Identifying Key Factors Contributing to Accidents

- By analyzing relationships between accident severity and factors like road conditions, weather, traffic volume, driver age, and vehicle speed, authorities can pinpoint which conditions most strongly correlate with severe accidents.

Prioritizing Resource Allocation

- In undeveloped regions, resources such as traffic enforcement personnel, road maintenance, and educational programs are often limited. The model can help prioritize where to focus these resources.

Cost-Effective Decision Support

- Building and implementing a linear regression model is relatively inexpensive, especially compared to other complex predictive analytics tools. This makes it feasible for under-resourced countries to leverage data-driven insights without extensive infrastructure.

Improving Driver Education Programs

- The model can reveal behavioral trends, like the impact of driver age and speed, that could influence accident severity. This information can shape driver education programs to focus on behaviors that reduce accident severity.

Predicting Accident Risk in Real Time

- Once trained and tested, this model could be used in traffic monitoring systems to predict accident risk in real-time, depending on current conditions like weather, time of day, and traffic volume.