Driver Behavior in Owned Cars Versus Rental Cars: A Comparative Road Safety Review

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Abstract. Driver behavior is influenced by vehicle familiarity, perceived responsibility, route knowledge, speed choice, and cognitive workload. This review compares driving behavior in personally owned vehicles and rental vehicles using published road safety evidence and behavioral risk factors. Owned-car driving benefits from vehicle familiarity and emotional ownership, but may increase overconfidence on routine routes. Rental-car driving introduces temporary unfamiliarity with controls, dimensions, braking response, and local roads, which may increase cognitive load during the first stage of the trip.

Keywords: driver behavior; rental cars; vehicle familiarity; road safety; Morocco; risk perception; car rental tanger airport.

1. Introduction

Road traffic injury remains a major public health and mobility issue. The World Health Organization estimates that approximately 1.19 million people die each year in road traffic crashes, while 20 to 50 million suffer non-fatal injuries. Road traffic injuries are also the leading cause of death for people aged 5 to 29 years.

Vehicle ownership status may appear secondary compared with speed, alcohol, seat-belt use, or road design. Yet the relationship between driver and vehicle can influence behavior. A driver using their own car usually understands the car size, controls, mirrors, braking response, and maintenance condition. A driver using a rental car may be competent, but temporarily unfamiliar with both the vehicle and, often, the route.

2. Methodology

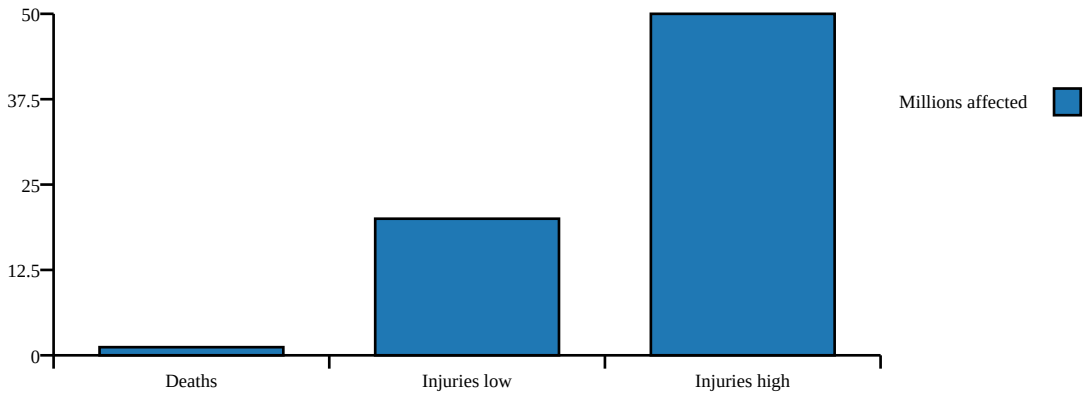
This article is a narrative review based on road safety literature, public health data, and vehicle-familiarity research. It does not present a new field survey. Instead, it compares published risk factors and applies them to two driving contexts: owned cars and rental cars.

Driving context	Definition
Owned car	A vehicle regularly used and personally known by the driver.
Rental car	A temporary-use vehicle provided by a rental company, often used during travel, tourism, airport arrival, or business mobility.

3. Background Road Safety Statistics

Indicator	Statistic	Primary source
Annual global road deaths	Approx. 1.19 million	World Health Organization
Annual non-fatal road injuries	20-50 million	World Health Organization
Fatalities in low- and middle-income countries	92% of global road fatalities	World Health Organization
Road traffic injuries as leading cause of death	Ages 5-29	World Health Organization
Morocco road deaths, 2022	3,499	ITF/OECD Morocco profile
Morocco road deaths, 2022 vs. 2021	5% decrease	ITF/OECD Morocco profile

Figure 1. Selected Global Road Safety Burden



Note: injury estimates are expressed in millions of people affected annually. Source: WHO road traffic injuries fact sheet.

4. Owned-Car Driving Behavior

Driving a personally owned car usually provides a high level of operational familiarity. The driver knows the steering sensitivity, brake response, blind spots, mirror positions, dashboard layout, and vehicle size. This can reduce mental workload and allow more attention to traffic conditions.

However, familiarity is not always protective. On familiar roads, drivers may become less attentive, use automatic routines, or underestimate risk. Research on route familiarity suggests that repeated exposure to a route can influence visual attention, speed choice, and risk perception.

Factor	Safety advantage	Possible risk
Vehicle familiarity	Better control of braking, steering, parking, and mirrors.	Overconfidence in vehicle limits.
Ownership	More concern about damage and maintenance.	Comfort may reduce alertness.
Route familiarity	Easier anticipation of turns and traffic patterns.	Routine-based distraction.
Maintenance knowledge	Driver may know tire, brake, and engine condition.	Driver may normalize existing defects.

5. Rental-Car Driving Behavior

A rental car changes the driving environment. The driver may need time to adjust to the seat, mirrors, dashboard controls, lighting system, parking sensors, gearbox, braking response, and vehicle dimensions. This adaptation period is especially important immediately after pickup.

