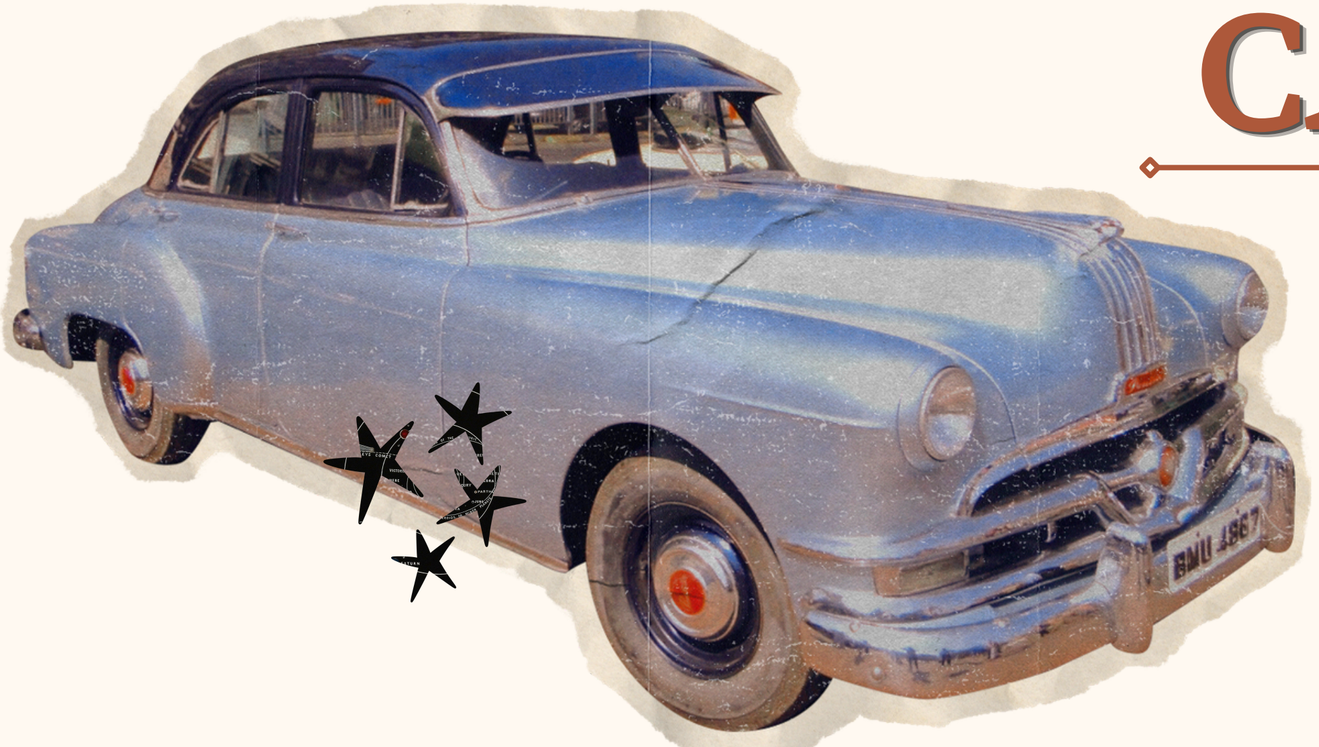
OBSERVING RELIABILITY IN CAR BRANDS



Presented by **Statistically Significant**

Welcome to the Dealership!

CHEVROLET

Ford

NISSAN

HONDA

TOYOTA

- Buying a car is a big purchase
- Reliability influences our preferences







Research Question

Main: How do the top five most purchased car brands in the U.S. compare in terms of reliability and safety?

Based on...

1. Brand reliability across years
2. Issue severity across brands



The Data (5422 x 13)



