

CAR INSURANCE RISK & PREMIUM INSIGHTS

Advanced Excel | Data Analytics
Portfolio Project

Presented By :
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PROBLEM STATEMENT

Insurance providers need to better understand customer behaviour, vehicle characteristics, and usage patterns to accurately assess risk and optimise premium pricing while reducing claim exposure.

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INCOME INFLUENCES VEHICLE RISK APPETITE

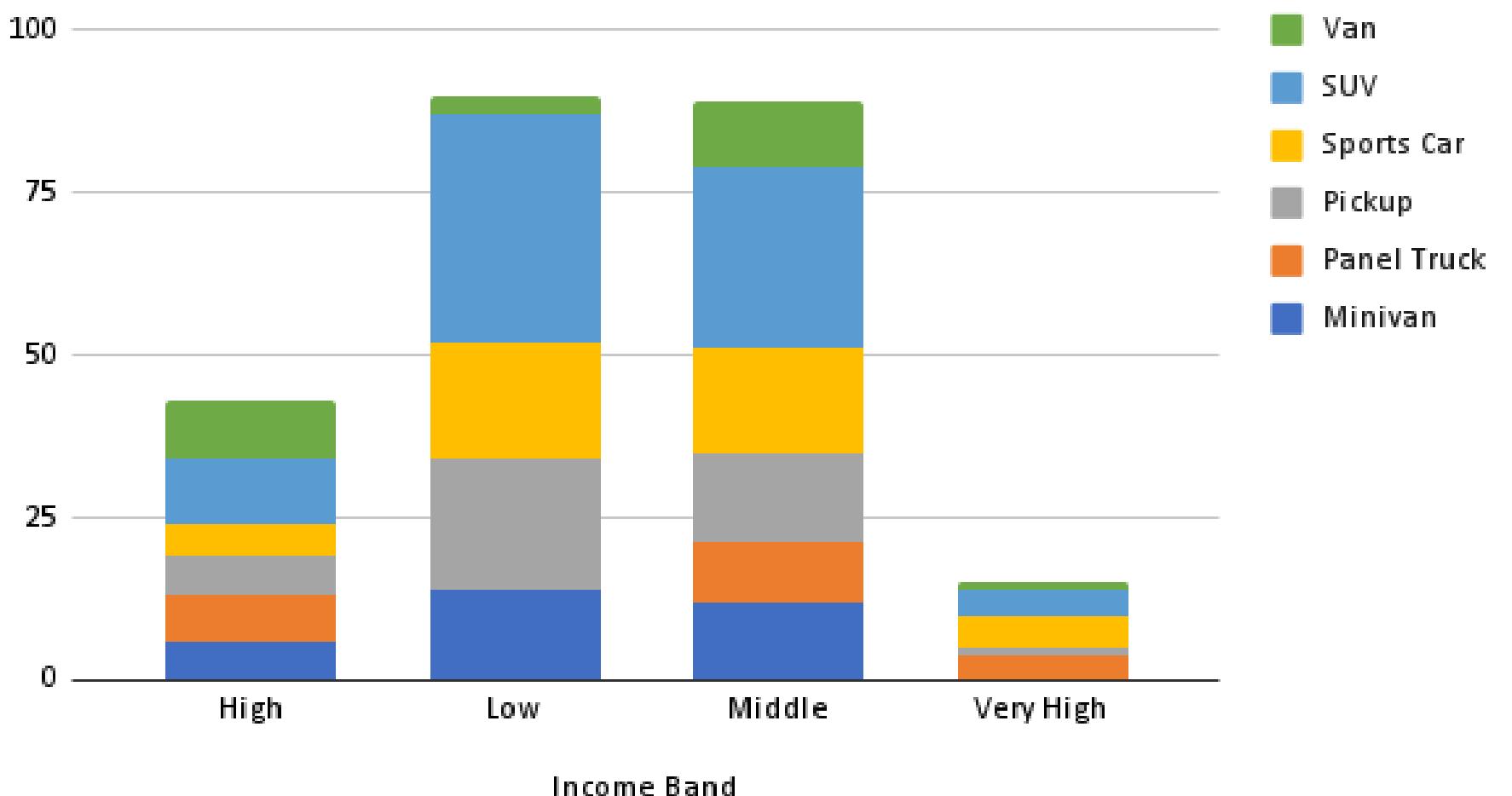
Insight

Higher-income segments show a greater concentration of high-risk vehicle types such as SUVs and sports cars, indicating higher potential claim severity.