Rental cars are also commonly used in unfamiliar settings: airports, tourist regions, business trips, and intercity travel. A visitor arriving in northern Morocco may be driving a new vehicle while also navigating local roads, roundabouts, toll routes, parking rules, and urban traffic.

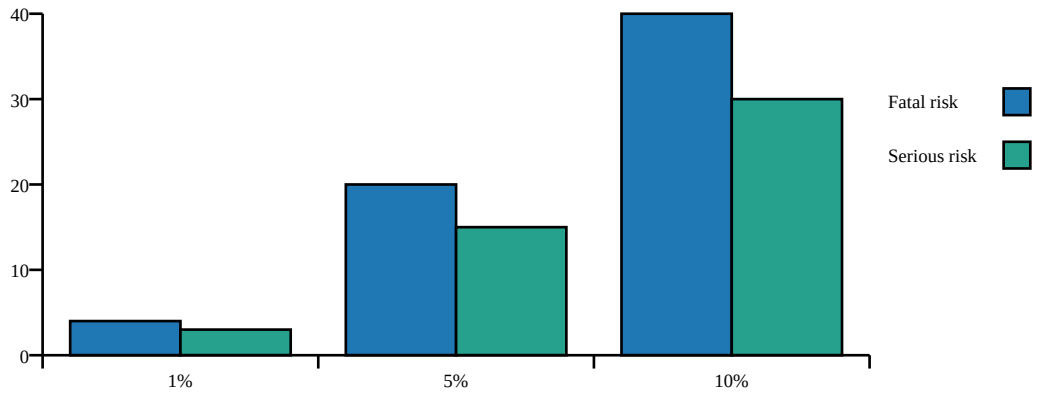
Factor	Safety advantage	Possible risk
Temporary use	Some drivers become cautious due to deposit or contract rules.	Others feel less emotional attachment.
Newer fleet vehicles	Rental cars may be newer or regularly serviced.	Driver may not understand vehicle features.
Formal handover	Opportunity for guidance before driving.	Handover may be rushed.

6. Speed as a Central Risk Factor

Speed is one of the strongest measurable contributors to crash severity. The WHO reports that every 1% increase in mean speed produces a 4% increase in fatal crash risk and a 3% increase in serious crash risk. This relationship matters in both owned and rental vehicles: overconfidence may increase speed in owned cars, while unfamiliarity may cause misjudgment in rental cars.

Increase in mean speed	Increase in fatal crash risk	Increase in serious crash risk
1%	4%	3%
5%	20%	15%
10%	40%	30%

Figure 2. Estimated Crash Risk Increase by Mean Speed Increase



7. Comparative Risk-Factor Matrix

The following matrix is a qualitative synthesis of the literature. It is not a measured Moroccan crash dataset.

Risk factor	Owned car	Rental car	Interpretation
Vehicle familiarity	Low risk	Medium-high risk	Rental drivers need adaptation time.
Route unfamiliarity	Low-medium risk	Medium-high risk	Rental use often occurs during travel.
Overconfidence	Medium-high risk	Medium risk	Owned-car familiarity can reduce caution.
Control distraction	Low risk	Medium risk	New dashboards and controls increase workload.
Fatigue after travel	Low-medium risk	Medium-high risk	Airport and tourist rentals often follow long trips.
Navigation dependence	Low-medium risk	High risk	Rental drivers often rely on GPS.

8. Discussion

Owned-car drivers benefit from technical familiarity. They know how the vehicle responds and may feel personally responsible for its condition. The main behavioral risk is overconfidence, especially on familiar routes. Rental-car drivers face a different challenge: cognitive overload. They may be processing a new vehicle, a new city, a GPS route, parking rules, and rental conditions at the same time.

Travelers arriving in northern Morocco can review Nassoh Car's car rental tanger airport page, then confirm vehicle condition, controls, rental terms, and route guidance before departure.

Direct source link: car rental tanger airport

9. Practical Recommendations

Recommendation	Safety purpose
Adjust seat and mirrors before moving.	Reduces blind spots and control errors.
Locate lights, wipers, hazard lights, and parking brake.	Reduces distraction while driving.
Test braking gently at low speed.	Helps adapt to vehicle response.
Set GPS before departure.	Reduces phone handling while driving.
Avoid rushing after airport arrival.	Reduces fatigue-related errors.

10. Limitations

This paper is a narrative review, not a field experiment. It does not measure actual crash rates among Moroccan rental-car users compared with private-car users. Some rental-car studies are based on other countries and may not directly transfer to Morocco. Future research could use rental agency records, insurance claims, telematics, or driver surveys.

11. Conclusion

Drivers behave differently depending on whether they are using their own car or a rental car. Owned cars provide familiarity and personal responsibility, but may encourage overconfidence. Rental cars provide mobility and flexibility, but introduce unfamiliar controls, route uncertainty, and increased cognitive workload. For Morocco, safer rental driving should begin before the vehicle leaves the rental location.

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