5

brands: Chevrolet, Ford, Honda, Nissan, Toyota

1,631

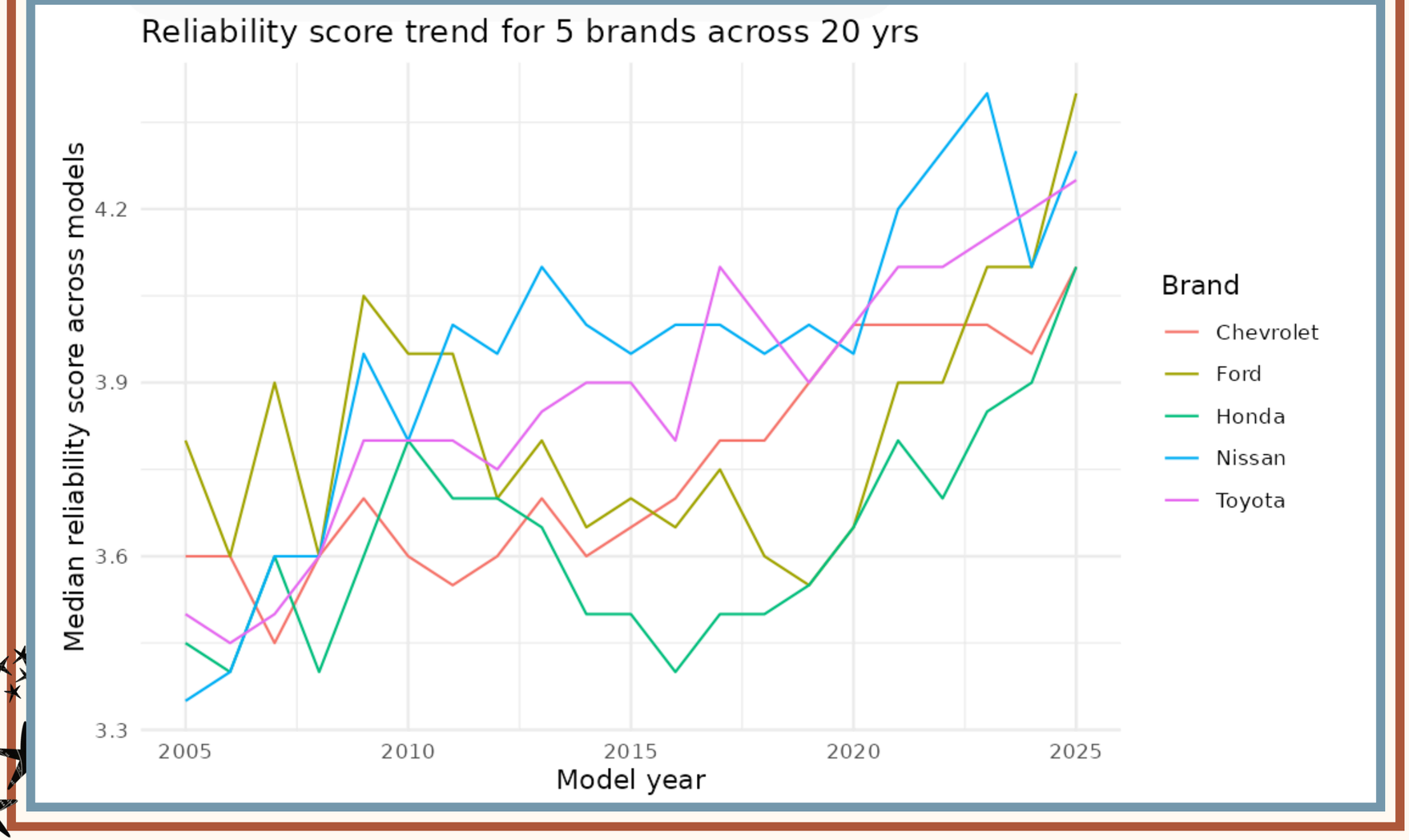
rows filtered for top 5 brands; each row means a specific year, make, model from 2005 to 2025 (e.g., 2010 Ford Fusion)

Year	Model year of the vehicle
Make	Brand
Reliability score	Overall reliability of rating from source (1.0 - 5.0)
Worst Severity	Severity levels: Critical, Severe, Moderate

