DSCI 310: Historical Horse Population in Canada

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Aim

This project explores the historical population of horses in Canada between 1906 and 1972 for each province.

Data

Horse population data were sourced from the Government of Canada's Open Data website (Government of Canada 2017a, 2017b).

Methods

The analysis was conducted using Python (Van Rossum and Drake 2009) and the following libraries: - pandas (McKinney 2010) - altair (VanderPlas 2018) - click (Team 2020) - Quarto (Allaire et al. 2022)

Note: This report is adapted from Timbers (2020) (Timbers 2020).

Results

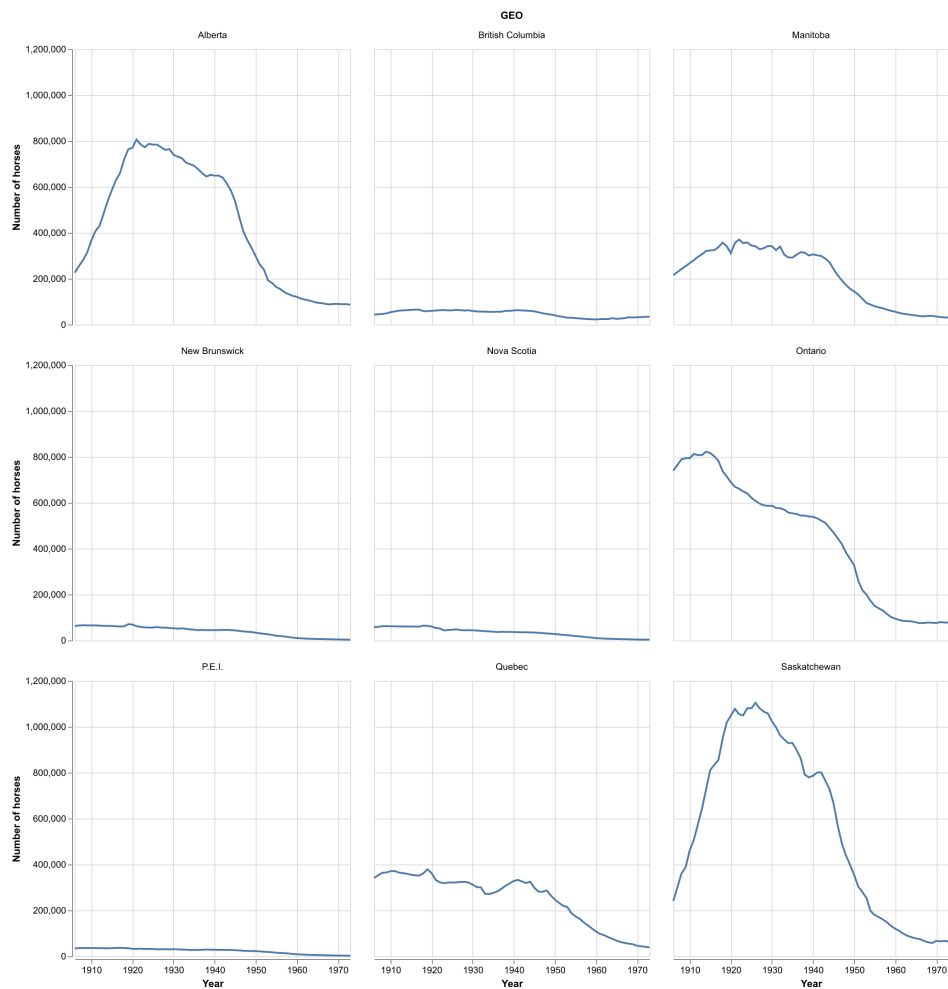## Horse Population Trends

Figure 1

Figure Figure 1: Horse populations for all provinces in Canada from 1906 - 1972.

As seen in **Figure Figure 1**, Ontario, Saskatchewan, and Alberta have had the highest horse populations in Canada. All provinces have experienced a decline in horse populations since 1940, likely due to the rise of the Canadian automotive industry after the Great Depression and World War II.

Standard Deviation of Horse Populations

The standard deviation values for each province are listed in **Table ?@tbl-horses-sd**.

```python
import pandas as pd
horses_sd_table = pd.read_csv("../results/horses_sd.csv")
horses_sd_table
```

	Province	Std
0	Saskatchewan	377265.575896
1	Ontario	266435.317269
2	Alberta	266063.191824
3	Manitoba	122403.871037
4	Quebec	111411.104370
5	New Brunswick	22019.494316
6	Nova Scotia	19879.253759
7	British Columbia	14945.664171
8	P.E.I.	11355.747559

Table ?@tbl-horses-sd: Standard deviation of historical horse populations (1906-1972) for each Canadian province.

The province with the highest standard deviation in horse population is:

```python
largest_sd = horses_sd_table.iloc[0, 0]
f"The province with the largest standard deviation is **{largest_sd}**."
```

'The province with the largest standard deviation is **Saskatchewan**.'

Province with Largest Standard Deviation

Figure Figure 2: Horse populations for **{largest__sd}**, the province with the largest spread of values in terms of standard deviation.
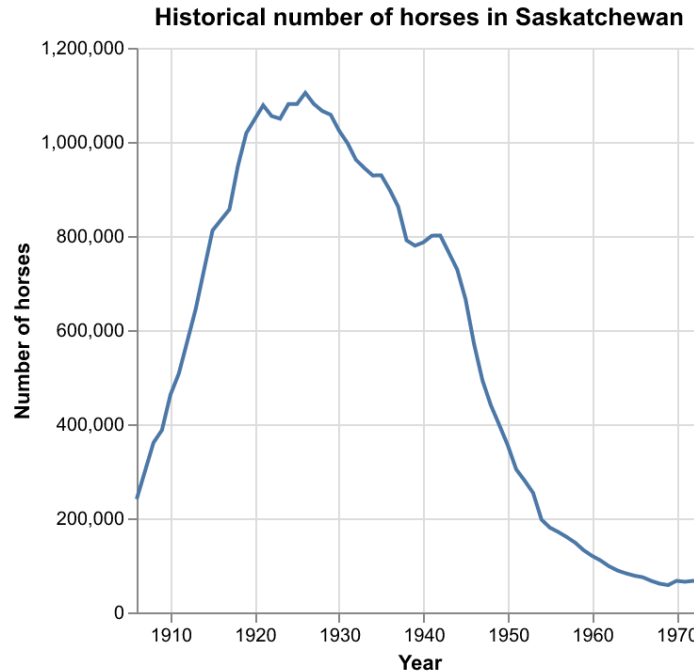
Figure 2

References

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