Coursera Capstone Project Overview
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Background:

Madison, Wisconsin is a community full of bicyclists, but the city was not originally built to be bicycle friendly. The city has made great strides in creating bike paths and bike lanes throughout the city and has even received Platinum Bicycle Friendly Designation from the League of American Bicyclists. However, the city still has several bicycle and motor vehicle accidents every year. In the last year, (January, 2019 to January, 2020) there have been 113 crashes reported, two of which were fatal.

Problem:

The goal of this study is to determine if the listed hazards that are known by the city of Madison are correlated to the crashes reported in the last year. I plan to explore the different categories of hazards, such as difficult crossings or lack of bike path connections, and evaluate if these areas are more likely to have crashes reported by bicyclists. The overall objective is to inform the city of Madison on areas that need focus for improvements for bicycle safety. This evaluation of hazards and locations of accidents will help the city of Madison to determine where limited resources will be best used.

Data:

The data will be obtained from two locations. The first is the Bike Hazards data provided by the City of Madison via their GeoData@Wisconsin website. This data is housed and updated by the University of Wisconsin-Madison. The Bike Hazards data includes suburbs of Madison, but for this analysis we are focusing on the city of Madison proper. The second source of data is the Community Maps - Wisconsin County TSC Crash Mapping website. Community Maps provides

a statewide map of all police reported motor vehicle crashes in the state of Wisconsin from 2010 to the current year. Community Maps is maintained by the Wisconsin Traffic Operations and Safety (TOPS) Laboratory for research purposes and as a service to the Wisconsin Department of Transportation Bureau of Transportation Safety. This data was then filtered to include those motor vehicle crashes that had a “Bike Flag” associated with them.

The two data sets will be overlaid in a geographic map that can be used to visualize clusters of hazards and accidents. The data will be categorically separated based on the hazard category to determine the types of hazards that are most associated with accidents (if any) and where the highest volume of accidents occur within the city of Madison.