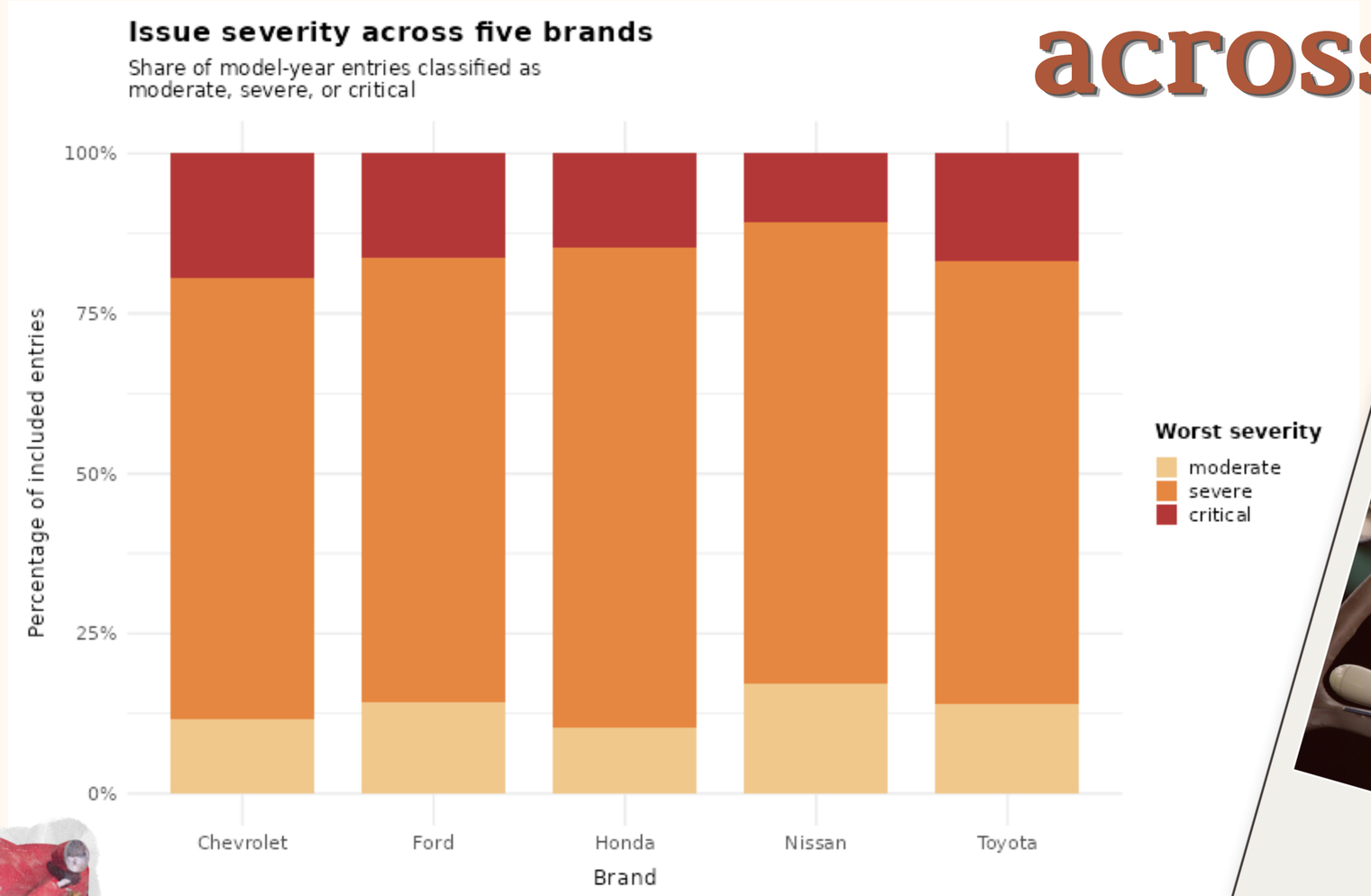
Source: problemsbyvin.com vehicle reliability scorecard

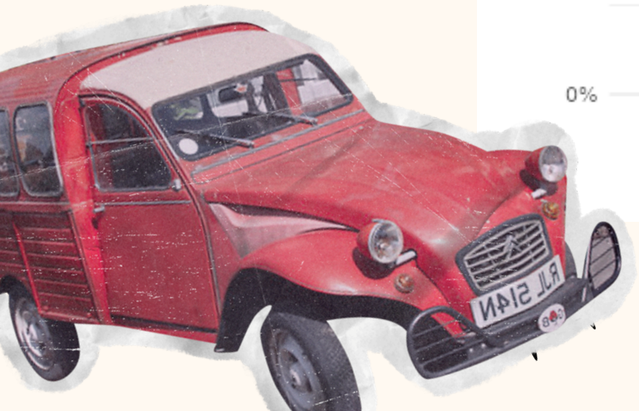


Brand Reliability Across Years



How does issue severity compare across brands







Our pick:

NISSAN

Toyota is the strongest runner-up (based on the data collected).



Conclusions

- Nissan has the highest trend for median reliability score in comparison to other car brands.
- Nissan has the fewest critical severity entries, with more moderate severities than other brands.



Limitations and Future Directions:

- Score gaps between brands are small, and we didn't test significance.
- Newer cars have had less time to collect complaints, which inflates scores after ~2019.
- Compare brands within the same vehicle type (sedan, SUV, truck) and model-year age.

THANK YOU