



RISK ANALYSIS

AGENDA

Problem Statement

Data Workflow

Analysis

Challenges

Conclusion



PROBLEM STATEMENT

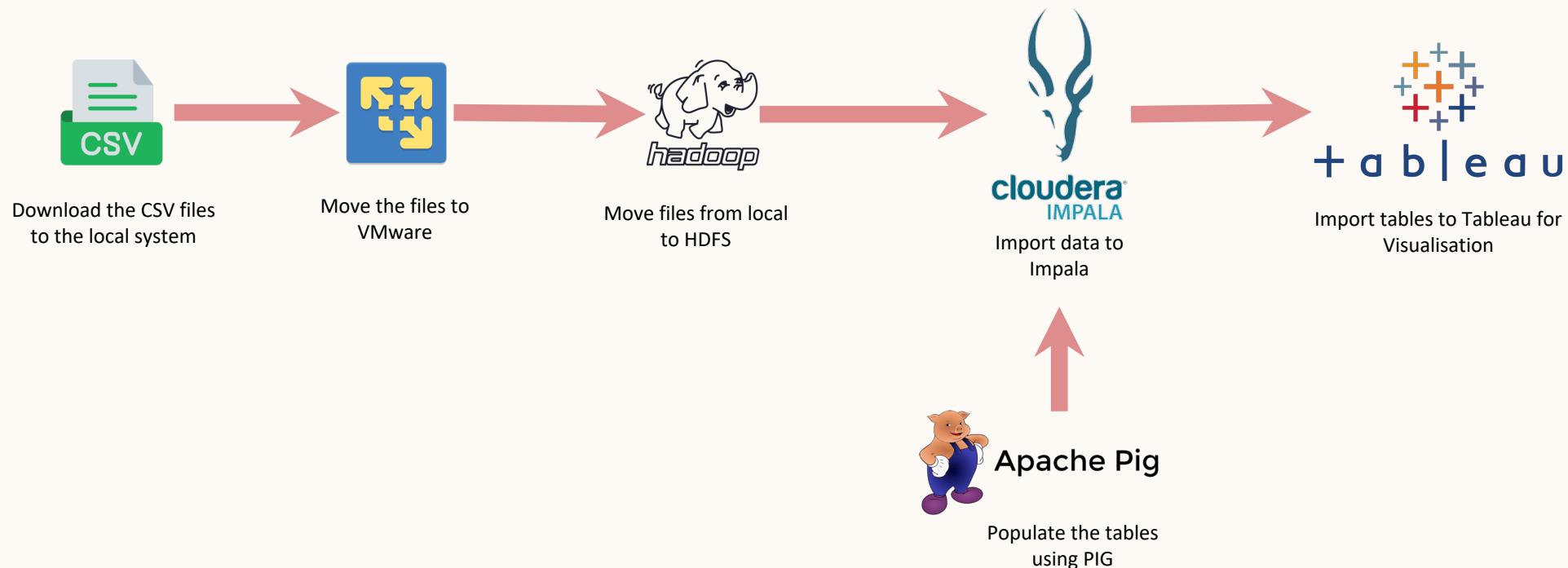
- High number of injuries and fatalities resulting from heavy truck accidents in California.
- High insurance rates due to the accidents.

OBJECTIVES

- Identify unsafe drivers by calculating risk factors using risk assessment metrics.
- Analyzing the factors affecting risk for truck drivers using various parameters such as risk factor, location model.



DATA WORKFLOW



ANALYZING IDLING EVENTS AND FUEL EFFICIENCY ACROSS CITIES

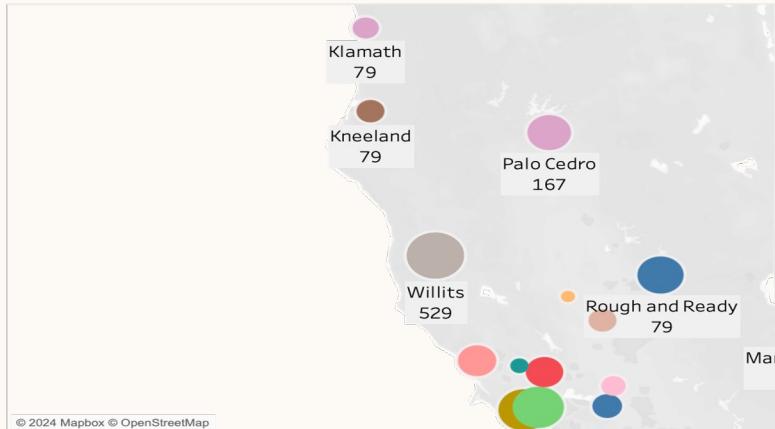
Idling Challenges in Willits:

