

**PREDICTING TRUCK DRIVERS' CRITICAL EVENTS: EFFICIENT
BAYESIAN HIERARCHICAL MODELS**

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Dedication

To my parents.

Acknowledgement

I want to thank my PhD mentor and committee chair Dr. Steven E. Rigdon.

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Chapter 1

INTRODUCTION

1.1 Traffic safety

I used the **knitr** package and the **bookdown** package to compile my book. My R session information is shown below:

Package names are in bold text (e.g., **rmarkdown**), and inline code and filenames are formatted in a typewriter font (e.g., `knitr::knit('foo.Rmd')`). Function names are followed by parentheses (e.g., `bookdown::render_book()`).

1.2 Truck driver

Chapter 2

LITERATURE REVIEW

2.1 Truck crashes

2.2 Precursors to crashes

2.3 Risk factors

2.3.1 Fatigue

2.3.2 Traffic

2.3.3 Weather

2.4 Hierarchical Bayesian models

2.5 Conceptual framework

2.6 Gap and research aims

Aim1:

Aim2:

Aim3:

Chapter 3

METHODS

3.1 Data source

3.2 Study design

3.3 Analytical Plan for Aim 1

3.4 Analytical Plan for Aim 2

3.5 Analytical Plan for Aim 3

Chapter 4

AIM 1

Chapter 5

AIM 2

Chapter 6

AIM 3

Chapter 7

DISCUSSION