



DRIVING CHANGE

**EMPOWERING DATA-
DRIVEN INTERVENTIONS
FOR SAFER ROADS AND
SMARTER POLICIES**

Introduction

This project aims to support the Vehicle Safety Board by analyzing data from the Chicago Police Department's E-Crash system to identify patterns and predict the primary causes of traffic accidents. It uses predictive modeling and data analysis to deliver actionable insights that enhance road safety, optimize resource allocation, and guide data-driven policy decisions.

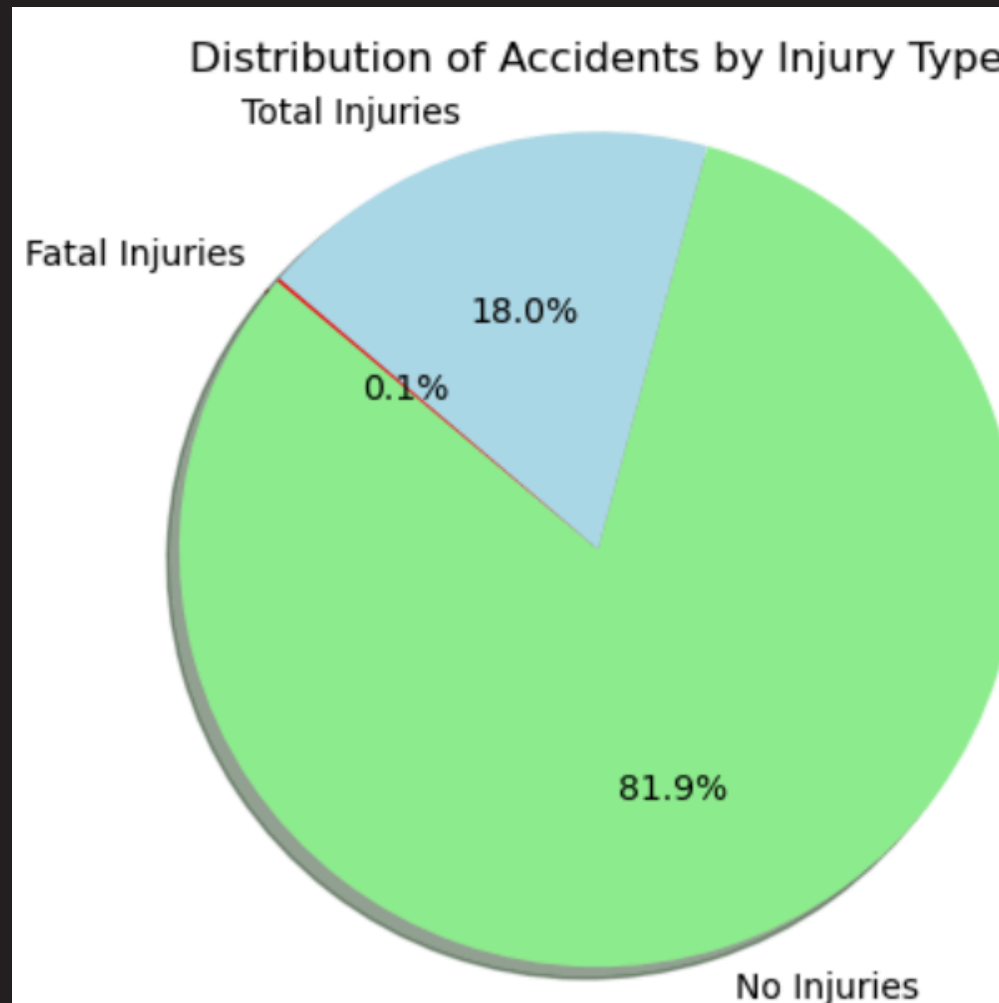
Transportation is vital to a nation's social and economic development, but increasing vehicles have intensified traffic safety and management challenges. By efficiently analyzing crash data, this project aims to advance road safety measures, inform strategic policies, and improve resource allocation, ultimately fostering safer streets and reducing accidents.

Traffic Accidents: A Persistent Challenge in Chicago

Despite advancements in vehicle safety technology and traffic management systems, traffic accidents remain a significant public health and economic concern in Chicago. Even with extensive data available from the Chicago Police Department's E-Crash system, a lack of detailed analysis and predictive capabilities has hindered efforts to address this problem effectively.

