

# Car Crash Classification

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# Meet our Team



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# Agenda

01

**Business  
Problem**

02

**Data**

03

**Findings**

04

**Recommendations**

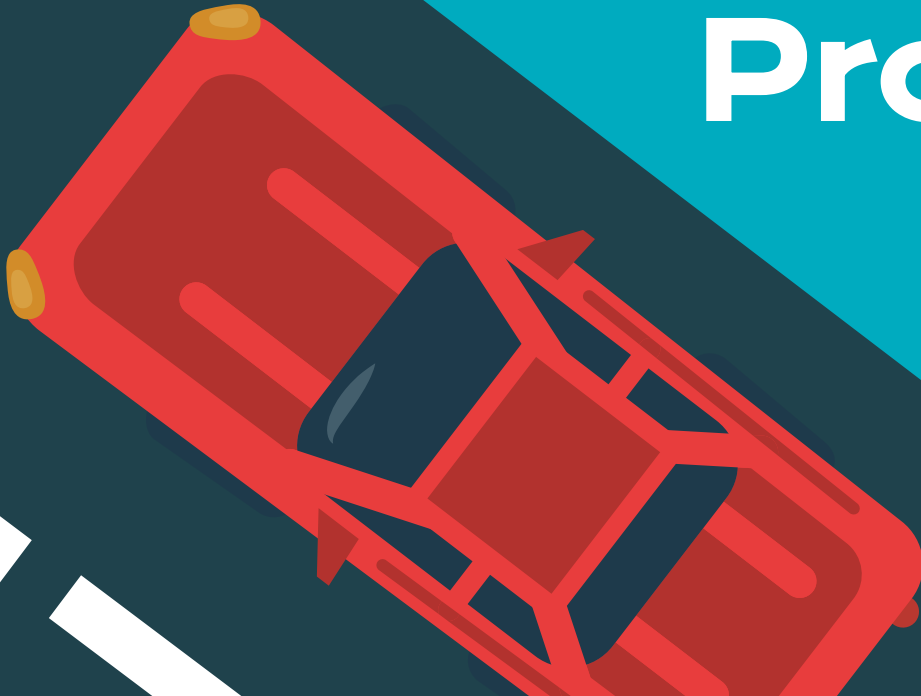


In 2023, there were a total of **95,000** car crashes in Chicago!  
Among these, there were almost **15,000** injuries



Crashes **ARE** preventable and predictable!

# Business Problem



# Chicago Department of Transportation

- Analyze data from car crashes
- Use predictive modeling to determine a Primary cause of car crashes that result in an injury





