My title*

My subtitle if needed

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First sentence. Second sentence. Third sentence. Fourth sentence.

1 Introduction

You can and should cross-reference sections and sub-sections.

The remainder of this paper is structured as follows. Section 2….

2 Data

Variable of interest: Neighbourhood name where offence occurred using City of Toronto's new 158 neighbourhood structure, Crime rate from 2014 to 2023, including assault rate, auto theft rate, bike theft rate, break and enter rate, homicide rate, robbery rate, shooting rate, motor vehicles theft rate, theft rate

Some of our data is of penguins (**?@fig-bills**), from Horst, Hill, and Gorman (2020).

```
Rows: 10 Columns: 10
-- Column specification --------------------------------------------------------
Delimiter: ","
dbl (10): year, assault, autotheft, biketheft, breakenter, homicide, robbery...

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

---

*Code and data are available at: LINK.

```
Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
i Please use `linewidth` instead.
```

Average Crime Rates over time in City of Toronto's new 158 neighl
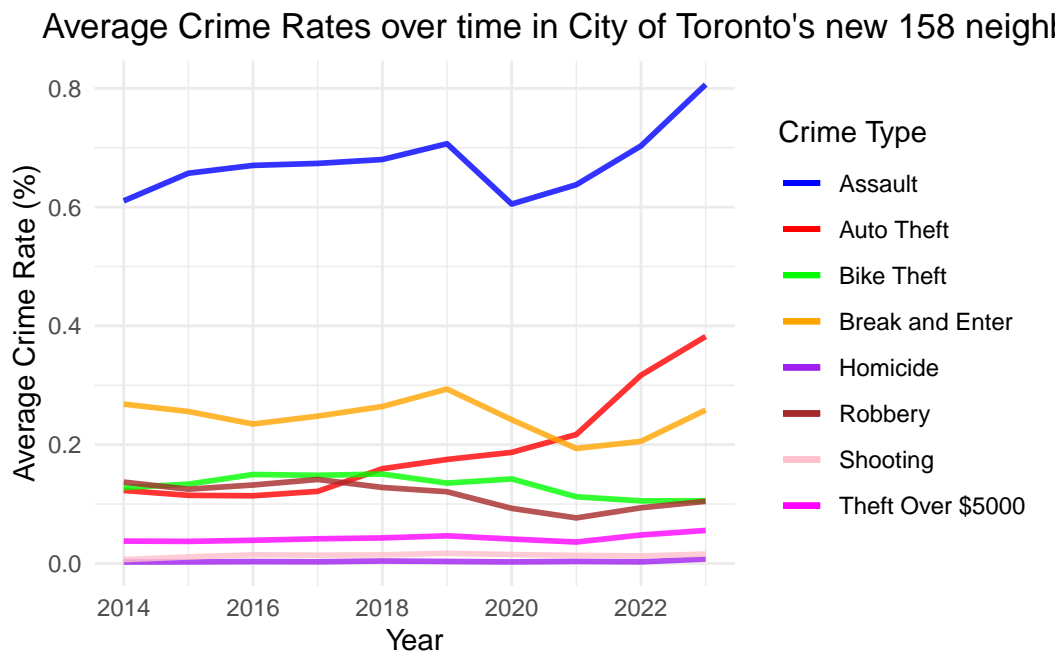

Figure 1: Bills of penguins

Talk more about it.

And also planes (**?@fig-planes**). (You can change the height and width, but don't worry about doing that until you have finished every other aspect of the paper - Quarto will try to make it look nice and the defaults usually work well once you have enough text.)

