Analysis Road Accident Severity in Seattle

# Introduction: Business Problem

Approximately 1.35 million people die each year as a result of road traffic crashes. Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury. It is one of the major causes of premature deaths. They are many factors that influence the severity of a road accident whenever it occurs, including weather conditions, speed of the vehicle, condition of the road, etc.

The seaport city of Seattle is the largest city in the state of Washington, as well as the largest in the Pacific Northwest. As of the latest census, there were 713,700 people living in Seattle. Seattle residents get around by car, trolley, streetcar, public bus, bicycle, on foot, and by rail. With such bustling streets, it’s no surprise that Seattle sees car accidents every day.

In order to reduce the severity of a road accident or prevent it altogether, there is a need to understand how the different factors affect the severity of a road accident. By understanding the relations between these factors, and developing a model that can predict the severity of a road accident with high accuracy, road users can use these predictions to adjust their driving or change their travels if possible, so that they can reduce the severity of the accidents or avoid it. This would greatly reduce the severity of accidents and some accidents will be avoided.

The audience of this project are the policy makers of Seattle and road users in general. By having these data, policy makers can make policies that reduces the number of road accidents and their fatality.

# Data

The data that is used in this project is provided by SPD and recorded by Traffic Records. The data is from the year 2004. The data set provided for this work allows the analysis of a record of 200,000 accidents in the state of Seattle. The target of the data is the severity of the accident. The data has different features that relate to the severity of the data like speed, number of vehicles involved, number of passengers, etc.

A data exploratory will be done on the data to understand the data and identify relationships. These relationships will be used in the creation of a machine learning model that will predict the severity of data using supervised classification algorithms.

This data will be split into training and testing data to be used to train the model and test for out of case accuracy.

# Methodology

## Exploratory Data Analysis

In order to gain a deeper understanding of the data, I did an exploratory data analysis.

## Relationship between Accident Severity and Features in the Data

# Predictive Modelling

# Conclusion

(Introduction where you discuss the business problem and who would be interested in this project)

* Data where you describe the data that will be used to solve the problem and the source of the data.
* Methodology section which represents the main component of the report where you discuss and describe any exploratory data analysis that you did, any inferential statistical testing that you performed, if any, and what machine learnings were used and why.
* Results section where you discuss the results.
* Discussion section where you discuss any observations you noted and any recommendations you can make based on the results.
* Conclusion section where you conclude the report.