# Data Overview



# Chicago Data Portal

A

## 3 Datasets

Filtered from 2020,  
Passenger, SUV, Minivan  
Resulting in Injury

B

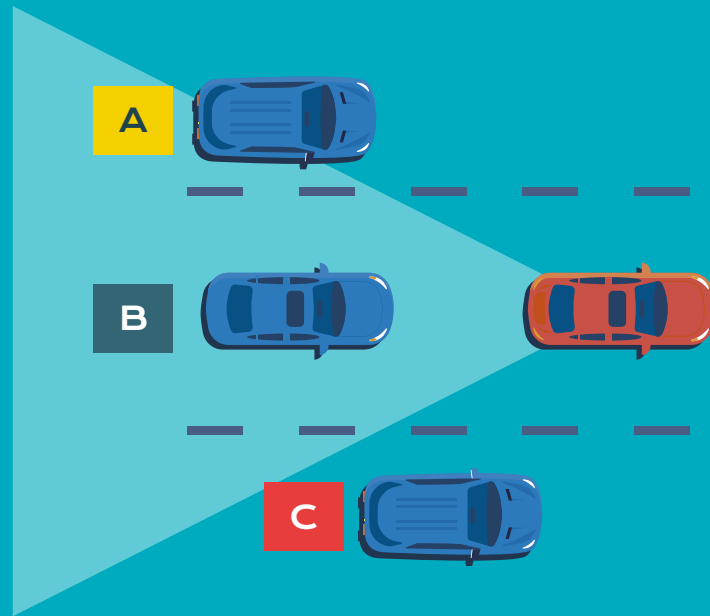
