

# Insurance Risk & Claims Analysis

Transforming fragmented insurance data into actionable business insights through comprehensive Power BI analytics.



# Project Overview

This project leverages **Power BI** to centralize and analyze insurance policies and claims data, combining policyholder demographics, vehicle details, and claim history.

The dashboard enables insurers to track KPIs, assess risks, and optimize policy strategies through data-driven insights.





# Key Performance Indicators

**37,541**

## Total Policies

Comprehensive coverage across all customer segments

**\$187.8M**

## Total Claim Amount

Complete financial exposure analysis

**19,158**

## Total Claims Filed

Risk frequency measurement

**\$5,003**

## Average Claim Amount

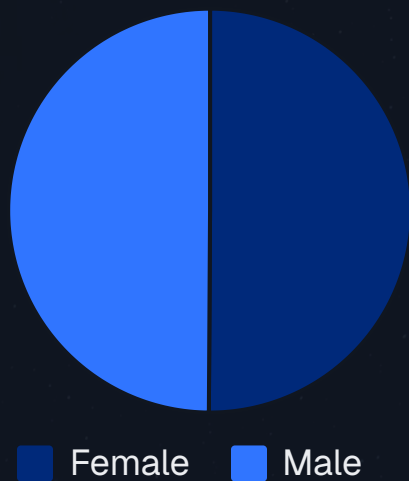
Severity per incident assessment

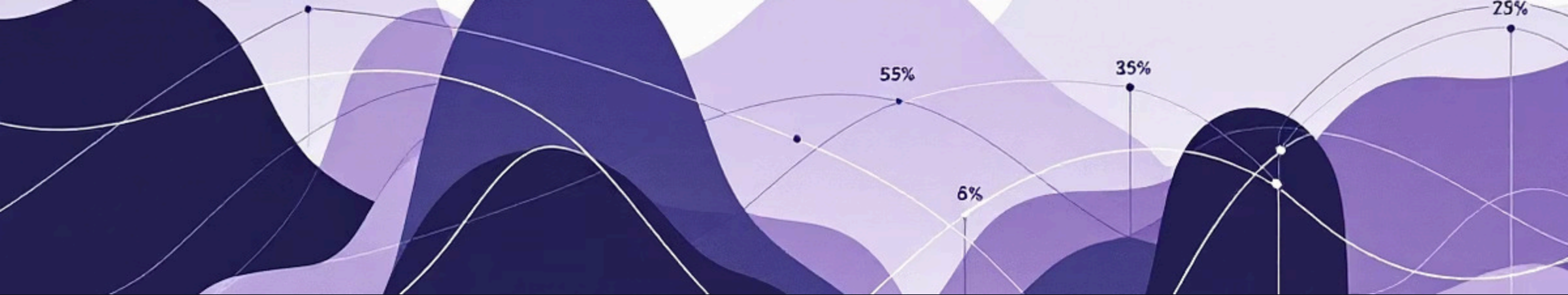


# Demographic Distribution

## Gender Balance

Nearly equal distribution with **50.1% Female** (18,806) and **49.9% Male** (18,736) policyholders.