Business Relevance

Supports income-based customer segmentation and differentiated premium pricing.

Income Band vs Car Type



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LONGER COMMUTE TIMES INCREASE EXPOSURE RISK

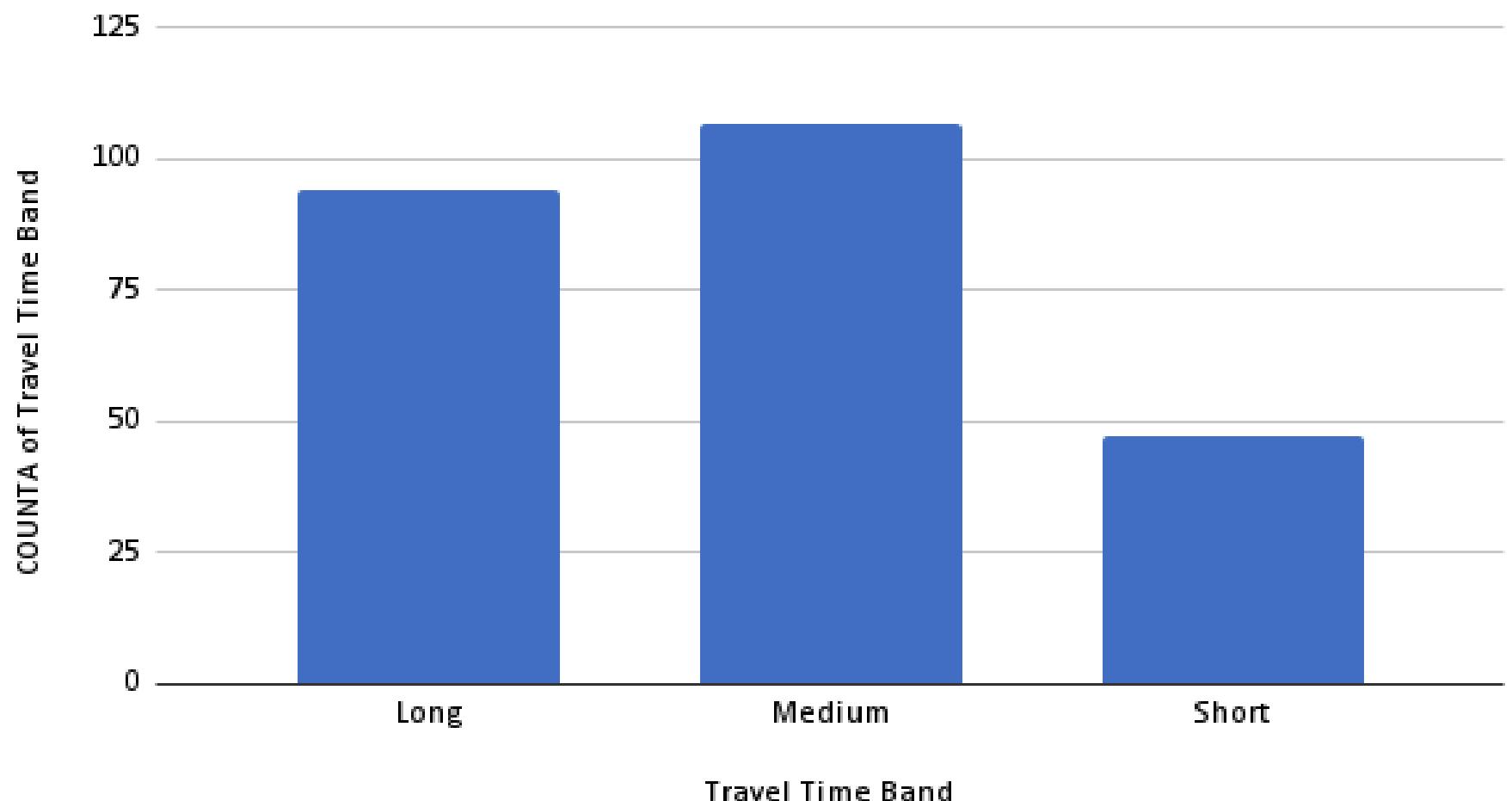
Insight

Customers with longer daily travel times face increased driving exposure, raising the likelihood of accidents and insurance claims.

Business Relevance

Enables insurers to factor commute-related exposure into risk assessment models.