## Size

305K Crashes

C

## Limitations

Officer reported data,  
subject to interpretation  
and human error



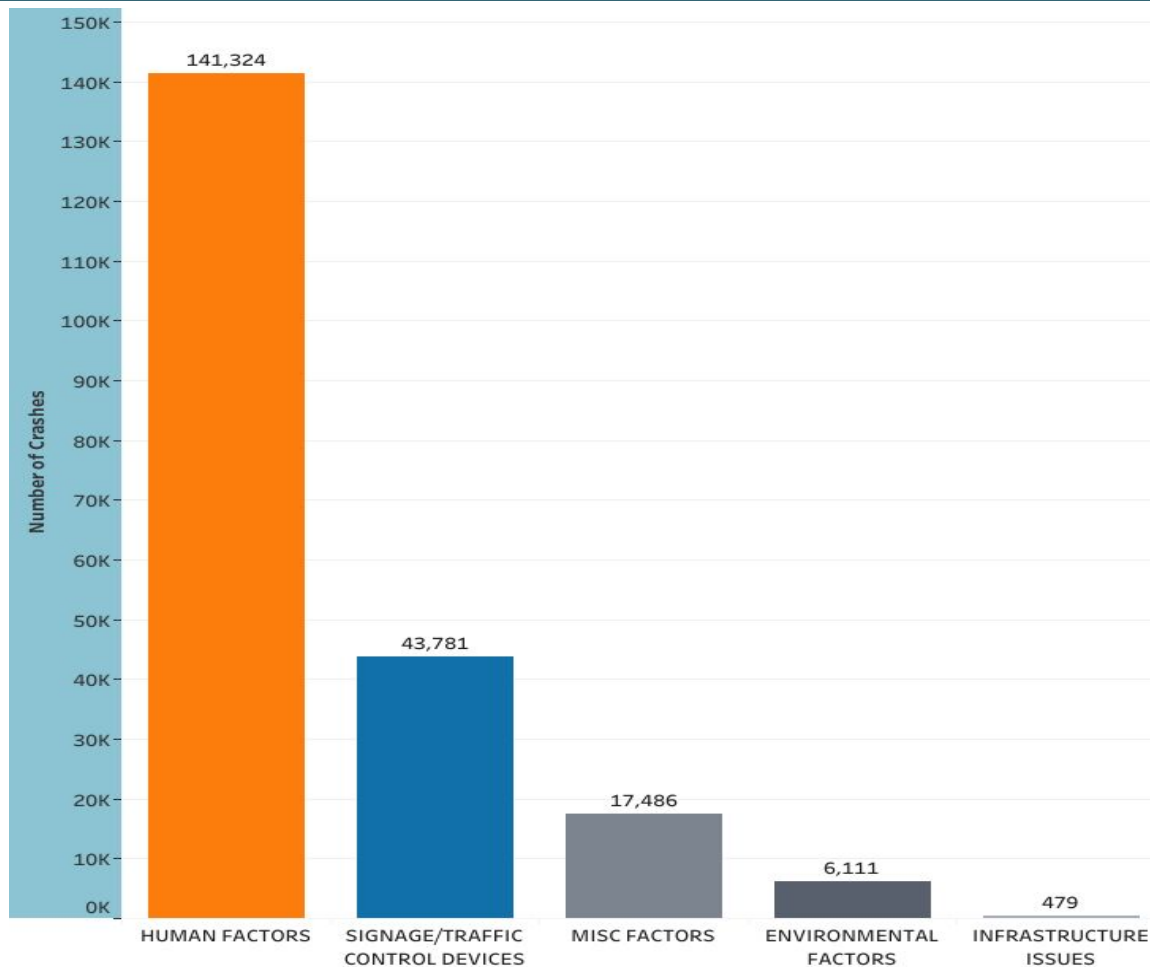




Analysis