Investigate high idling events (529) in Willits to optimize routes and reduce fuel inefficiencies.

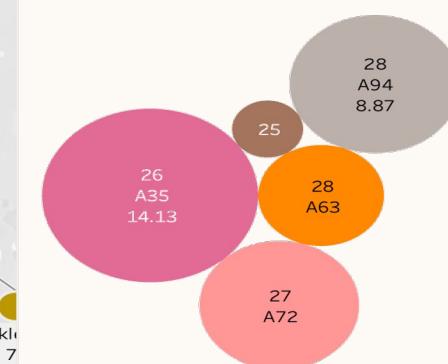
Risk and Efficiency Training:

Target training on efficient driving and safety for drivers with high risk factors to decrease idling and improve fuel usage.

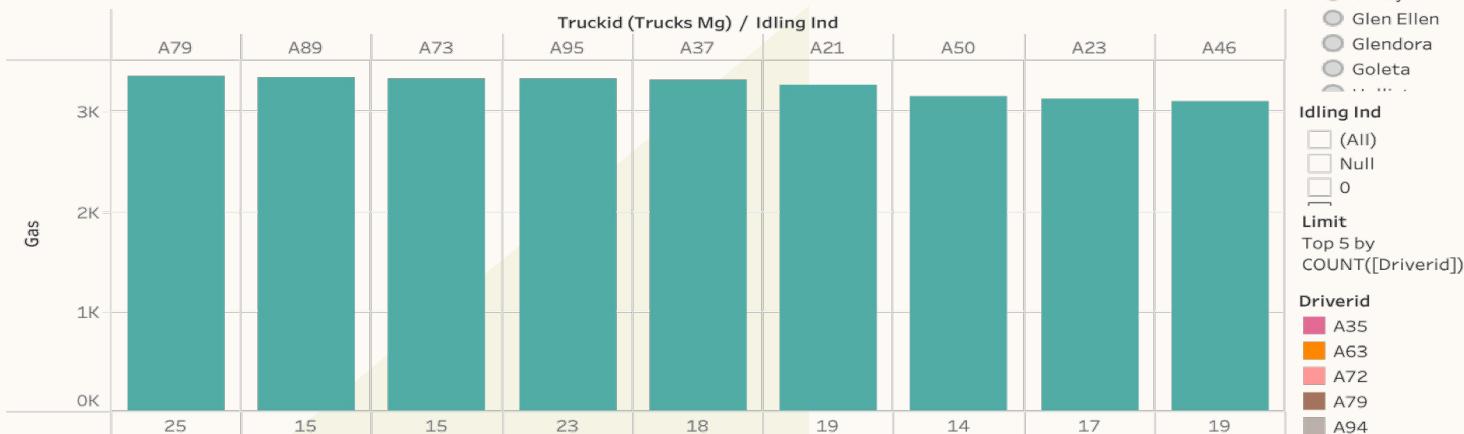
Citywise Idling Event Count



Top 5 drivers with high idling count along with riskfactor



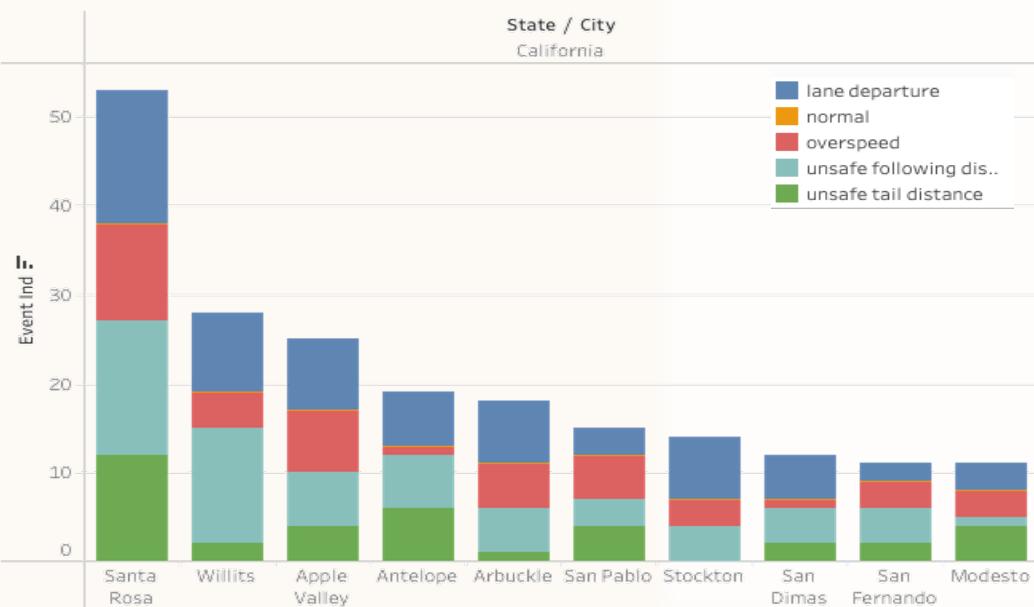
Average Gas Consumption with Idling