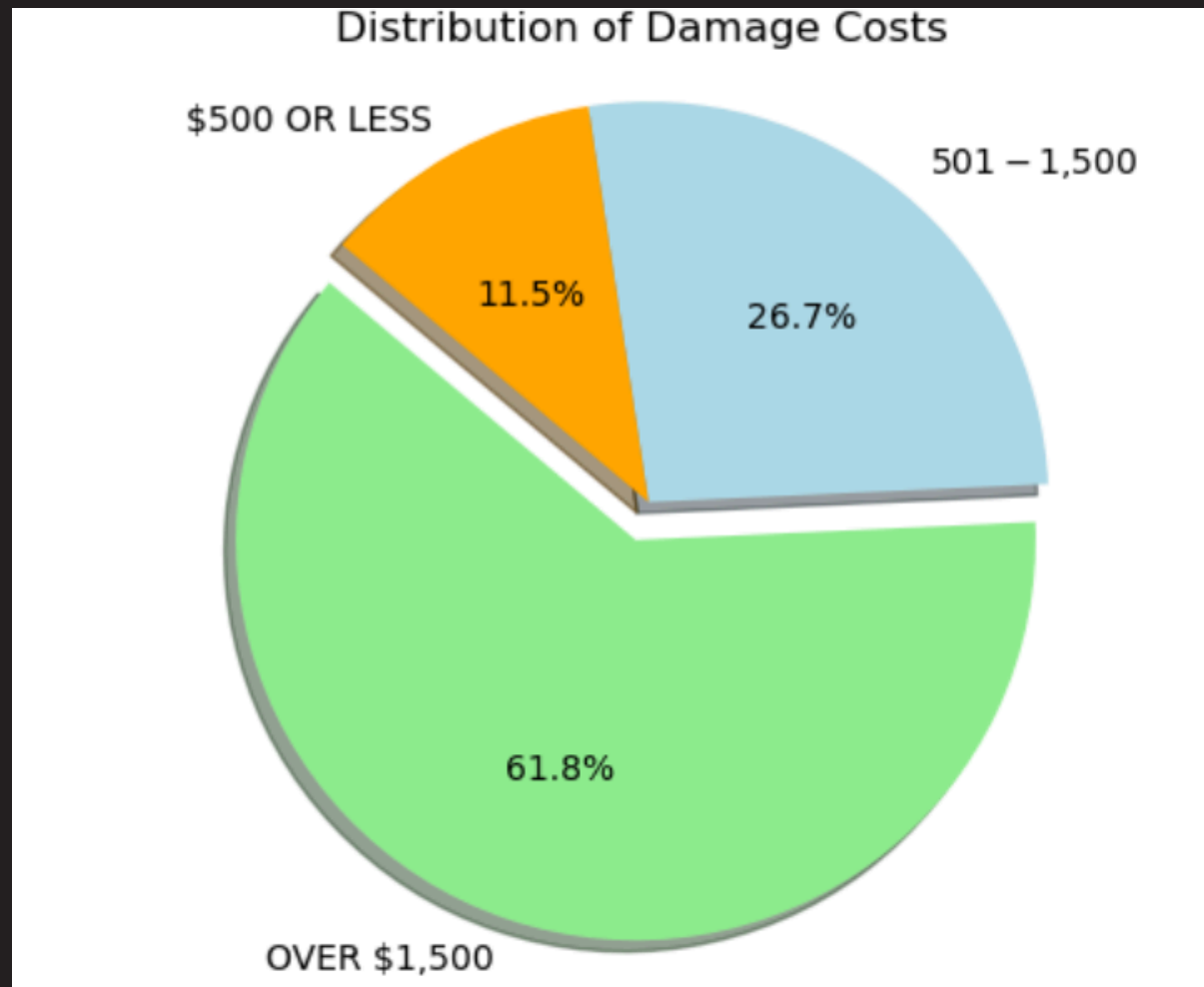
The challenge isn't just collecting data—it's about understanding it. Without the ability to predict and identify the primary causes of crashes, mitigation efforts remain reactive rather than proactive

Impact of Traffic Accidents



0.1% of accidents result in loss of life, a tragic outcome that could have been prevented. 18% cause injuries, placing a significant strain on healthcare and public safety. While 81% are non-fatal, they still lead to vehicle damage and disruption, highlighting the urgent need for preventive measures.

Economic Impact



61.8% of crashes resulted in damages exceeding \$1,500, representing a significant economic burden. Another 26.7% caused damages between \$501 and \$1,500, while 11.5% involved damages of \$500 or less. These figures highlight the substantial financial impact of traffic accidents and the importance of preventive measures to reduce costs.

Data Overview