# Human Factors cause a majority of the crashes





Modeling

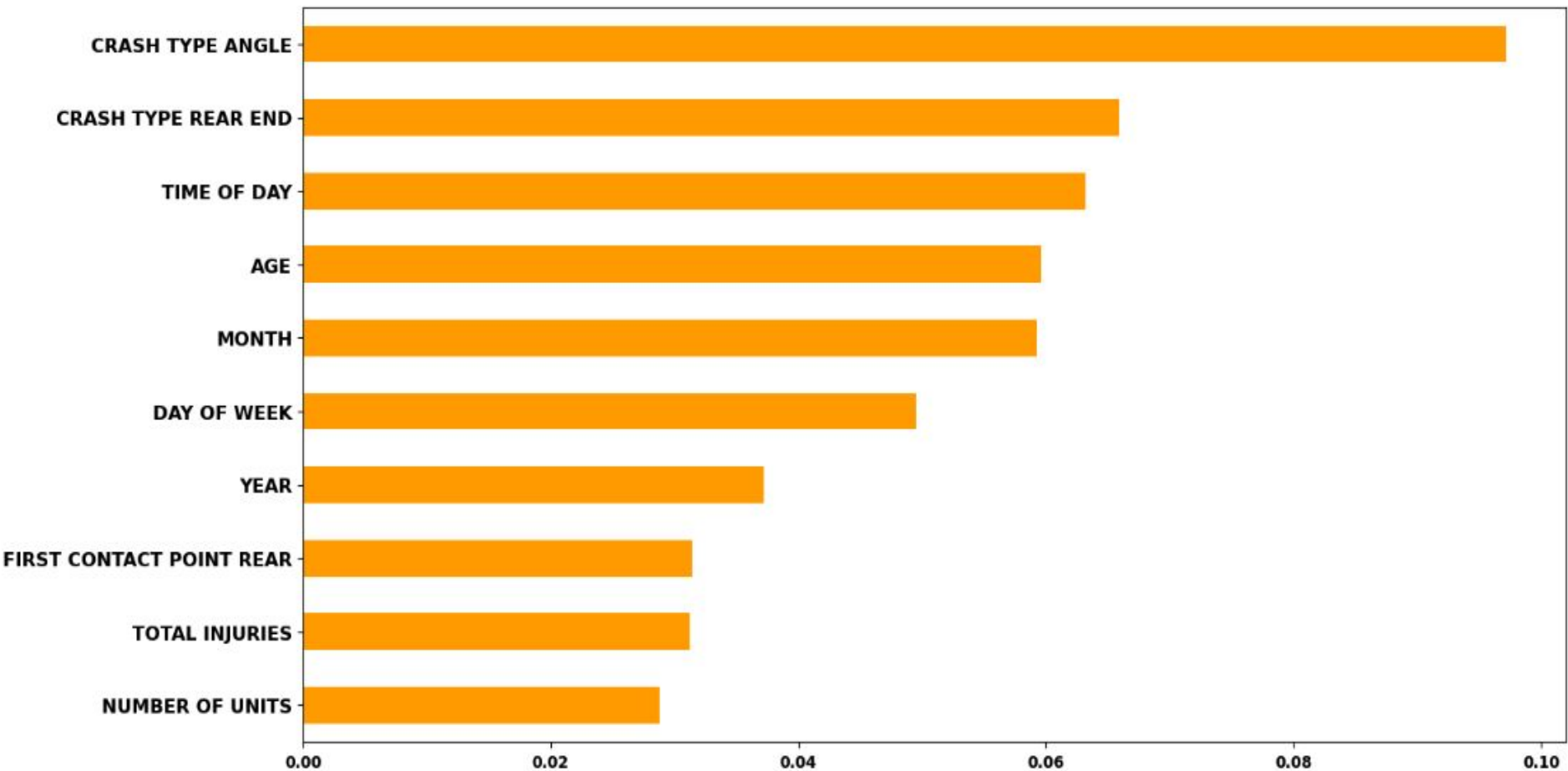




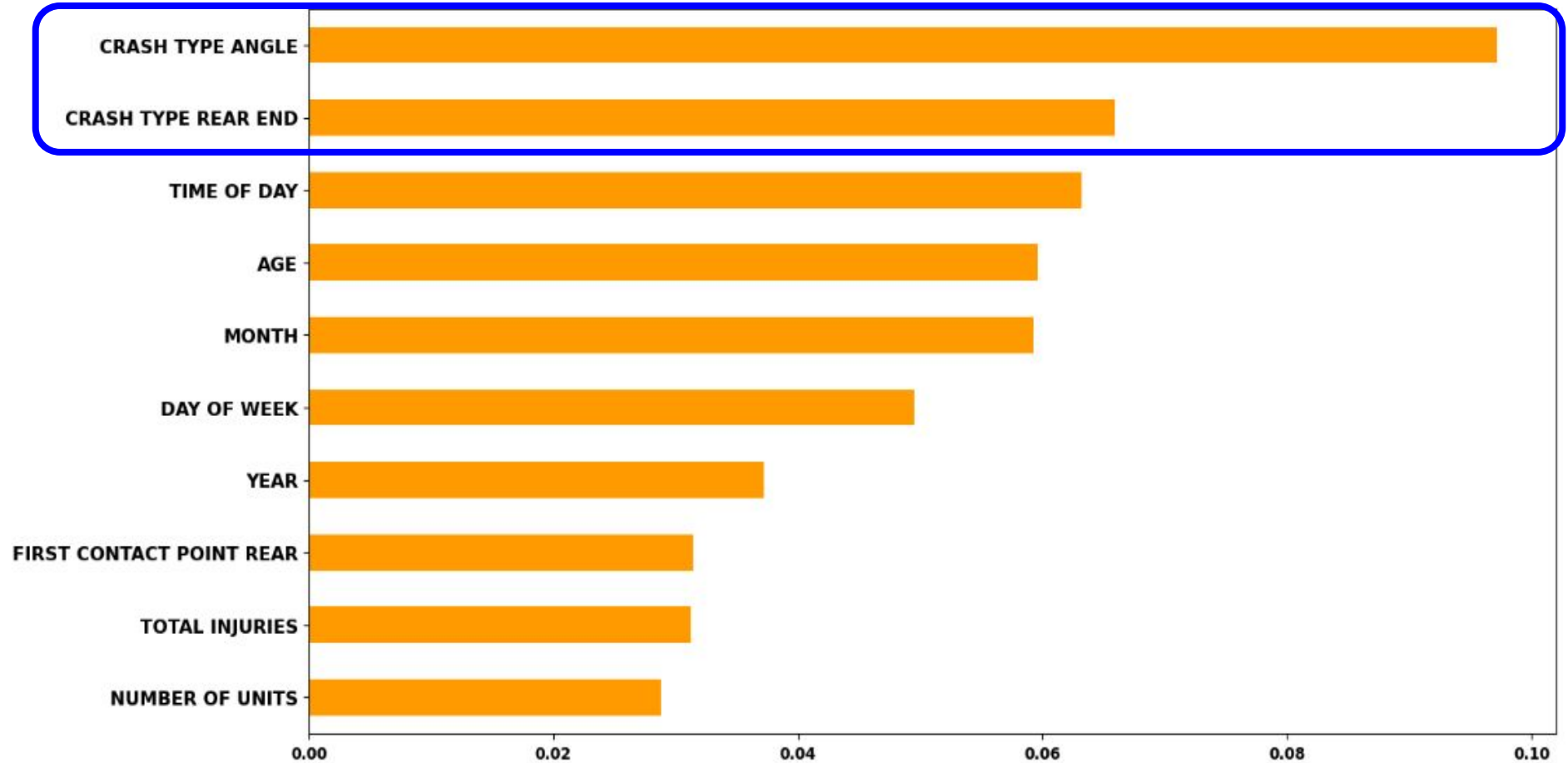
Accuracy = 86%

Random Forest Model

