Coursera Capstone Report

A Better way to Bicycle

**Introduction/Business Problem**

City roads in America today are not just for cars and buses but many other forms of transportation including bicycles, scooters, and skateboards, just to name a few. The many modes of transportation were not in the original plans when city engineers laid out the street plans. Narrow streets, limited parking, inability to widen the roads all play a factor into the current traffic system, however in recent years more and more cities have been adding bike lanes. These lanes have come at the expense of lane width, parking lane removal, or total street layout redesign. These are all problematic when you look at accidents that involved a bicycle as riders continue to be at risk. Rider behavior however is factor that is rarely accounted for when creating new patterns and laws. While exploring traffic accident data from the city of Seattle we will analyze if possible to instead of having city engineers continue redesigning city streets that city officials should instead be working with police departments and local riders to change rider habits. Machine learning algorithms will be used to analyze accident reports to help generate this data. Safer roads for bicycles and individual modes of transpiration will translate into safer roads for all even if it means not changing the roads.

**Data**

The data being used comes from Seattle Police Department (SPD) and recorded traffic records. It includes all collisions from the year 2004 to present, and is updated on a weekly basis. For this report we will be focusing mostly on accidents that have at least one bicycle indicated in the column “PEDCYLCOUNT.” “SERVITYCODE.1” will be used to show the type of injury that came from the accident, 0-none, 1-Property Damage, 2-Injury. “ADDRTYPE,” which shows where in the road did the accident occurred “Block,” “Alley,” or “Intersection.” “ROADCOND” describes the road as either “Wet” or “Dry” and is used to show whether traction or stopping distance could’ve played a roll in the accident. “ST\_COLCODE” will be used to show the type of collison that occurred which will provide insight into how the accident occurred. A sample of the data before procession can been seen below. Here is a link to the [data](https://s3.us.cloud-object-storage.appdomain.cloud/cf-courses-data/CognitiveClass/DP0701EN/version-2/Data-Collisions.csv) and link to the [metadata](https://s3.us.cloud-object-storage.appdomain.cloud/cf-courses-data/CognitiveClass/DP0701EN/version-2/Metadata.pdf) for the reports.