Travel Time Band Distribution



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VEHICLE RISK VARIES BY GEOGRAPHY

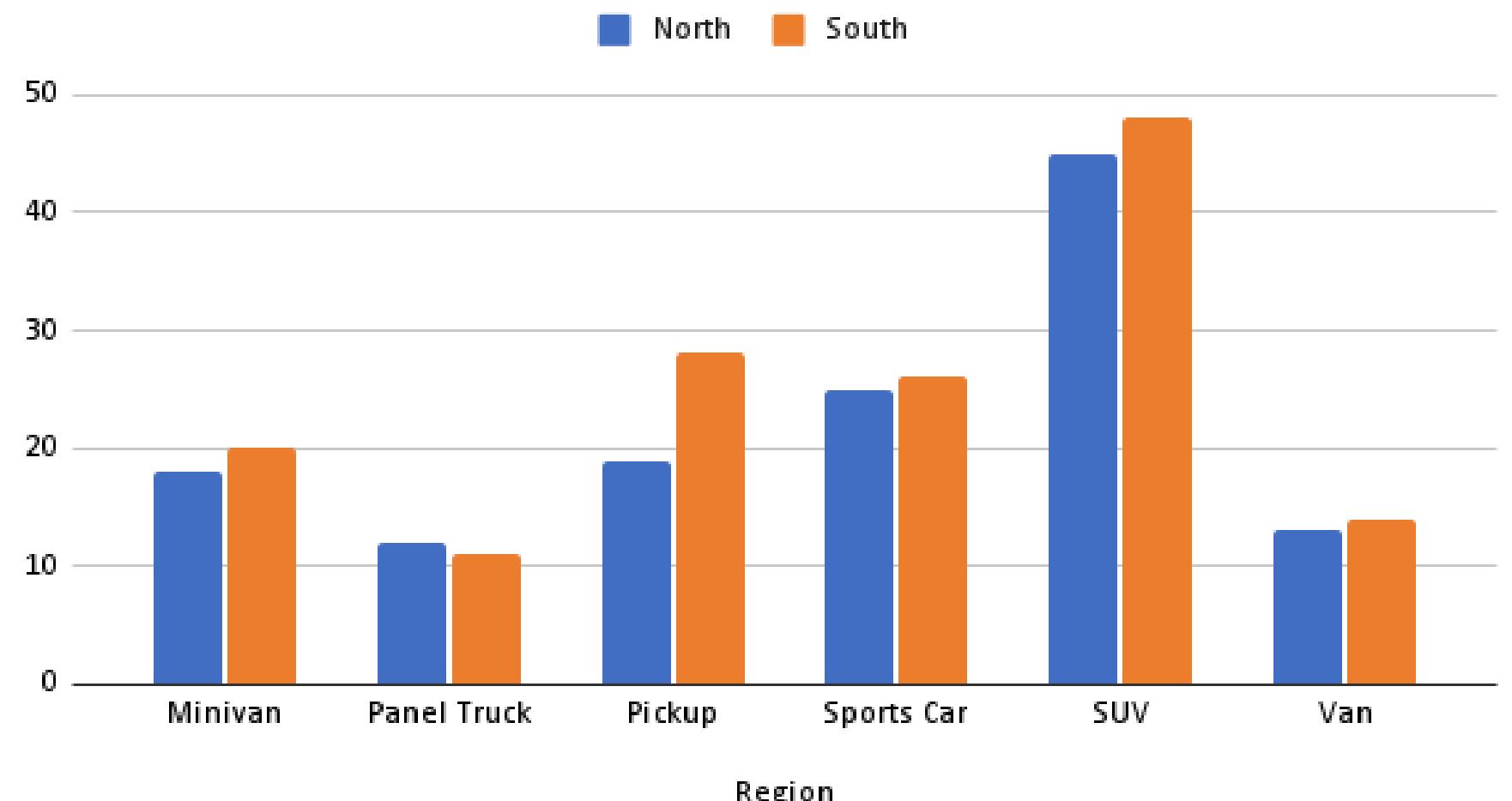
Insight

Certain regions show a higher concentration of high-risk vehicle categories, highlighting geographic differences in risk exposure.

Business Relevance

Enables region-based pricing strategies and targeted risk controls.

