**Final Project – Music City Commuter Mayhem**

**INTRODUCTION**

Hello, Mr. Morey. You indicated in the phone interview that you wanted to see a sample of my project work, so I’ve prepared a multi-dashboard visualization focused on Nashville traffic accident predictions.

**Dashboard 1 – Machine Learning: Classifier, Regression Analysis**

This visualization flowcharts the machine learning process utilizing logistic regression and linear regression. Based on data exploration and the machine learning modeling results, the prediction indicates that there are no injuries or fatalities per accident, due in part to insufficient available data.

**CONCLUSION**

We do not have enough data to accurately predict the number of accidents resulting in injuries or fatalities. The available data sets are unbalanced and are skewed toward accidents with no injuries

**Dashboard 2 – Crash Maps and Fatalities**

The second dashboard is a crash map with traffic accidents and the number of daily fatalities by year. The crash map shows crash sites by location and number of injuries, denoted by graduated dot sizes and a corresponding color scheme.

The fatalities table show the daily fatality totals:

Hover

1. 2015: Hover over **Mar 31**
2. 2016: Hover over **Apr 18**
3. 2017: Hover over **Jan 03**
4. 2018: Hover over **Dec 10**
5. 2019: Hover over **Mar 27**

**CONCLUSION**

The number of fatalities were relatively low compared to total injuries (0.82%) between 2015 and 2019

**Dashboard 3 – Number of Injuries/Hit and Run by Time of Day**

The third dashboard compares the number of accidents involving injuries and hit/run incidents. Year-by-year comparisons clearly show direct correlation between these two metrics, with higher numbers of accidents peaking during morning and evening rush hours.

Click on individual years during the narrative

**CONCLUSION**

The likelihood of an accident is greatest during the daily rush hour periods

**Dashboard 4 – Illumination and Weather Effects**

The fourth dashboard addresses illumination and weather effects. Based on these metrics, the vast majority of accidents occurred during daylight hours when the weather was clear

**Dashboard 5 – Accidents Overview by Zip Code**

The final dashboard shows the accident count by zip code. The areas in green had the fewest accidents, while the red areas had the most accidents. This trend was consistent during the entire period. Additionally, the majority of the accidents happened along Interstate 24, likely stemming from the population growth in those areas and the increased traffic.

**CONCLUSIONS RECAP**

1. We do not have enough data to accurately predict the number of accidents resulting in injuries or fatalities. The available data sets are unbalanced and are skewed toward accidents with no injuries
2. The number of fatalities were relatively low compared to total injuries (0.82%) between 2015 and 2019
3. The likelihood of an accident is greatest during the daily rush hour periods
4. Most accidents occurred during daylight hours when the weather was clear
5. Zip code areas along Interstate 24 were most prone to accidents from 2015 to 2019 due to population growth and increased traffic