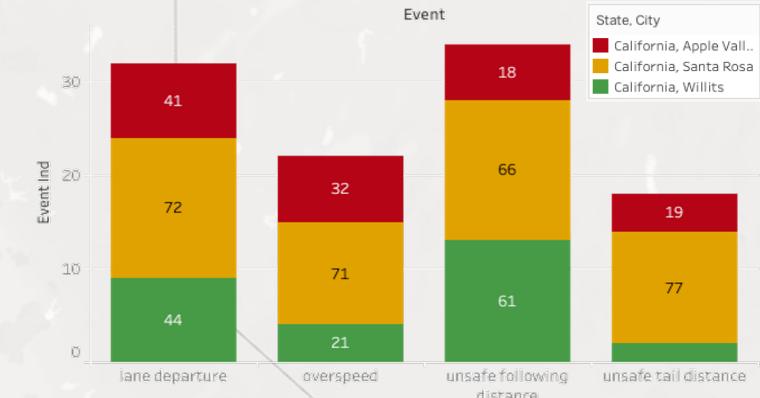
ANALYZING TOP 3 RISKY CITIES

- Santa Rosa exhibit a concentrated risk profile, followed by Willits and Apple Valley signaling a need for targeted safety measures.
- Unsafe following distance, lane departure, unsafe tail distance, and overspeed are prevalent high-risk events in these areas.
- Ford, Caterpillar, Peterbilt, and Volvo trucks are notably associated with elevated risks, implying potential concerns regarding design, training, or maintenance.

