Predicting Accident Severity

# Introduction:

## Background:

The data used in this project is provided by Seattle Police Department. The goal of this project is to predict the severity of an accident based on the given collision data in the csv file. There are several groups who would be interested in these predictions; however, the main focus is on the police department and other first responders would like to know the severity of the accidents to maneuver the help that is needed for the victims as soon as possible. Further, the everyday commuters would also benefit from knowing this information, which can help them decide how to re-route their travel plans.

## Problem Statement:

In a metropolitan city like Seattle, there is always a high chance of severe accidents based on the heavy traffic during the rush hours. It would be extremely beneficial for the Police Department and other first responders to be able to predict the severity of a given accidents based on the preliminary information they obtain; this can help the first responders response faster and could help save lives.

## Interests:

A prediction of severity of accidents could help the first responders to respond to a given situation swiftly and with optimum tools. This could not only save lives but also help save time and resources, could prevent the first responders from overwhelming situations on a given day.

Major risk could be over-prediction and thus engaging a large number of first responders even when the accident is relatively less severe. Though this could be tackled by updating the data and remodeling the model on new/ updated model.

## Objective:

Objective of this project is to predict the severity of the given accident based on the preliminary information which is known to the first responders when they receive a 911 call. In order to develop a machine learning model, the CSV file that was downloaded will be used. It has several parameters/ attributes. The data will be carefully filtered through the elementary data analysis phase. The filtered data will be used to develop the model. This dataset to help create and train the model, and a subset will be used for testing this model.