# Age Group Risk Analysis

## Under 25

**\$20.7M (11%)** in claims

High-risk profile as expected

## 25-40 Years

**\$52.8M (28%)** in claims

Highest claim impact group

## 40-60 Years

**\$71.0M (38%)** in claims

Largest risk contributor

## 60+ Years

**\$43.3M (23%)** in claims

Significant ongoing risk

# Vehicle Usage & Risk Patterns

## Usage Distribution

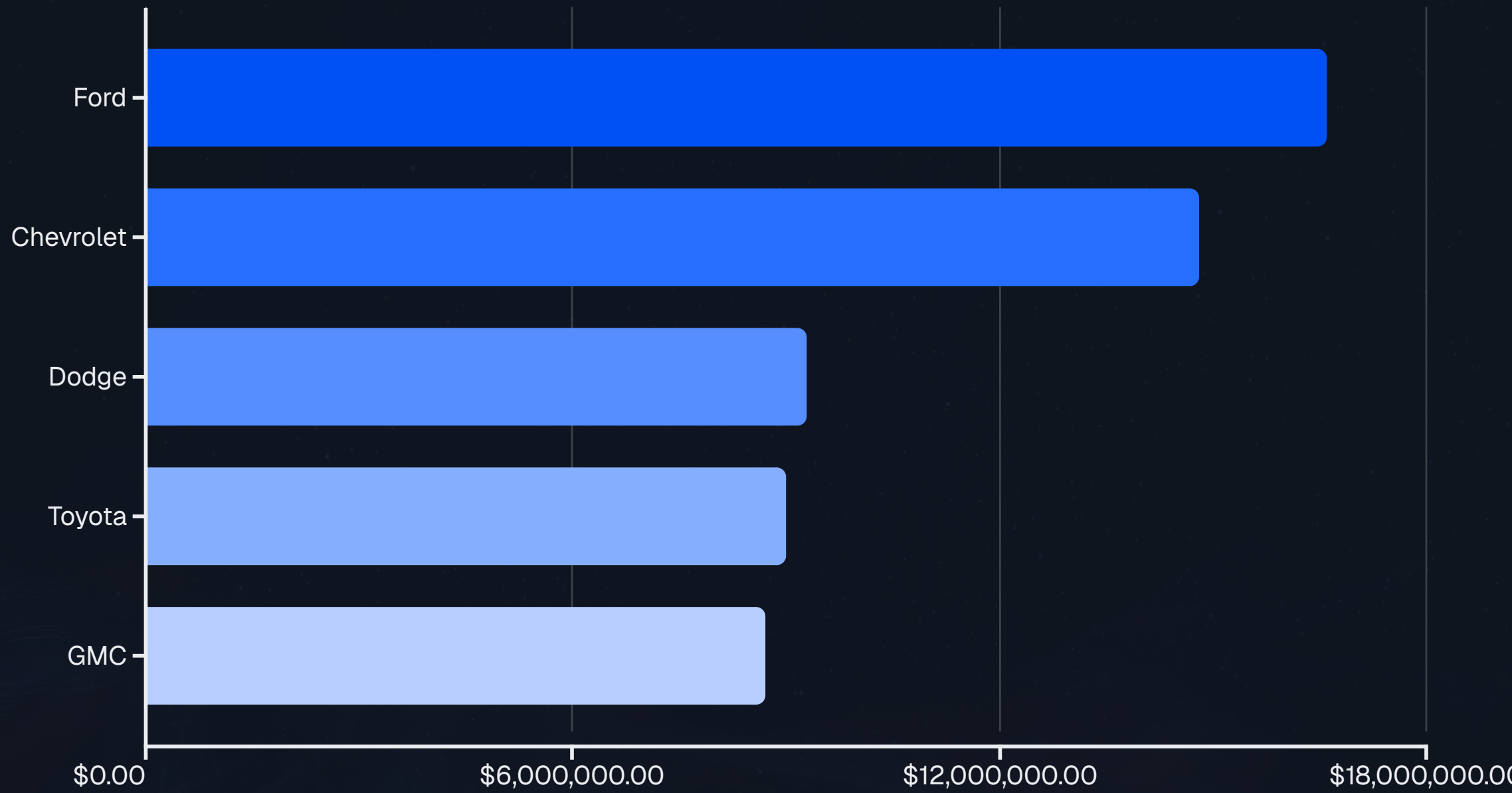
- **Private vehicles:** 30,060 policies (~80%)
- **Commercial vehicles:** 7,482 policies (~20%)

Commercial vehicles show higher exposure per policy despite lower volume.

Older vehicles (>10 years) demonstrate disproportionately higher claims, indicating increased risk with vehicle age.



# Top Vehicle Makes by Claim Amount



Ford and Chevrolet lead in total claim amounts, requiring focused risk assessment strategies.



# Regional & Socioeconomic Insights



## Coverage Zones

Balanced distribution across Urban (7,588), Rural (7,522), Suburban (7,466), Highly Urban (7,514), and Highly Rural (7,452) regions.



