Prediction of the Car Accident Severity for the City of Seattle

Coursera Capstone Project

Silviya Ninova

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Introduction

In its "Global status report on road safety 2018", the World Health Organization (WHO) states that road traffic injuries took the life of about 1.35 million people.[1] It is the main cause of death for young people in the age group 5-29 years and the 8th leading cause of death globally.[1] Such a tragic situation often comes at a high emotional cost. The victims' families are left to cope with the fact that their loved ones have been suddenly taken away from them. Survivors often have to suffer the devastating impact lifelong injuries have on their physical and mental health, and financial status. At an economical level, this is translated as up to 3% of the annual gross domestic product going for costs related to road accidents.[1] It is thus of vital importance on global and local scale to have a strategy for road-accidents prevention, so as to save the lives of the generations to come.

High-income countries are reported to have an overall decrease in the fatal road accidents, as compared to low- and middle-income countries.[1] Among the former is the United States of America, which however individually shows the opposite trend. The fatality rate per 100,000 population did drop by 4.4 between the years 2005-2014. As of 2014, however, the numbers have been slowly crawling back up again with a peak in 2016.[2] Identifying thus the major factors leading to an increased accident severity is of paramount importance in the road traffic injury prevention. Potential victims could be saved from a hospital stay or even long-term damage, which would also influence positively the economical costs associated with these.

In the present report, I am going to investigate road accidents on a local scale, namely for the town of Seattle. The aim of this project is to determine the variables on which the accident severity depends and whether these can be used to predict the risk of a collision with injured people. Such knowledge is of paramount importance to the local authorities, who in line with the strategy for road traffic injury prevention, can take the necessary precautions and alert the local population for high-level collision risks.

References

[1] Global status report on road safety 2018. Technical report, World Health Organization, 2018.

[2] National highway traffic safety administration. Technical report, United States Department of Transportation, 2018. [Online; accessed 15-September-2020].