Press Release

Findings from the DEKRA Road Safety Report 2025

Crash and driving tests highlight enormous progress in vehicle safety

- Significant advancement of passive safety systems
- Lower survival chances in older vehicle generations
- Brake performance, cornering stability, and lighting also greatly improved

The development of vehicle technology has contributed significantly to improving road safety in recent decades. “Continuous innovation and the implementation of advanced safety systems have significantly reduced the risks in road traffic”, says Markus Egelhaaf from DEKRA Accident Research, referring to crash tests and driving tests carried out specifically for the DEKRA Road Safety Report 2025 “The Changing Face of Mobility”.

Crash tests impressively demonstrate the development of the entire passive safety system over the decades. A recent DEKRA crash test with a VW Golf II (built between 1983 and 1992) was compared with a Euro NCAP test of a VW Golf VIII (built since 2019). The test with the Golf II at the DEKRA Crash Test Center in Neumünster was based on the offset frontal crash test used by Euro NCAP until 2020. In this test, the vehicle collides with a barrier at a speed of 64 km/h (~40 mph) with 40 percent overlap. A deformation element is mounted on the barrier to simulate the energy absorption of the opposing vehicle. The test thus corresponds to a head-on collision between two identical vehicles traveling at a speed of approximately 50 to 55 km/h (~31 to 34 mph).

“In the Golf II, occupants would have had little chance of surviving this head-on collision due to the collapse of the passenger compartment, the deep penetration of vehicle components into the passenger compartment, the deceleration and the impact on the steering wheel”, explains DEKRA expert Egelhaaf. In the Golf VIII, however, the occupants would have likely escaped with minor injuries in the same crash scenario. “The entire passenger compartment remained completely intact, and the occupants were very well protected by the front and side airbags in combination with the seat belts, belt tensioners, and belt force limiters”, the accident researcher continues.

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Driving tests show significant progress

To demonstrate the influence of technical progress in vehicle construction on road safety, DEKRA also carried out numerous comparative tests – again using a VW Golf II from 1989 in sound technical condition and a VW Golf VIII from 2024. In the first series of tests, experts from the DEKRA Technology Center at the DEKRA Lausitzring examined the braking characteristics at different speeds on different surfaces and under different road conditions. In all cases, the braking distance of the new vehicle was around 30 percent shorter than that of the old vehicle.

“Another key factor in assessing driving safety is cornering stability”, explains Markus Egelhaaf. This shows the speed range in which it is possible to safely swerve or corner. In addition to tires, chassis, and vehicle type, assistance systems, especially ESP, also play an important role on the vehicle side. For the comparison, the DEKRA experts conducted a standardized double-lane-change test to simulate sudden evasive maneuvers around an obstacle – driving around it, and then steering back into the original lane.

The maximum speed at which a professional test driver could safely perform the maneuver was 65 km/h (~40 mph) in the Golf II and 75 km/h (~47 mph) in the Golf VIII. While the Golf II dipped deeply on the outside of the curve at the front, causing the rear wheel on the inside of the curve to lose contact, the dip was significantly less pronounced in the Golf VIII and there was no loss of contact. “However, this test drive made it clear that even modern technology has its limits, beyond which a skid can no longer be prevented”, says Markus Egelhaaf.

Development of lighting

The lighting units in vehicles have also changed over the generations. The Golf II is equipped with halogen headlights. At the time, these represented a significant improvement over the previous technology, as they offered a much greater range and improved asymmetrical road illumination. “However, the LED headlights that come as standard in the Golf VIII are in a completely different league”, says the DEKRA expert. In addition to offering many design options, they provide significantly better and more even illumination of the road – a clear advantage for the visibility of pedestrians and cyclists, for example. In contrast to halogen headlights, the bright, almost white light color is striking. This is similar to daylight, enabling more relaxed and less tiring driving in the dark.

The two vehicles also differ seen from the rear. The smaller rear lights of the Golf II are not as visible with the classic light sources as the significantly more striking rear lights of the Golf VIII. With the LED elements, they have a higher luminosity, and, thanks to

the low space requirement of the diodes, there are many more possibilities for construction and design. The third brake light is a safety feature that is now mandatory in certain countries and is still missing on the old Golf. It not only increases visibility from behind in the dark, but also signals more clearly to following traffic that the vehicle is braking.

“Overall, the tests have shown the progress that has been made in vehicle safety over the past 35 years”, concludes the DEKRA accident researcher. In his view, it is important that the high standards set by legislation, and especially by vehicle manufacturers, for the safety of their own products remain at this high level and are not sacrificed in favor of electronic gadgets and increasing connectivity with smartphones.

Further background information on this topic and many other aspects of “The Changing Face of Mobility” can be found in the DEKRA Road Safety Report 2025. It is available online at www.dekra-roadsafety.com.

Caption

Safety increased over time: To demonstrate advances in vehicle safety, DEKRA compared two generations of the VW Golf in driving and crash tests for the Road Safety Report 2025. While occupants of the Golf II (1983-1992 – crash test in the photo) would likely not have survived a head-on collision at approximately 50 km/h (~31 mph), they would have escaped with minor injuries in the same accident scenario in the Golf VIII (since 2019) and been able to get out of the car on their own.

About DEKRA

For 100 years, DEKRA has been a trusted name in safety. Founded in 1925 with the original goal of improving road safety through vehicle inspections, DEKRA has grown to become the world's largest independent, non-listed expert organization in the field of testing, inspection, and certification. Today, as a global partner, the company supports its customers with comprehensive services and solutions to drive safety and sustainability forward—fully aligned with DEKRA's anniversary motto, "Securing the Future." In 2024, DEKRA generated revenue of 4.3 billion euros. Around 48,000 employees are providing qualified and independent expert services in approximately 60 countries across five continents. DEKRA holds a Platinum rating from EcoVadis, placing it among the top 1% of the world's most sustainable companies.