**Executive Summary**

**Factors Impacting Motor Vehicle Crash Severity**

As a motorcyclist, I have a keen interest in traffic related data, especially accidents. Well known to the riding community is a report from 1981 generally referred to as the Hurt Report which examined factors related to motorcycle safety. In a similar vein, the goal of this project was to study a more recent traffic accident data set to determine if there are any patterns to be found related to accident severity.

For this study, a data set provided by Allegheny County, Pennsylvania was used. This publicly available data set contains crash data for the years 2004 through 2017. The fields include vehicle information, driver and passenger information, injury severity, fatalities, road and weather conditions, and location information. There are a total of 189 features and 170,358 incident records.

Several features were deemed to be either redundant or not relevant to the target variable. In total, 72 features were removed, leaving 117. Further analysis led to the removal od 7 additional features. Of the 110, several were categorical, requiring the creation of dummy variables. 17 features were converted to 292 dummy variables, resulting in a new total of 384 features.

Accounting for the many categorical variables in the data set, creating dummy variables resulted in a total of