

Car Brand Analysis



Project Overview

Project Title: Popular Vehicles of 2024

Key Brands Analyzed:

- Toyota, Ford, Honda, Tesla

Data Formats:

- CSV files, visualizations (graphs)



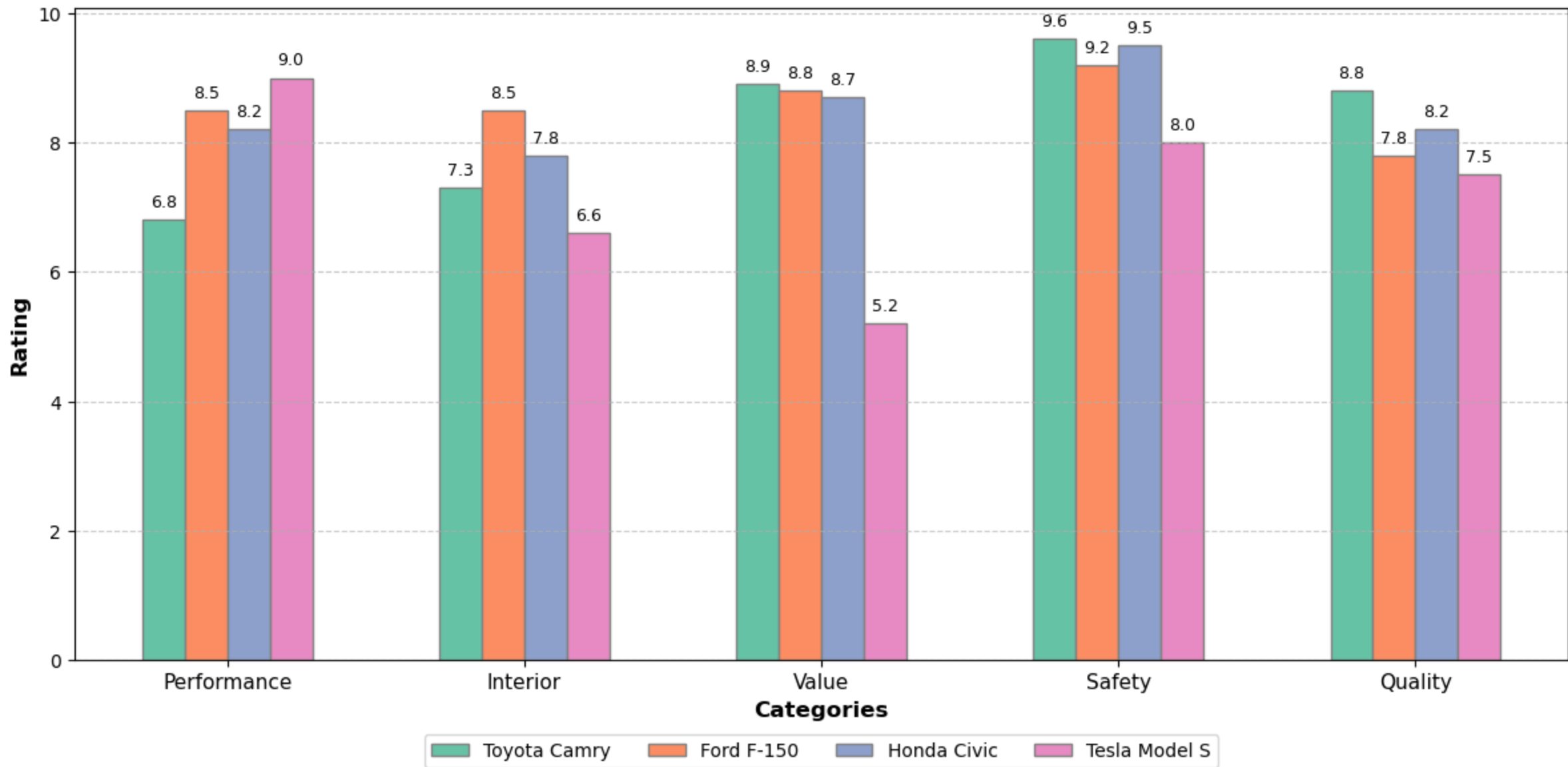
Data Overview

Data Sources:

