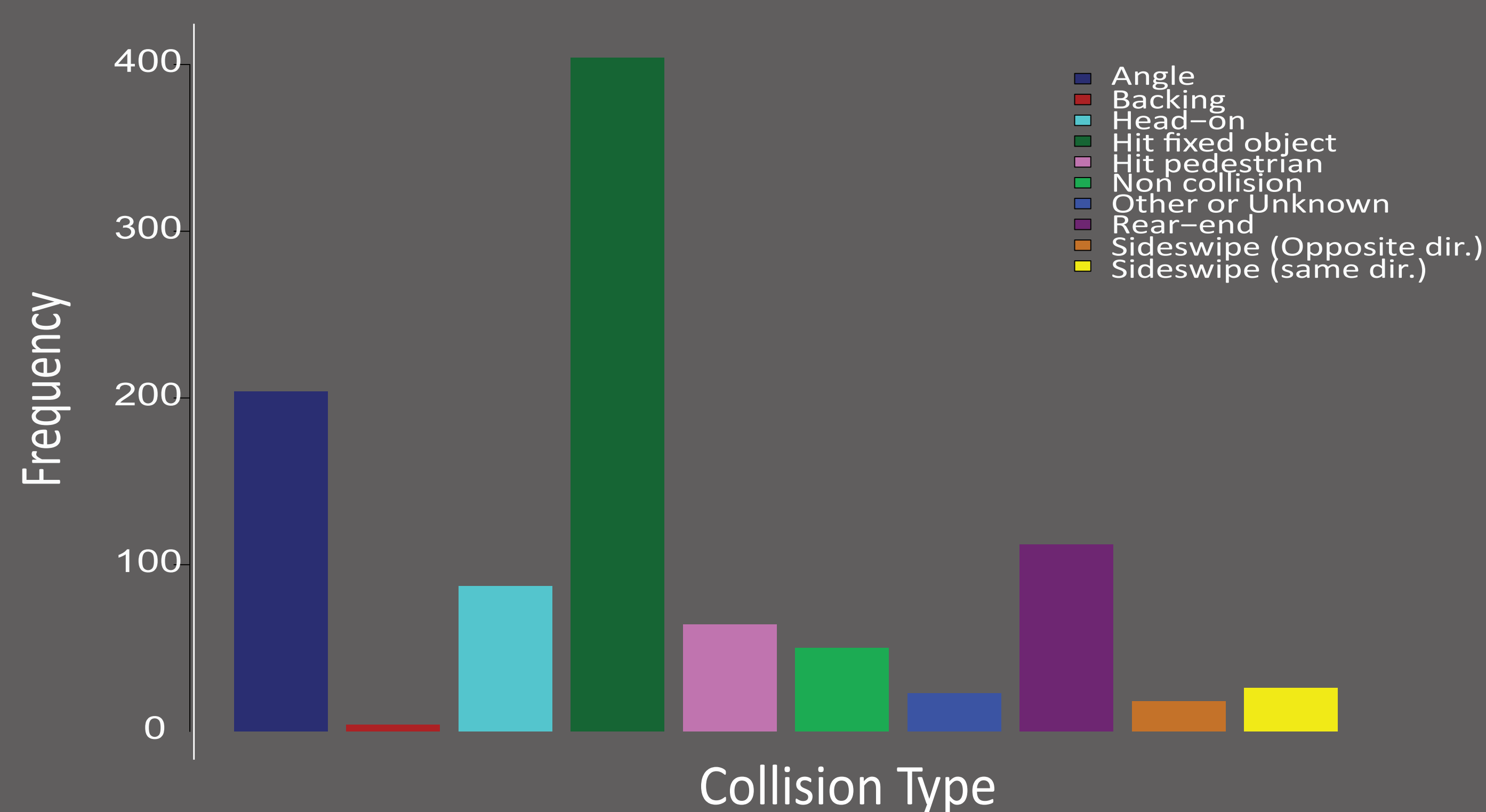


Analyzing Allegheny County Auto Collisions

David Doman | IST 719

Automobile accidents are very prevalent in everyday life injuring and taking the lives of thousands of Americans each year. Although there have been improvements in safety measures such as seat belts, notifications when changing lanes, cameras for reversing, etc. But there has also been things that have increased dangerous driving, for example, cell phones. Certain aspects have been somewhat constant throughout time, such as weather & road conditions, as well as, illumination conditions.