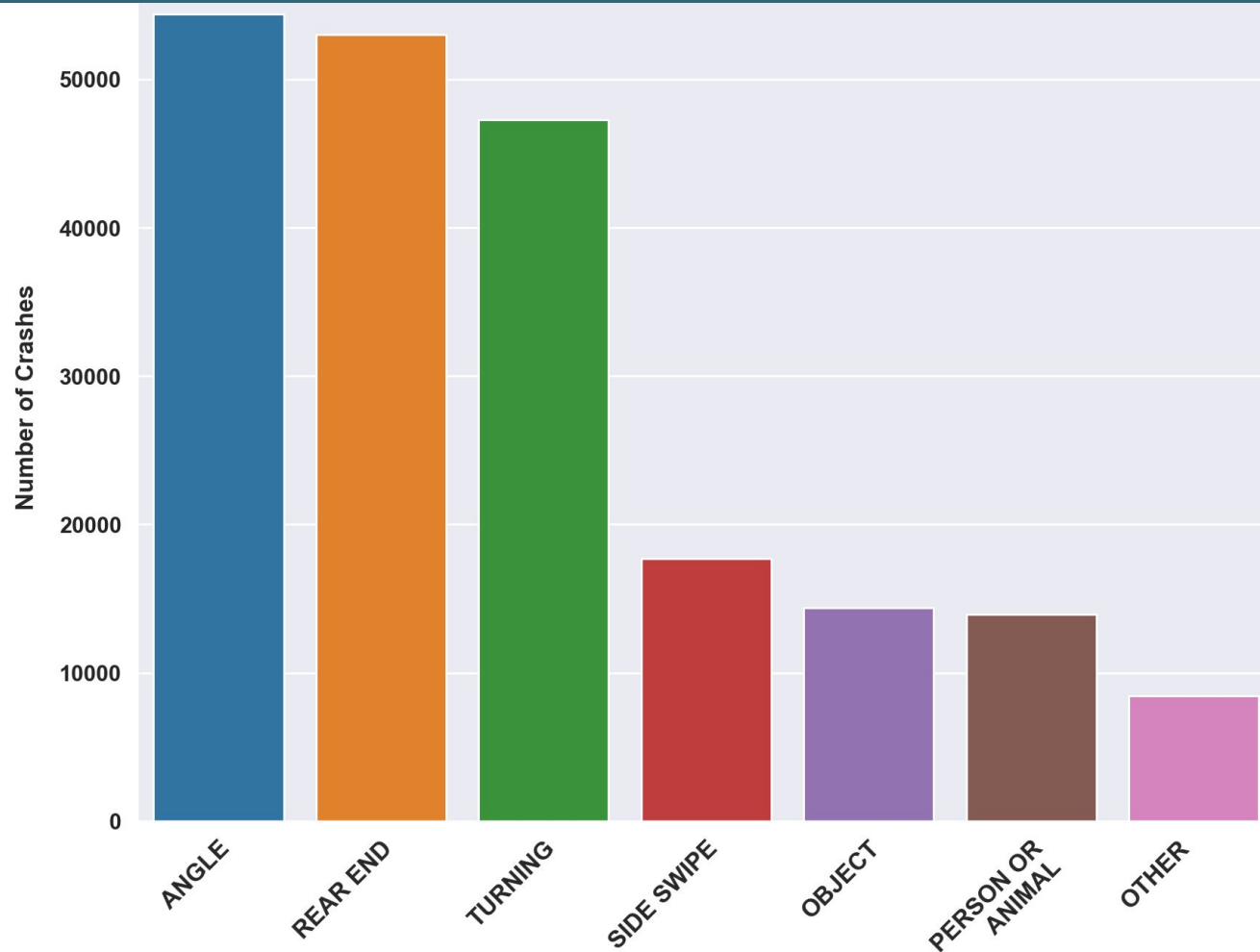
# Feature Importances



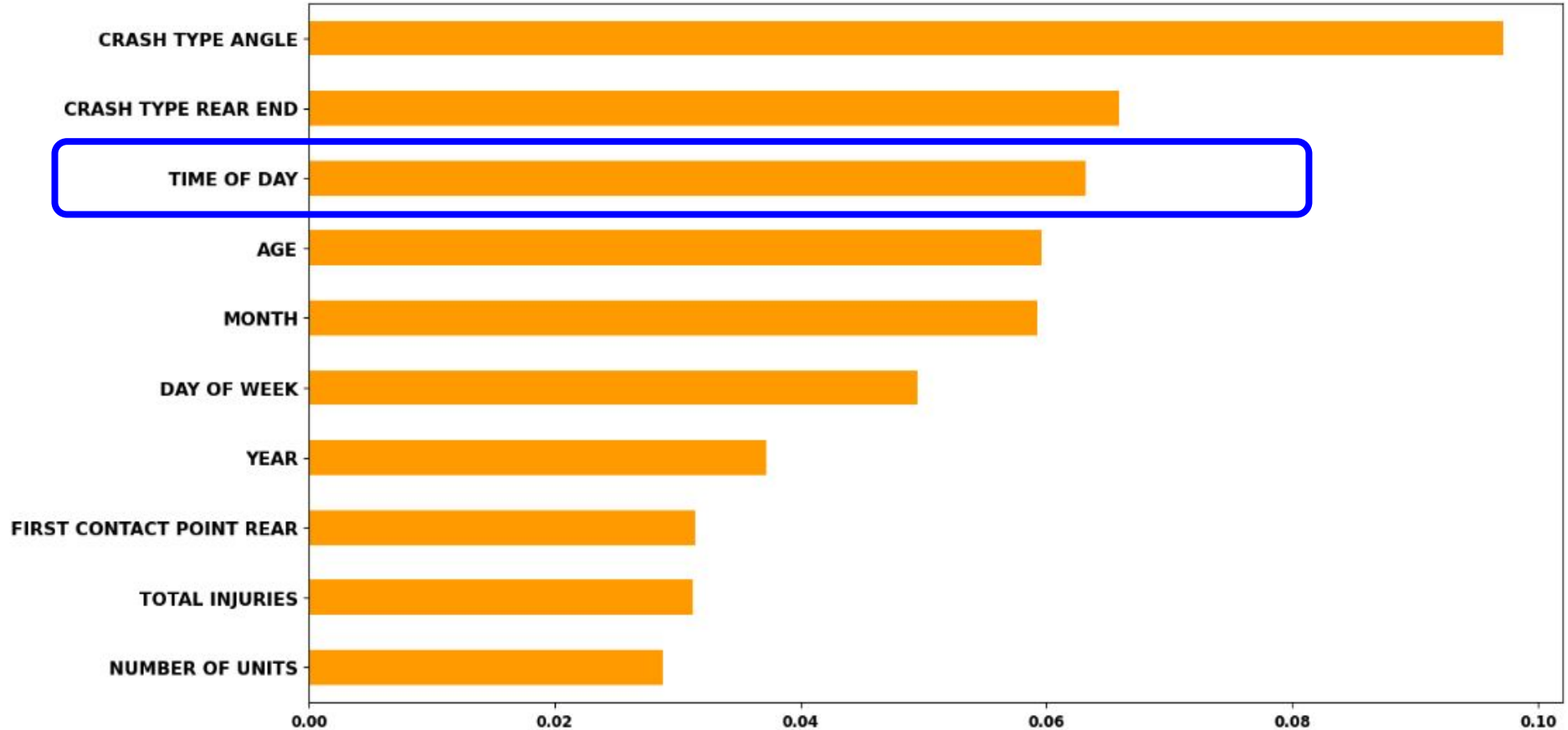
# Angled and Rear-End Collisions contribute most in predicting our target