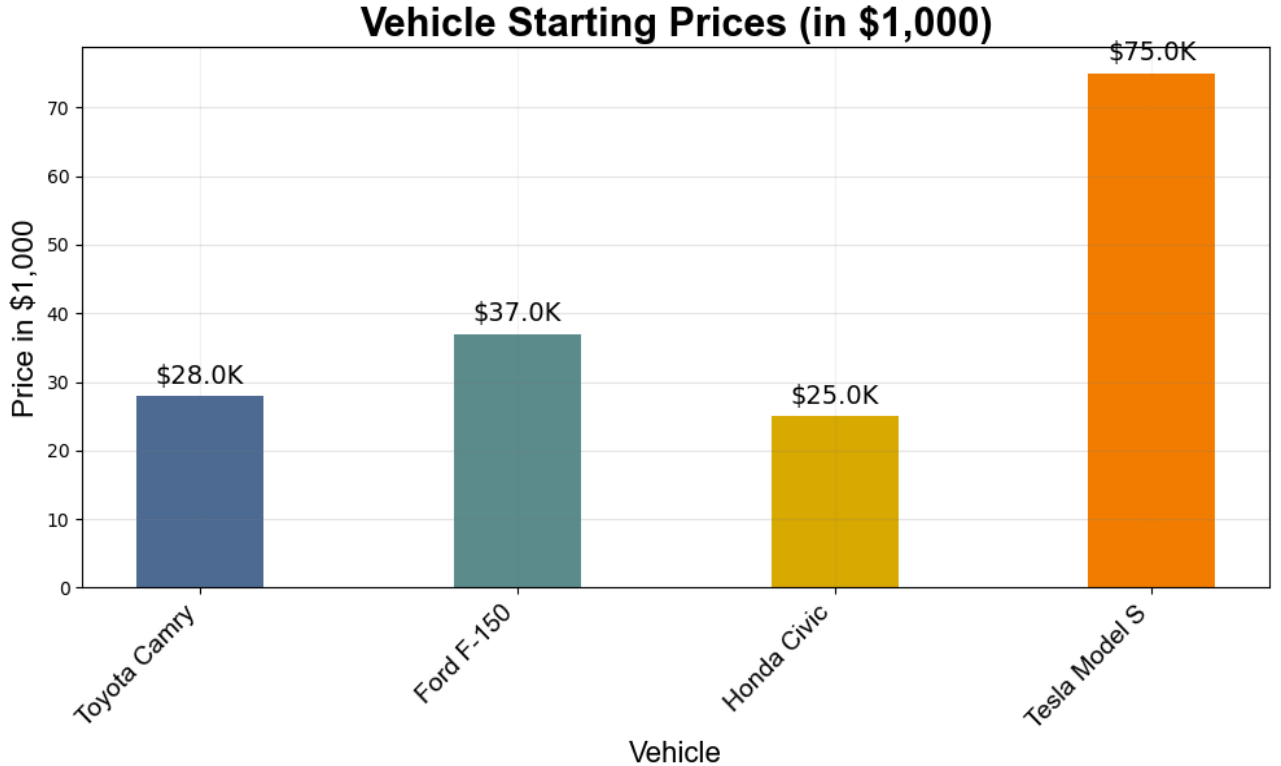
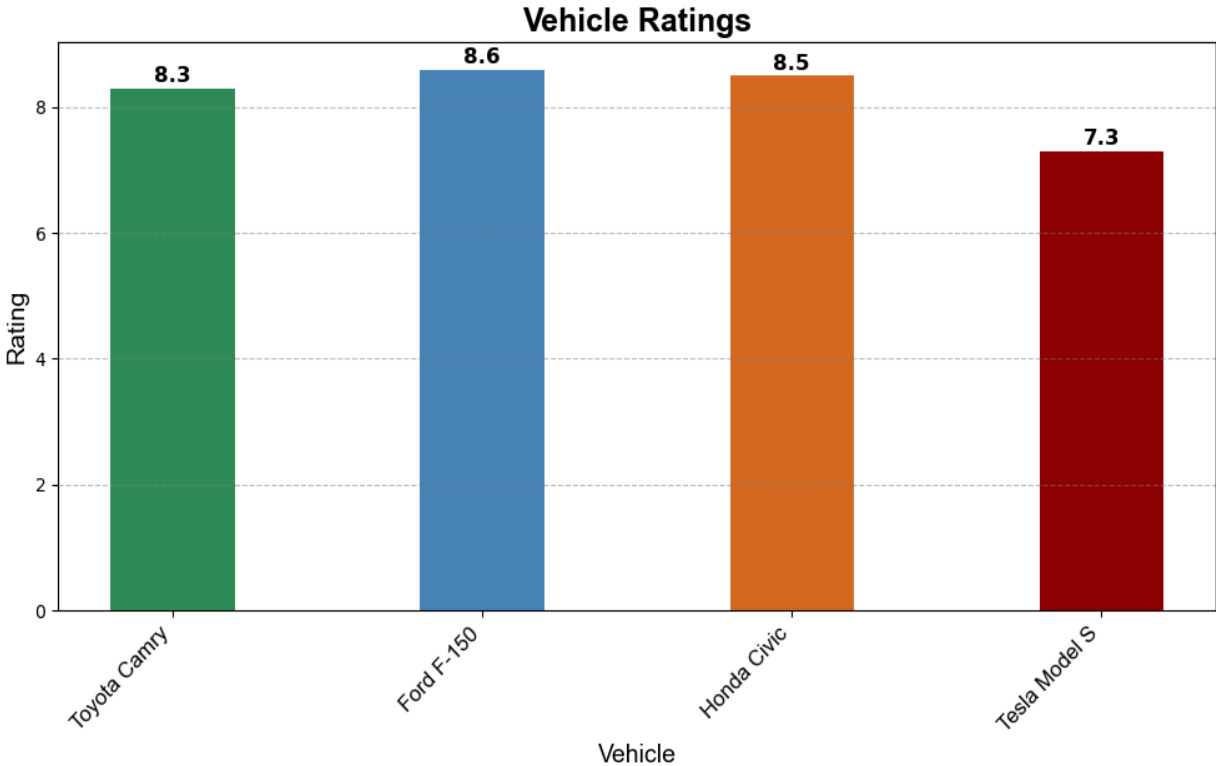
- National Highway Traffic Safety Administration (NHTSA)
- Insurance Institute for Highway Safety (IIHS)
- U.S News Rating