Car Type Distribution by Region

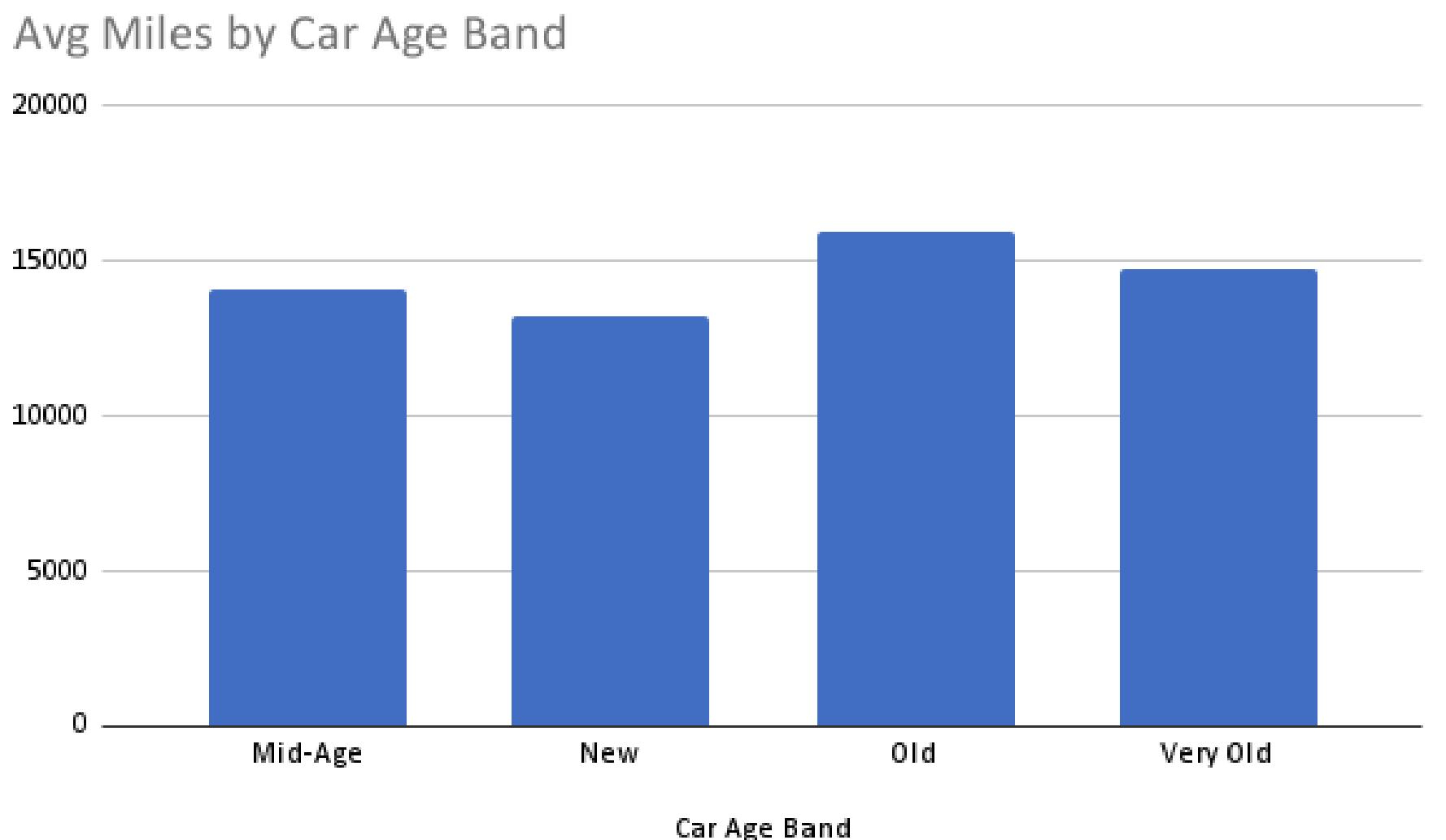


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OLDER VEHICLES SHOW HIGHER USAGE INTENSITY

Insight

Vehicles in higher age bands tend to record higher average mileage, increasing maintenance-related risk and claim frequency.



Business Relevance

Supports vehicle-age-based underwriting and premium adjustments.

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COMMERCIAL USAGE DRIVES HIGHER INSURANCE RISK

Insight

Commercial vehicles account for a disproportionate share of exposure due to more frequent and intensive usage.

Business Relevance

Justifies separate pricing and underwriting rules for commercial policies.

Car Usage (Private vs Commercial)



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KEY INSIGHTS

- Commercial usage and long travel times are the strongest risk drivers
- Income level and vehicle type influence claim severity
- Older vehicles increase maintenance-related claim frequency
- Regional patterns support differentiated underwriting strategies

Business Impact

This analysis enables data-driven premium pricing, improved risk segmentation, and more accurate underwriting decisions.

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THANK YOU FOR YOUR ATTENTION

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