# Angled collisions cause the highest number of crashes

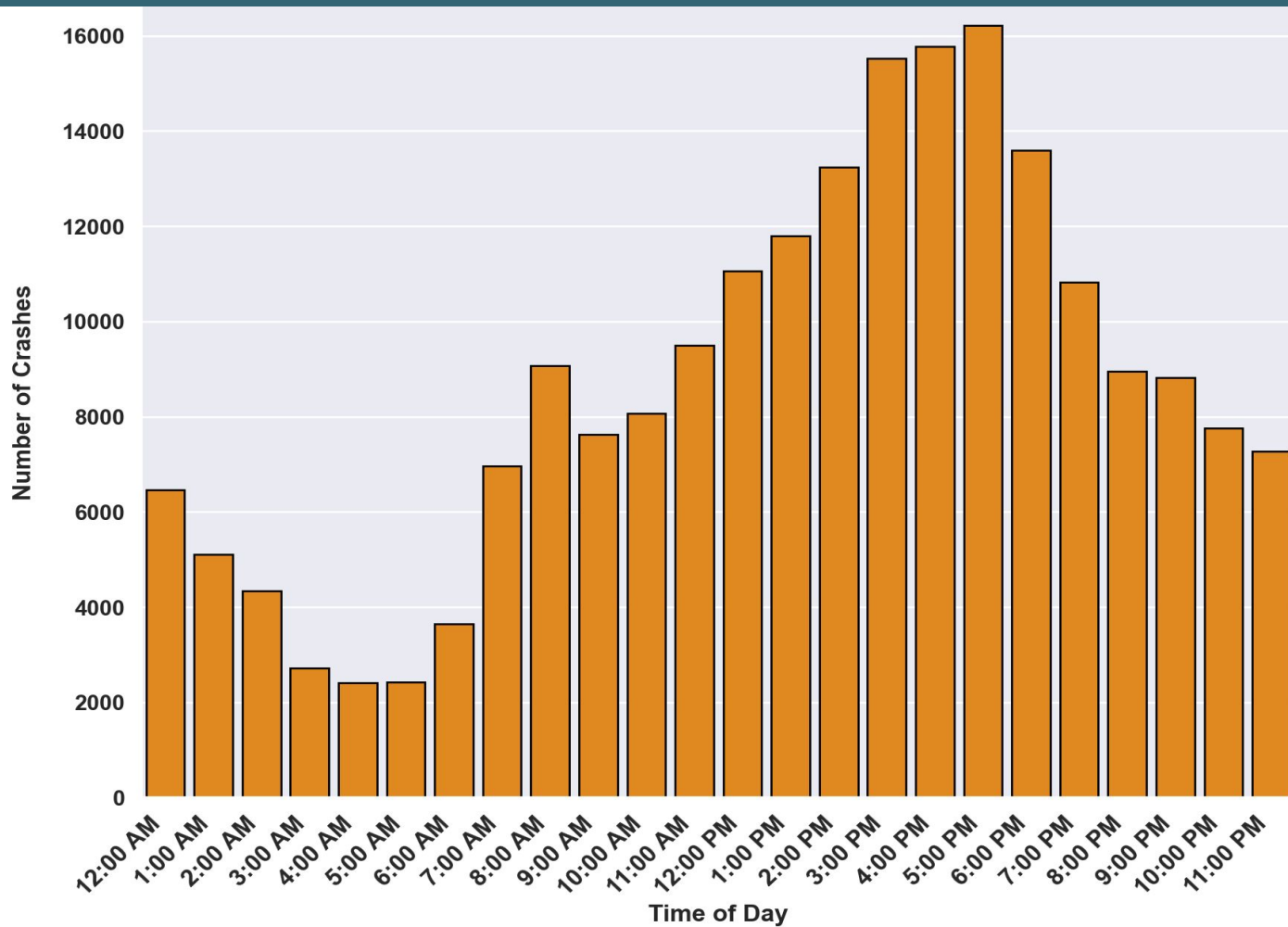


# Time of the day matters