3 Results

Our results are summarized in **?@tbl-modelresults**.

4 Discussion

4.1 First discussion point

If my paper were 10 pages, then should be be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.
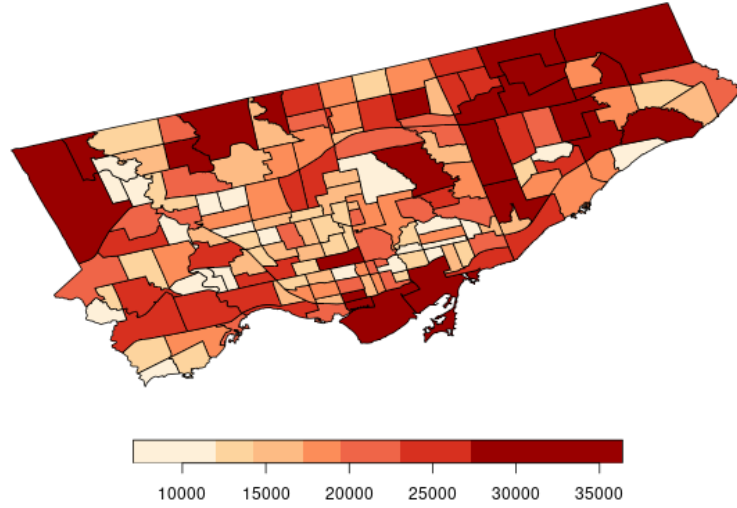
Figure 2: Toronto population density in 2023
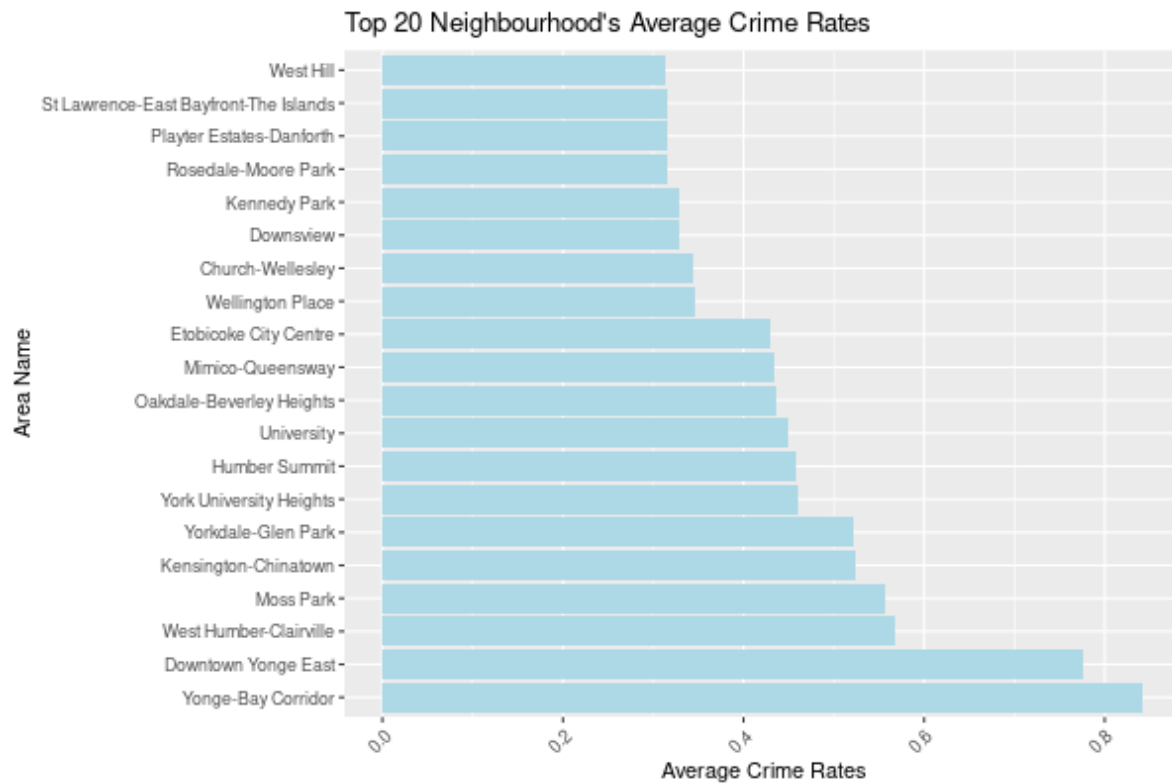

Figure 3: Crime rate heat maps in Toronto

Figure 4: Top 20 Neighbourhood's Average Crime Rates

4.2 Second discussion point

4.3 Third discussion point

4.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

Appendix

A Additional data details

B Model details

B.1 Posterior predictive check

In **?@fig-ppcheckandposteriorvsprior-1** we implement a posterior predictive check. This shows...

In **?@fig-ppcheckandposteriorvsprior-2** we compare the posterior with the prior. This shows...

Examining how the model fits, and is affected
by, the data

Figure 5: **?(caption)**

B.2 Diagnostics

?@fig-stanareyouokay-1 is a trace plot. It shows... This suggests...

?@fig-stanareyouokay-2 is a Rhat plot. It shows... This suggests...

Checking the convergence of the MCMC
algorithm

Figure 6: **?(caption)**

References

Horst, Allison Marie, Alison Presmanes Hill, and Kristen B Gorman. 2020. *Palmerpenguins: Palmer Archipelago (Antarctica) Penguin Data.* https://doi.org/10.5281/zenodo.3960218.