Abstract

The University of Maryland, Information Challenge 2023

Data Analysis Lvl 4 - Washington Data Crash Files

Team 026

Washington State has experienced several recent crashes from 2017 to 2022. To better understand the underlying factors contributing to these crashes and develop effective strategies for prevention, this presentation presents a well-thought-out analysis of crashes in Washington.

We begin by providing an overview of the challenge and our plans and methods to handle such data from the Washington Traffic Safety Commission. After cleaning and aggregating the data, we will also share our final results to find our challenge solutions.

Next, we explore the factors contributing to these crashes, including economic background, location, and environmental factors such as infrastructure. To do this, we use additional data from the US Census and discuss the possible considerations of improving roadway systems to enforce traffic safety. By extrapolating data from the US Census, we can decipher, confirm, or disaffirm theoretical factors that we suggested contribute to fatal crashes in Washington.

We also discuss the general solutions that the Washington Traffic Safety Commission could implement to address these factors, such as developmental roadway improvements, additional road safety equipment, and future considerations for road safety.

Finally, we conclude with helpful recommendations for the faculty/staff at the Washington Traffic Safety Commission, including a reverse geocoding python file for future uses. Overall, our analysis highlights the complex nature of crashes in Washington State and tackles many different approaches needed for prevention. We hope this presentation will serve as a valuable resource for those at the Washington Traffic Safety Commission and other crucial parties working to improve traffic safety in Washington.