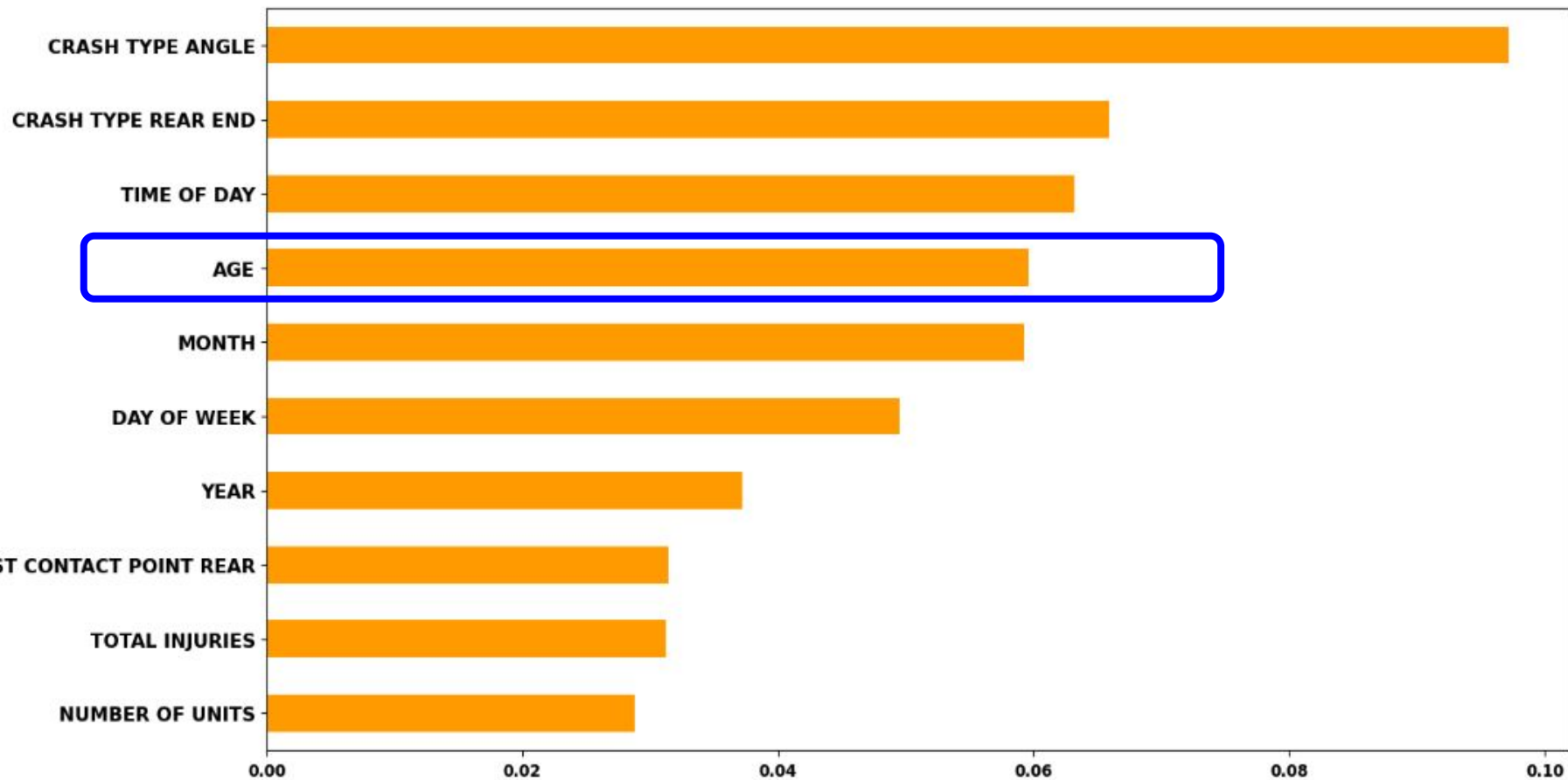




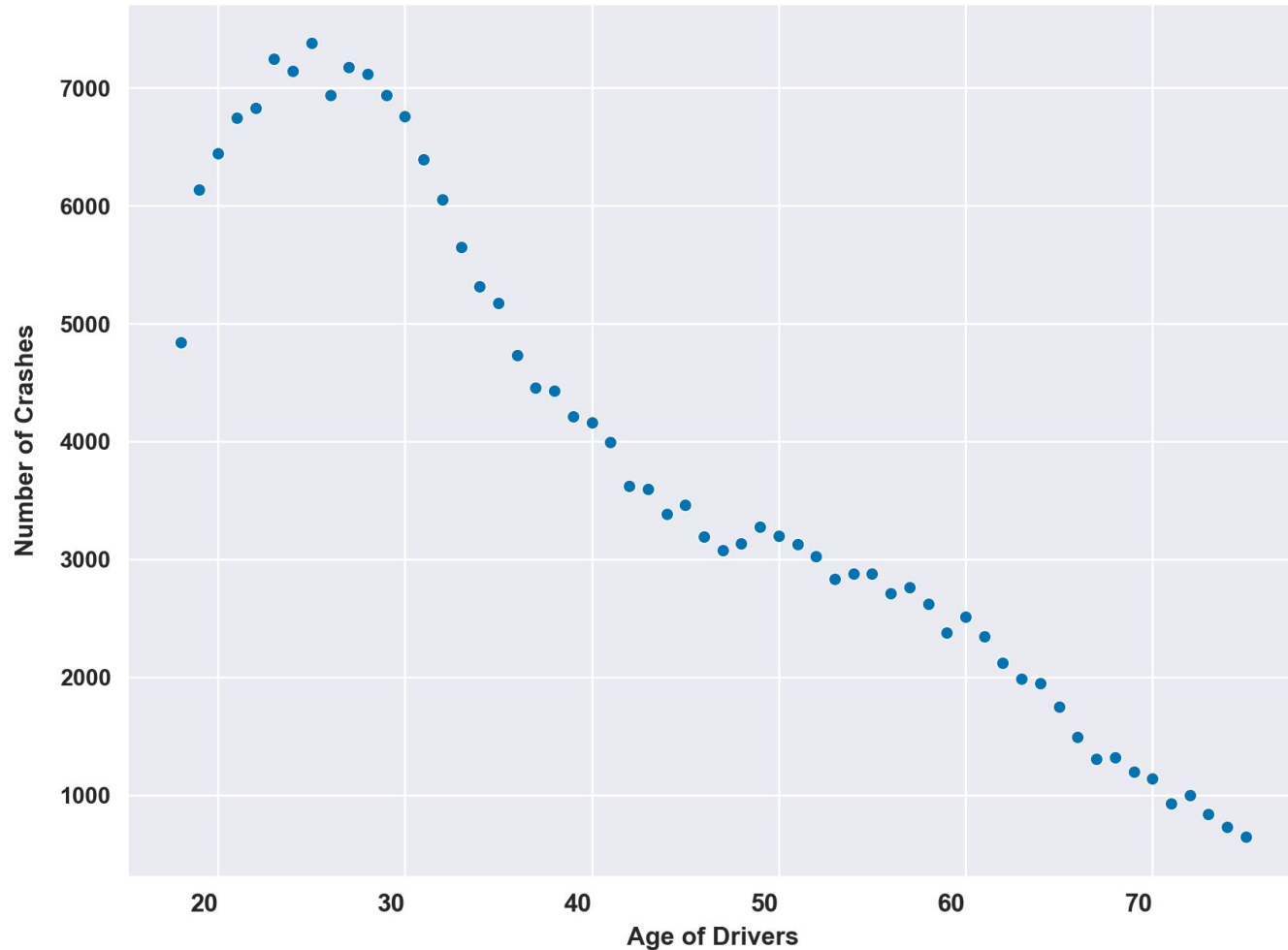
# Number of crashes **increases** during afternoon Rush hour traffic