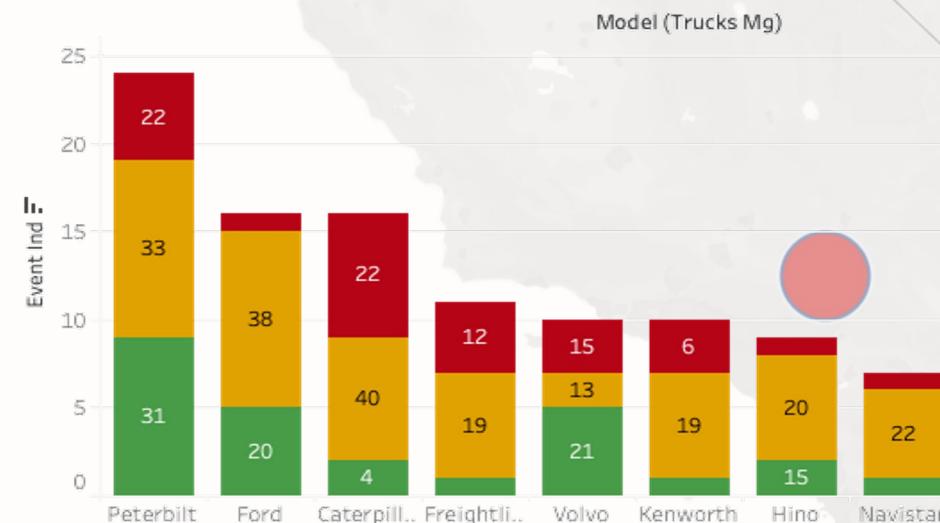
Top 10 Cities with Violations



Event distribution in cities with Highest Risk Factors

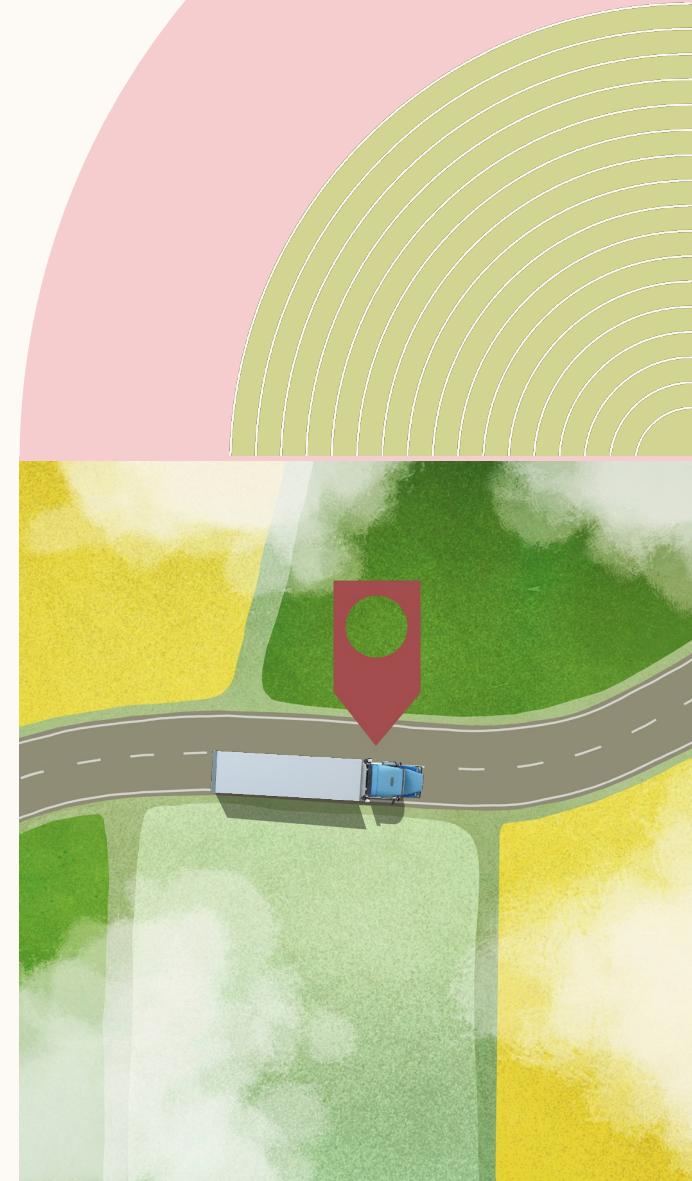


Truck Model Analysis in Top 3 Riskiest Cities



CHALLENGES

- San Fernando longitude was incorrect.
 - ✓ Corrected it by -110 degrees
- Connecting Tableau with Hive Server



CONCLUSION

- To reduce risk in areas like Santa Rosa, Willits, and Apple Valley, implement targeted safety measures addressing prevalent high-risk events, and enhance training for drivers using Ford, Caterpillar, Peterbilt, and Volvo trucks.
- Implement route optimization and driver training programs to reduce idling, improve fuel efficiency.



THANK YOU

Sushya Sri Kalyan Teja
Krishna Apurva
Siddhesh
Sai Lakshmi Harini
Saketh Kumar
Raunit
Harshitha