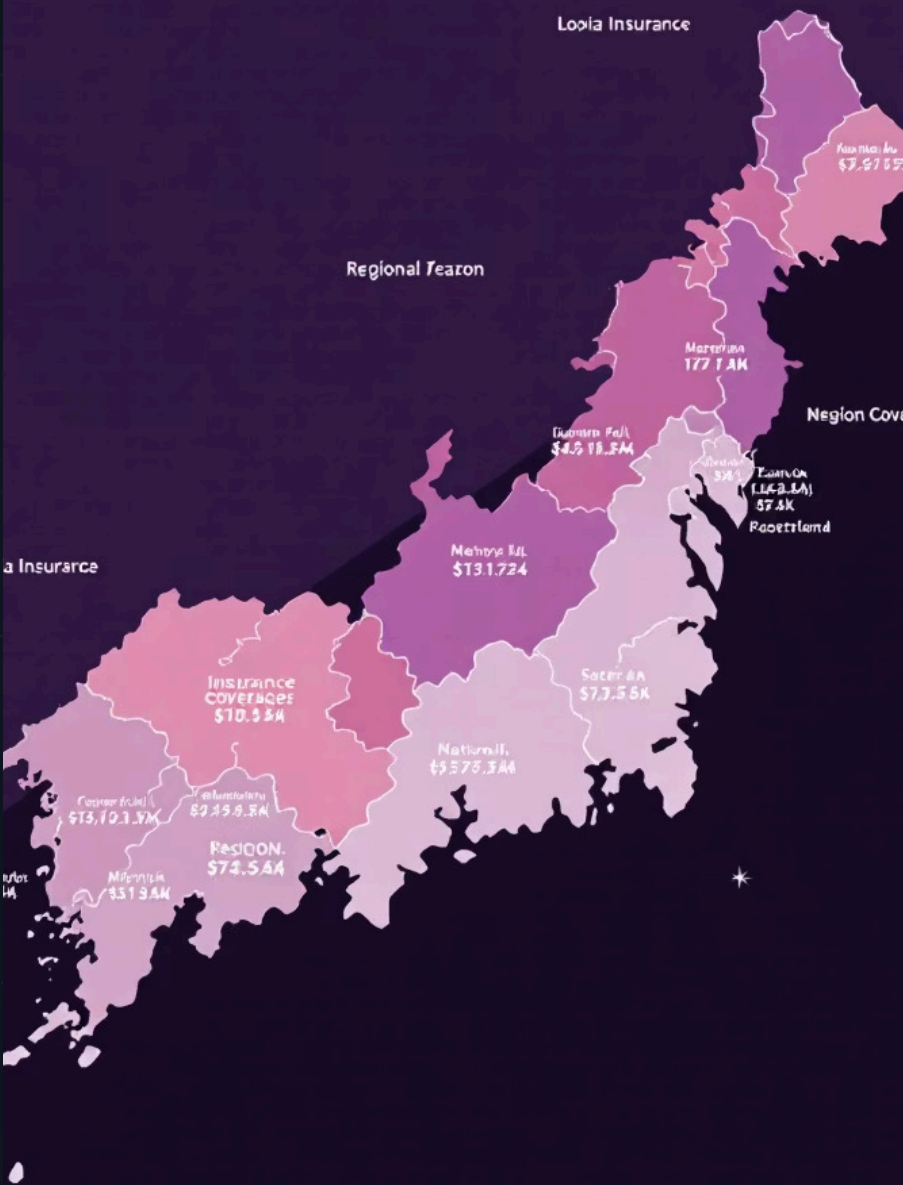
## Education Impact

Higher-educated policyholders purchase more policies, but claim behavior requires combined segmentation with marital status.



## Household Risk

Families with multiple young drivers consistently show higher claim frequency and severity.





# Business Impact & Results



## Centralized Insights

Delivered comprehensive analysis of 37K+ policies and \$187M in claims through unified dashboard.



## Risk-Based Pricing

Enabled strategic pricing by age, region, and vehicle characteristics for improved profitability.



## High-Risk Identification

Identified key risk profiles including households with young drivers and older vehicles.



## Strategic Decision Support

Enhanced fraud detection, policy optimization, and profitability management capabilities.

# Driving Better Risk Management

The Insurance Risk & Claims Analysis empowers insurers to **align strategy with data**, uncovering critical patterns across demographics, vehicles, and regions.

By transforming raw data into an interactive Power BI solution, it supports customer segmentation, targeted marketing, premium adjustments, and fraud detection.

*"Ultimately driving better risk management and profitability through data-driven insights."*

