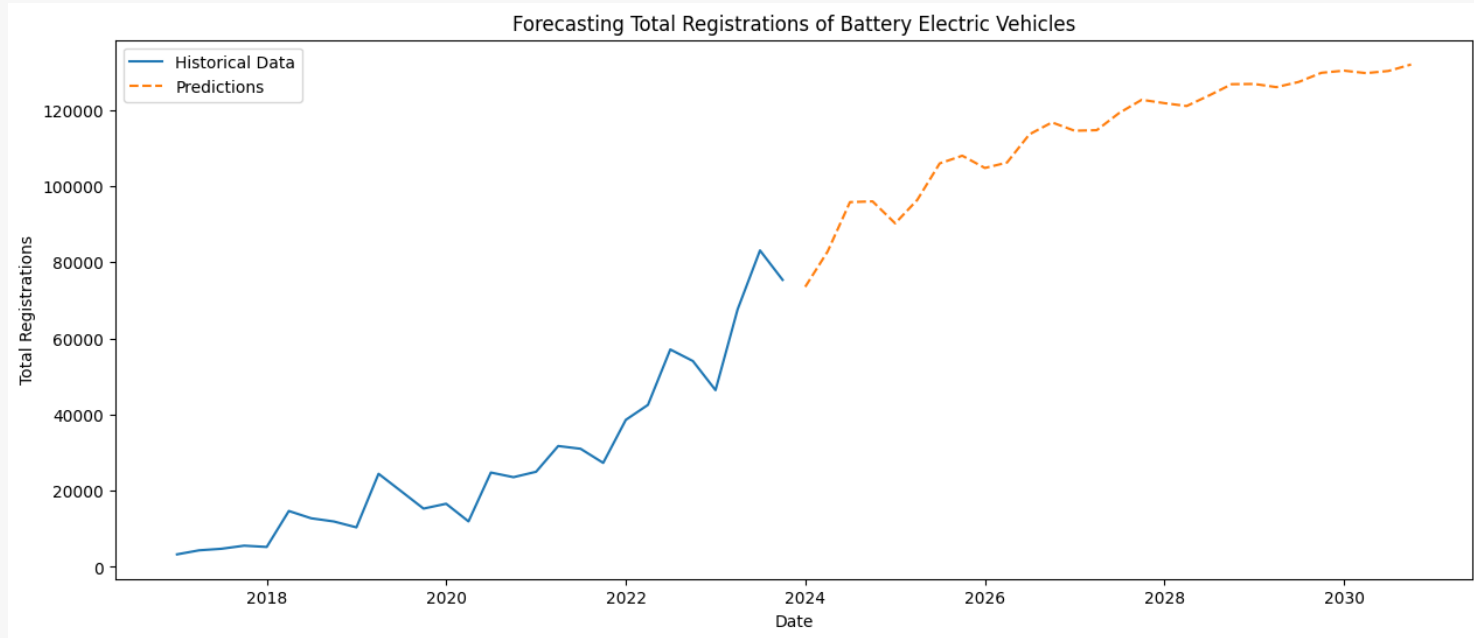Overall Registrations by Fuel Type (2017-2023)

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Forecasting

Forecasting Total Registrations of Battery Electric Vehicles

Taking historical data into account, we can forecast a steady rise in the registrations of Battery Electric vehicles in the next seven years.

Challenges and Limitations

Learning Curve

Learning to use new modules and data analysis techniques

Data Categories

Diverse categories in the dataset would help make more useful analyses.

Forecasting Accuracy

Forecasting could have been done in a much more accurate way

Time Management

Could have managed time better for more outputs

Thanks

Does anyone have any questions?