**Introduction/Business Problem**

Accidents in traffic lead to associated fatalities and economic losses every year worldwide and thus is an area of primary concern to society from loss prevention point of view. According to preliminary estimates from National Highway Traffic Safety Administration (NHTSA), 36,120 people died in motor vehicle crashes in [2019](https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812946), down 1.2 percent from 36,560 in 2018. Reducing traffic accidents is an important public safety challenge around the world. Accident prediction is important for optimizing public transportation, enabling safer routes, and cost-effectively improving the transportation infrastructure, all in order to make the roads safer.

The goal of accident prediction is usually to provide a measure of the risk of accidents at different points in time and space. The occurrence of an accident is the label used to train the model, and the proposed model can be used to identify where and when the risk of accident is significantly higher than average in order to take actions to reduce that risk.