ASSESSMENT 2: DATA ANALYSIS

Part A: Proposal

36103 Statistical Thinking for Data Science

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Contents

1 Introduction

Death, injury and disability from road traffic crashes (RTCs) continue to be major global public health problems. A road traffic crash results from a combination of factors related to the components of the system comprising roads, the environment, vehicles and road users, and the way they interact. Identifying the risk factors that contribute to road traffic crashes is important in identifying interventions that can reduce the risks associated with those factors.

The aim of this study is to investigate the possible associations between some environmental factors and the increased risk of motor vehicle crash-related mortality in Victoria, Australia. Next, our group will try to predict the number of fatalities based on those factors.

(Breton et al. n.d.)

(Breton, Diamond & Kress n.d.)

Breton et al. (n.d.)

Breton, Diamond & Kress (n.d.)

(Martin n.d., Breton et al. n.d.)

Breton et al.

Breton, Diamond & Kress

n.d.

(n.d.)

The introduction should not be just a 'Literature Review.'

2 Research Questions

The reason why the study was conducted to identify the following problems.

- **Human:**

Are certain age groups more likely to cause accidents?

Are certain locations more dangerous more in certain weather?

Is alcohol a main cause to car accidents - Alcohol by location - Alcohol by age group

The level of damage done related to alcohol - number of people injured

- **Vehicles and Equipment:**

Are older cars (year of manufacturing) more likely to car crash?

Are taxis/buses/bicycles causing accidents? If there are more accidents in certain speed zones

Passenger seating position / driver is more injured? (Questions on whether driver protecting themselves or the passenger)

Were they wearing a seatbelts and/or helmet

- **Environment:**

Are certain cars more dangerous in certain weather conditions? Could road surface types lead to more accidents? Which time / hour of days likely to have more accidents? Which day of week

3   Methods

4 Model

5   Limitations

We don't have the data for cars driving that didn't get into an accident. Therefore, instead of predicting accidents, we are predicting deaths when accidents do occur.

6   Bibliography

Breton, A. R., Diamond, A. W. & Kress, S. W. (n.d.), 'Encounter, survival, and movement
probabilities from an atlantic puffin (fratercula arctica) metapopulation', **76**(1), 133–149. _eprint:
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Martin, A. R. (n.d.), 'The diet of atlantic puffin *Fratercula arctica* and northern gannet *Sula bassana*
chicks at a shetland colony during a period of changing prey availability', **36**(3), 170–180.
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7 Appendix(ces)

7.1 Appendix A: additional tables

Insert content for additional tables here.

7.2   Appendix B: additional figures

Insert content for additional figures here.

7.3 Appendix C: code

Insert code (if any) used during your dissertation work here.