What vehicle had the best
rating according to US
News in 2024





- Tesla Model S got the lowest rating on quality, safety, value, and interior but the highest on performance.
- Honda Civic have the most affordable pricing and perform very well in all of the metrics.
- Toyota Camry got the highest rating on quality and safety but got a low rating on performance.
- Ford F-150 got the best overall rating, that could be explained by the versatility and towing capacity.



How vehicle complaints inform 2024 study.
This study, **PROCESSES INVOLVED FOR**
EXAMINING COMPLAINT COMPLAINTS, AND HOW DESIGN IMPROVEMENTS
TO DESIGN COMPLAINT PATTERNS TO IDENTIFY IMPROVEMENT OPPORTUNITIES



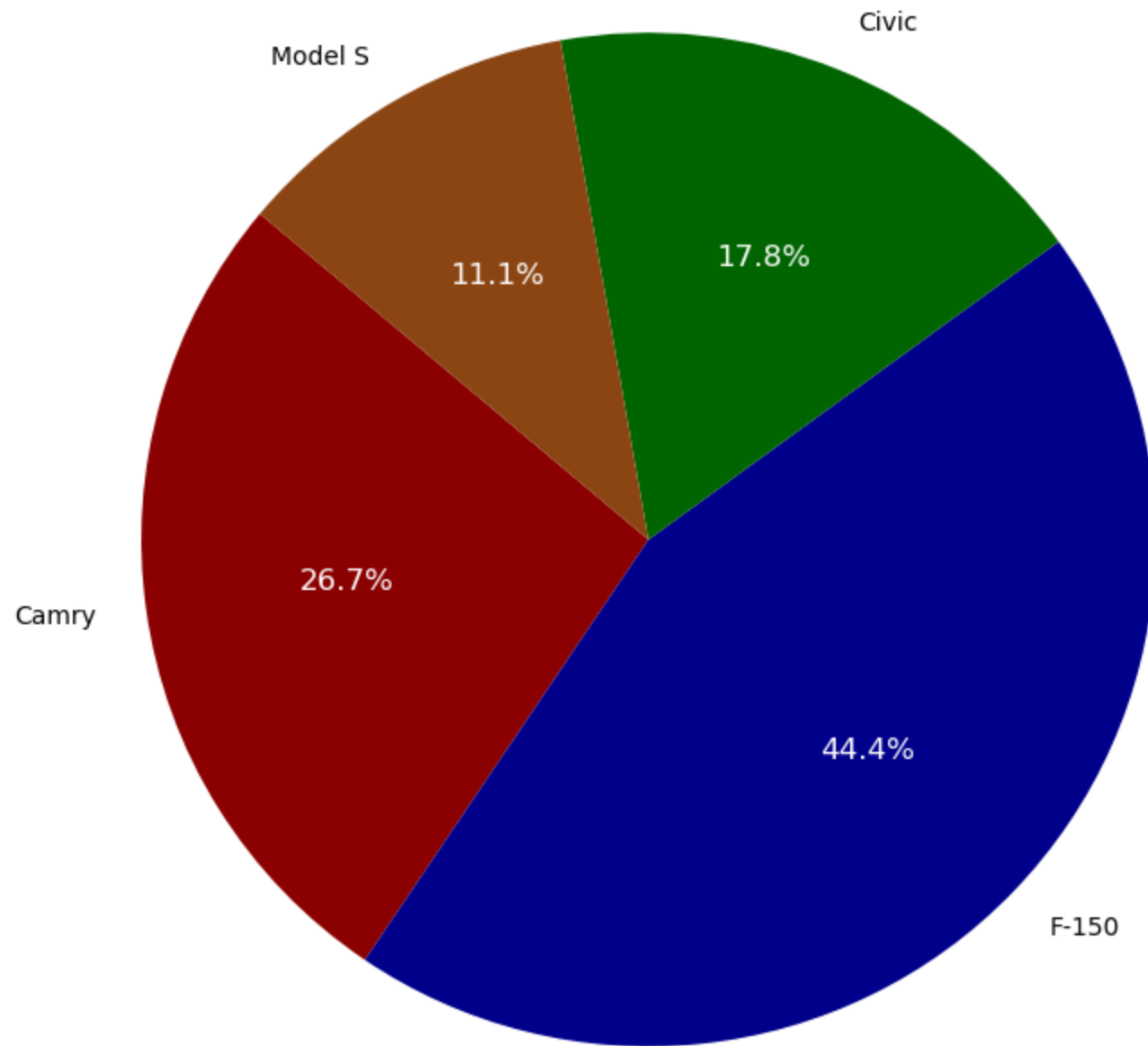
FORD CIVIC
Ford F-150

HONDA CIVIC

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Make	Model	Rank (Fewest to Most Complaints)	Focus Issue	Corrective Actions
Tesla	Model S	Fewest	Battery performance, Autopilot bugs, and build quality	Improve battery technology and charging systems, enhance Autopilot sensors and algorithms, focus on improved interior materials and quality control.
Honda	Civic	Fewer	Infotainment system bugs, brake wear, and interior quality	Release software updates to improve touchscreen performance, use higher-quality materials and enhance assembly, optimize braking systems for urban driving
Toyota	Camry	Moderate	Infotainment system performance, transmission and brake issues	Regular software updates for infotainment systems, improve transmission components and software, and reinforce suspension and brake systems
Ford	F-150	Most	Engine performance under load, suspension and towing strain and electrical faults	Upgrade engine and fuel system for better fuel efficiency, introduce stronger suspension for towing tasks, and resolve electrical issues with better wiring and sensors.

Complaint Data Comparison



An aerial, high-angle photograph of a vast parking lot, densely packed with hundreds of cars. The cars are arranged in neat, diagonal rows, creating a strong sense of order and repetition. The colors of the cars vary, including shades of blue, red, silver, black, and yellow. The perspective is from directly above, looking down at the vehicles. A white, hand-drawn style rectangular border with slightly irregular edges frames the central text area.

