Introduction/Business Problem

Road accidents continue to kill many people every day in the world. In the UK for example, 1,784 people died in 2018 from road accidents in addition to over 25,000 people that sustained serious injuries (UK Department for Transport, 2018). All road accidents differ in severity based on a multiplicity of factors. Understanding the impact of road characteristics, weather conditions, car and driver characteristics on the severity of road accidents continue to a key policy discussion in road safety.

The intent of this project is to build a machine learning classification model to predict the severity of a road accident based on road characteristics, weather conditions, car and driver characteristics. Understanding those relationship would help drivers determine when to take a trip given their characteristics, the weather, the road conditions or the car they are driving. The model will also contribute to ongoing government efforts and campaign messages. For instance, if certain age groups driving certain types of cars are found to be at risk of severe accidents then campaign messages could be tailored to those groups appropriately. Also, if certain types of road under certain types of weather conditions are more likely to result in severe road accidents, then appropriate investments and warnings can be developed as a response.