# 

IBM Data Science Capstone

*Predicting Accident Severity*

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# Introduction

## Business Problem

Across the globe road traffic accidents are significant cause of death every year. Of these, a substantial portion is directly attributable to the weather conditions.

In details releases in 2018, the U.S. Department of Transportation (DOT) said more than 5.8 million vehicle crashes occur each year based on statistics from 2007 to 2016. About 21 percent of those, or just over 1.2 million, involved hazardous weather. These have directly caused approximately 5000 deaths per year.

This means that weather related vehicle accidents cause higher number of deaths than large-scale weather disasters like hurricanes, tornadoes, flooding etc.

## Audience

There is a need for s solution that can predict the likelihood and severity of the accident based on the weather conditions so that we can have more effective warning systems. This would be helpful to:

*Regulatory organizations* – Framing of traffic/transport safety rules and guidelines

*Local government* - Focusing and deploying road safety resources more efficiently and dynamically

*Vehicle manufacturers* – Dynamically tailoring safety features/warning systems to current location and weather conditions

## The Dataset

The solution proposed here uses the following data set.

|  |  |
| --- | --- |
| Data Source | Seattle Police Department, Traffic Management Division, Traffic Records Group |
| Time frame | 2004 to present |
| Key Contents | Collision data including key information such as location, severity, intersection, road conditions and weather conditions |

The dataset not only covers a large time frame but also consists of more than 35 attributes that provide a great level of detail on the circumstances of each accident. Key attributes like severity of accident, weather conditions and road conditions are clearly labeled and described.

This makes this data set ideal for modelling the problem at hand.

# Methodology

TBC

# Results

TBC

# Discussion

TBC

# Conclusion

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