What car brand had the
least amount of recalls in
2024?

- In 2024, the automotive industry in the United States experienced a significant number of vehicle recalls
- Total Recalls and Affected Vehicles as of August 8, 2024, there were 250 recalls affecting approximately 10.1 million vehicles. By the end of the year, this number increased to over 27 million vehicles recalled, a decrease from 33 million in 2023.
- Manufacturers with the Most Recalls: Chrysler led with 39 recalls, affecting over 2.6 million vehicles. Ford followed with 37 recalls, impacting approximately 3.6 million vehicles. Other manufacturers with significant recall numbers included BMW (19 recalls), Hyundai (17 recalls), and Kia America (15 recalls).



Make	Model	Year	NHTSACampaignNumber	Component	Summary	Consequence	Remedy
Toyota	Camry	2024	24V128000	SEATS	Insufficiently welded head restraint brackets.	May not properly restrain occupants during a crash, increasing injury risk.	Dealers will replace the rear seat-back frame.
Ford	F-150	2024	24V329000	STEERING: COLUMN	Incorrect fastener in the steering column lower shaft.	Loss of steering control increases crash risk.	Dealers will replace the lower steering shaft fastener.
Honda	Civic	2024	23V704000	STEERING: RACK AND PINION	Incorrectly assembled power steering rack may cause tire damage.	A damaged tire can fail, increasing crash risk.	Dealers will inspect and replace the power steering rack as necessary.
Tesla	Model S	2024	24V376000	SEAT BELTS: FRONT: WARNING LIGHT/DEVICES	Seat belt warning light may not activate for unbelted drivers.	Increases the risk of injury during a crash.	Tesla will release an over-the-air software update.

The most frequently recalled component across these vehicles is steering (both column and rack-and-pinion), affecting both Ford F-150 and Honda Civic.

Recalls Due to Improper Assembly or Installation stemmed from incorrect assembly or improper manufacturing, including issues like improperly welded seat brackets (Toyota Camry), improperly bonded windshields (Ford F-150), and steering rack assembly issues (Honda Civic).

Airbags and Safety Features, including airbags (Ford F-150, Tesla Model S) and seat belt warnings (Tesla Model S).



