A Project Report on

"Road Accident Analysis & Prediction of Accident Severity in Seattle"

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September 2020

1. Introduction

1.1 Background:

In the last two decades, most of the countries have witnessed a steep rise in road accidents. The two crucial factors that are responsible for it are population growth and large immigration to urban cities. In this project, we are going to take the case of the City of **Seattle.**

Seattle, a seaport city on the west coast of the US, is home to around 8 lac people. Washington State's largest city is also an address of some of the largest Tech Industries with Microsoft and Amazon headquartered in its metropolitan area. Residents of this city get around by various means of transportation such as a car, trolley, streetcar, public buses, bicycle, on foot and by the rail. With such busy streets, it is of no surprise that the city is witnessing road accidents every-day.

According to the recent 2019 Annual Traffic Collison report from the Washington State Department of Transportation (WSDOT), there were a total of 10,315 cases of crashes in Seattle alone. Out of which, 22 were fatal, 190 were serious injury collisions and 834 were minor injury collisions.

From the above stats, it is evident that the city needs some strict measures to counteract the current situation. Predicting the severity of crashes is a crucial constituent of reducing the consequences of accidents. This project is a major step to do the same.

1.2 Problems:

An Accident is a final consequence of the number of factors at play. There are plethora of factors such as Infrastructure (road condition, Sign Boards), weather conditions, vehicle condition, traffic behaviour (driver, pedestrian and passengers), characteristics of driver (age, attentiveness), location, time of the day, etc. Furthermore, some of those factors are more important in determining the severity than the others. Thus, it is evident that the analysis of determinant factors will help in revealing more patterns and knowledge that can be used in predicting severity, prevention and safety strategies of traffic accidents.

1.3 Interests:

This project and its conclusions are of paramount importance not only for the Seattle Department of Transportation (SDOT) but also to the general public so that they can take precautionary measures to avoid the accidents. The outcome of this study must be implemented practically for the sake of the safety of citizens and to provide the required treatment in case of any mishaps.