Collision Frequency by Type



Data

The Auto Crash dataset includes all reported auto crashes that occurred in Allegheny County between the years 1997 and 2017. The original dataset included 180 variables, most of which were not useful so they were removed. The dataset used in this analysis contained 24 variables and 992 observations. Minor cleaning was performed due to different wording used to describe the same thing.

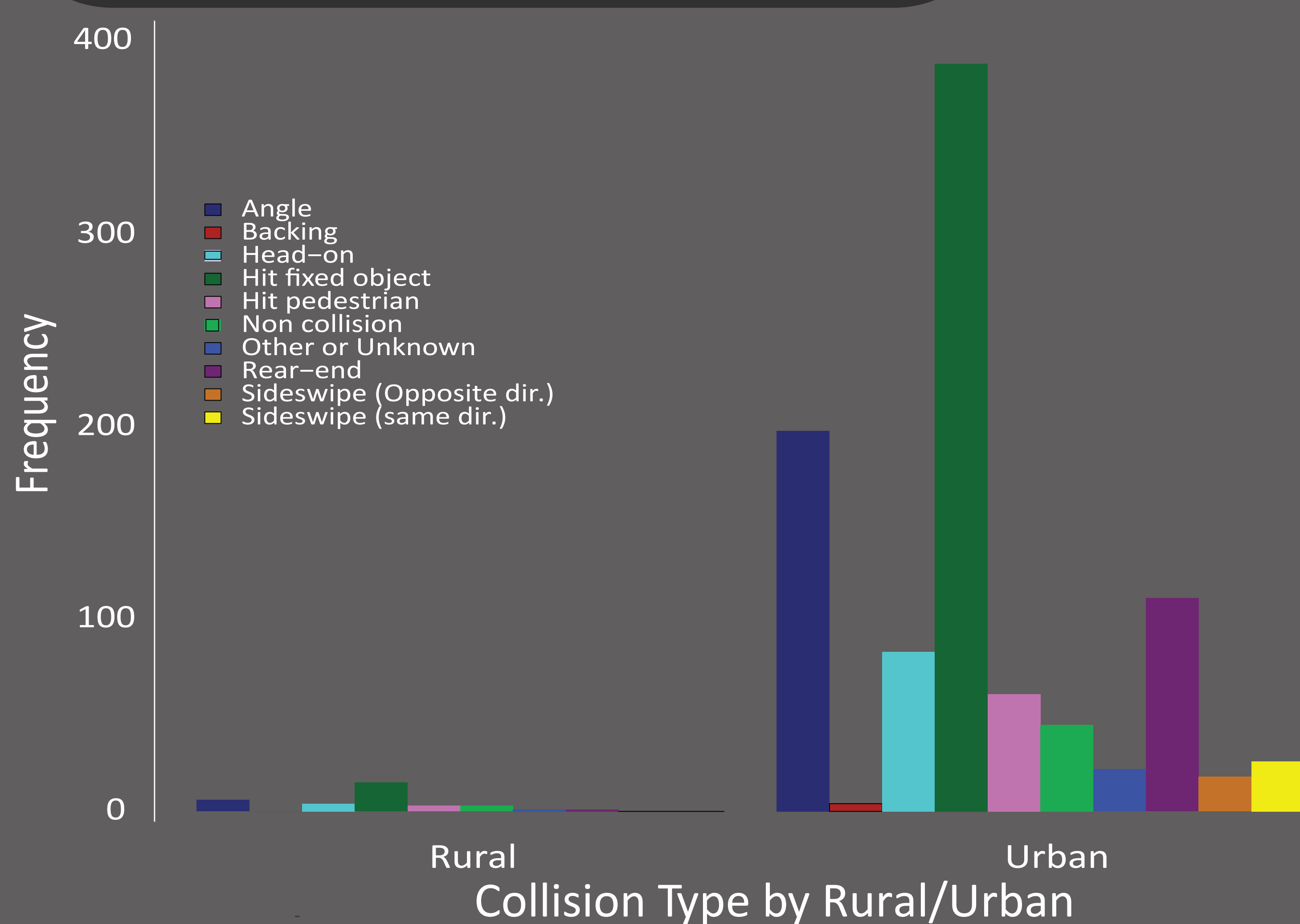
Audience

Allegheny County government officials, as well as, Allegheny County citizens would be the interested parties for this analysis. Analyzing and understanding how and when auto accidents are most likely to occur can assist in creating better laws, help with future road construction and ultimately educate citizens on dangerous scenarios.

