Background

Seattle also known as the Emerald city is Washington state’s largest city and has many international people. Due to increasing population, number of vehicles in Seattle has increased causing often traffic jams. In addition, Seattle’s rainy weather is adding fire to the bad traffic conditions.

Problem

Road accidents have been a major cause for concern across Seattle City, claiming about thousand lives per year.

Next to this intolerably high number of lives lost, about millions are injured in road traffic crashes. As a result, our societies bear a huge cost. Road traffic injuries are the leading cause of death among young people in the region and are predicted to increase in countries with low or medium income as they become more highly motorized.

The fact that effective preventive strategies do exist makes this situation all the more unacceptable. The success of some other states in reducing the toll of deaths and injuries on their roads clearly demonstrates strong commitment. Much can be learned from these experiences and innovative approaches and be reapplied and adapted to various situations. With this project, our objective is to reduce road accident severity by analyzing certain known factors such as weather conditions, road conditions, speeding, etc.

Data Understanding

Road collisions data consist of information related to severity of the road collisions along with various factors that could cause road collisions. Injury Collision and Property Damage Collision are two the severe collisions recorded by Traffic management. Other major causes and details of collisions recorded includes Weather, Road condition, Light condition, junction information, speeding and so on.

Data set contains 194673 rows × 38 columns. Data captures contains lot of empty fields, NAN (not a number) and other invalid values. These values won’t be considered for data modeling as it may result in incorrect information. Classification algorithm will be used for modeling as target variable SEVERITY is categorical with discrete value ‘Property damage’ and ‘Injury collision’.