# Age of the Drivers



# Number of crashes **increases** between the ages of **20 - 30**





# Recommendations



IT'S ALL ABOUT  
ROUNDBABOUTS!



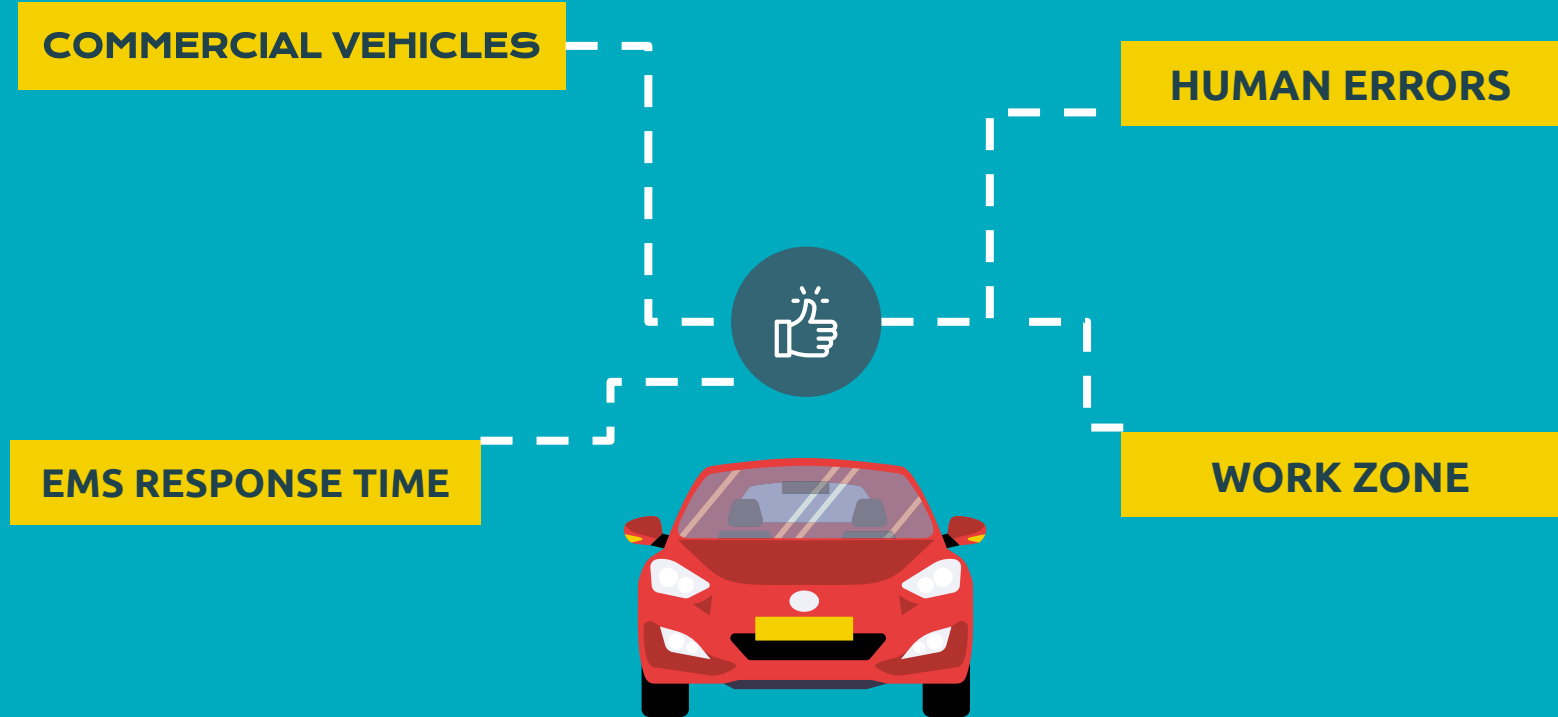
PUBLIC  
TRANSPORTATION

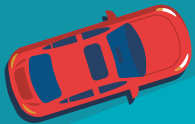


INCREASE PSA FOR  
DRIVER SAFETY,  
FOCUSING ON  
20-30 YEAR OLDS



# Future Insights





# Thanks for listening!



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# APPENDIX

## Illinois DOT Roundabouts