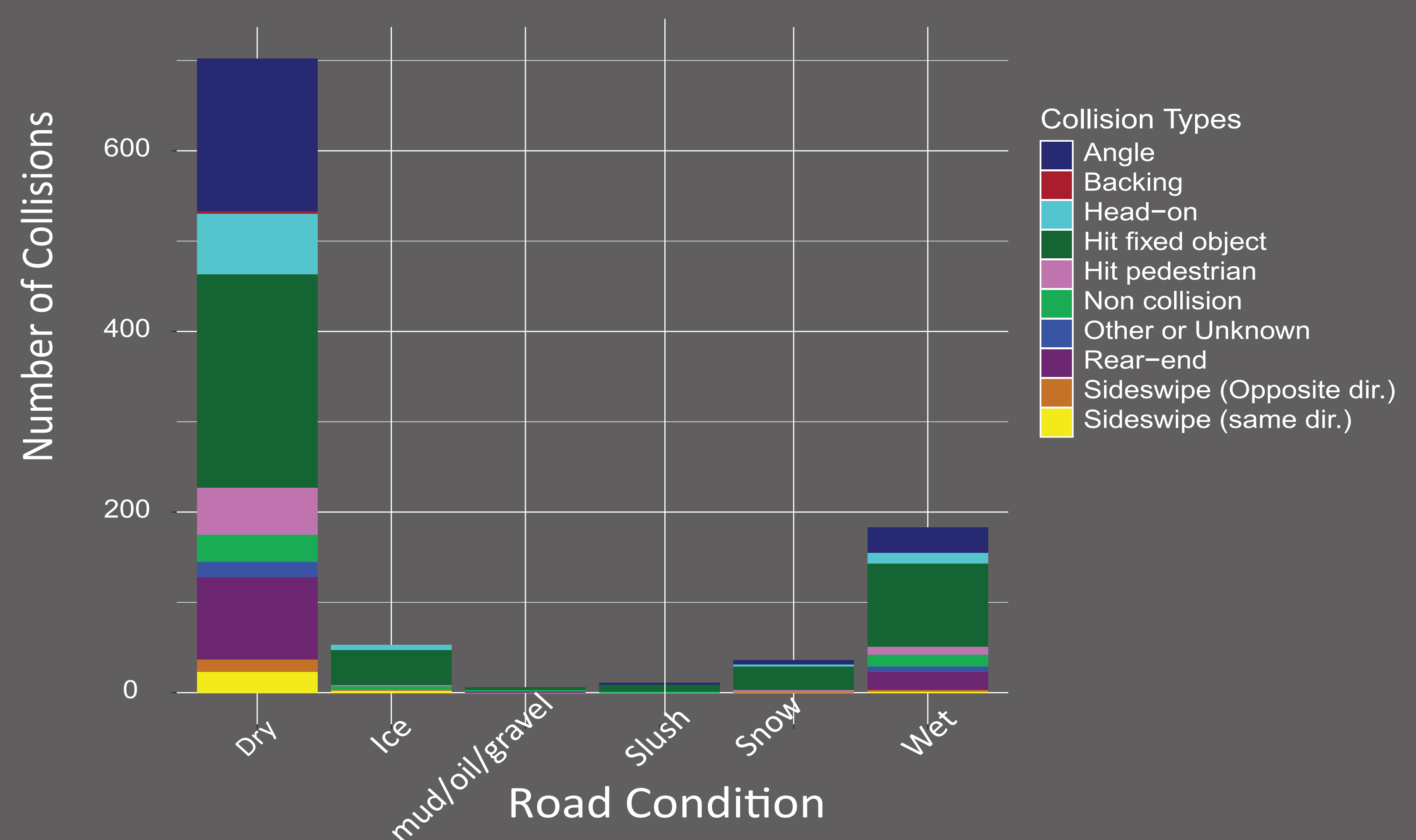
Questions

1. Can frequency of crashes be correlated to time of day or type of collision?
2. Does type of weather/road conditions affect collision frequency?

Collision Type by Rural/Urban



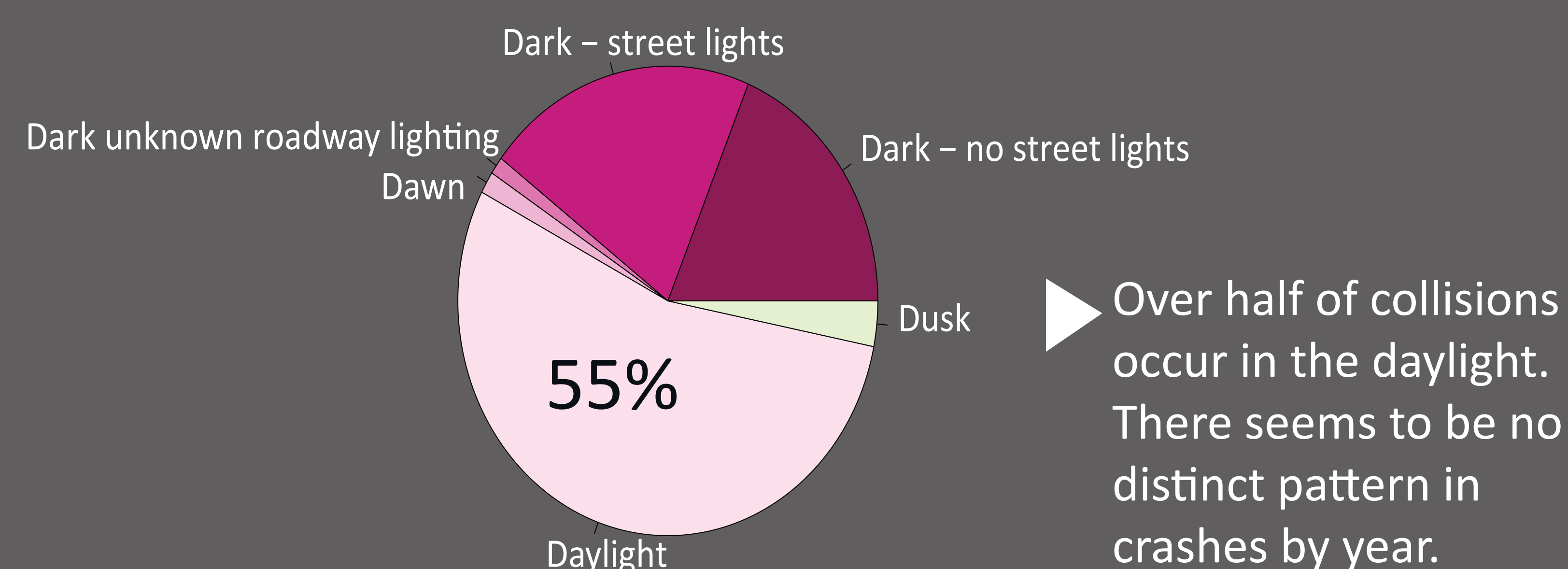
Collision Type by Road Condition



Being an overwhelmingly urban county, frequency of Urban accidents compared to Rural accidents is drastically different. Although, in both settings Angle & Hitting fixed objects are most frequent.

Surprisingly, by far the road condition where the most collisions happen is when it's dry. Wet conditions were second followed by ice conditions.

Frequency of Collision by Illumination



Over half of collisions occur in the daylight. There seems to be no distinct pattern in crashes by year.

Collisions by Year

