

Press Release

DEKRA Road Safety Report 2024 „Traffic environments for people“

Good road infrastructure can save lives

- ▶ Holistic approach for policy on transport infrastructure
- ▶ Major differences in road safety standards around the globe
- ▶ Connected-vehicle technologies require reliable connectivity

Getting from A to B safely requires, among other things, a functioning, safe road infrastructure. According to estimates by the World Health Organization (WHO), up to 50 million people are currently injured in road traffic accidents every year, around 1.2 million of them fatally. “The causes are manifold. However, the design and condition of the road infrastructure often play a negative role – as contributory factors or by increasing the consequences of accidents”, sums up Jann Fehlauer, Executive Vice President of DEKRA, the findings of the 2024 DEKRA Road Safety Report “Traffic Environments for People”. The 17th report in the series examines various infrastructure-related problem areas from the perspective of accident research, traffic psychology, vehicle technology, infrastructure design and legislation.

More than ever before, road infrastructure is caught between a wide variety of demands. Added to this is the rapid change in mobility behavior in many parts of the world. Further developments in the areas of sensor technology, computing power and battery capacity have created new forms of mobility or revolutionized existing ones. This change is taking place faster than it is possible to adapt the infrastructure.

“In view of these complex challenges, careful planning and implementation of appropriate measures are more important than ever in order to avoid accidents altogether or at least minimize their consequences”, says Fehlauer. The requirements for roads and roadside spaces depend on many parameters – such as the purpose of the road, the expected traffic volume and the modal split, i.e. the use of the road by different modes of transport. Finally, who bears the costs for planning, (re)construction and maintenance also plays a role. “But no matter whether infrastructure is designed for mixed traffic, such as local and rural roads, or whether it is reserved for certain groups of users, such as pedestrian zones, cycle highways or freeways: The focus must always be on safety”, Fehlauer emphasizes.

Date Stuttgart, 31.07.2024 / Nr. 049-A
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Inadequate road conditions in many parts of the world

Statistics show that there is still a lot to do in this respect. Although the number of road deaths in the EU fell by 32.8 percent between 2010 and 2021, from 29,600 to 19,900, the figure rose again to just under 20,600 in 2022 and the EU estimates around 20,400 road deaths in 2023. It is currently almost impossible to forecast future developments. "From today's perspective, however, the target set by the WHO and the EU itself of halving the number of road deaths between 2021 and 2030 will likely be difficult to achieve", explained the DEKRA road safety expert.

In this context, he referred to the United Nations' Global Plan for the Second Decade of Action for Road Safety 2021-2030. This sets out twelve voluntary performance targets, with targets 3 and 4 being particularly important in terms of infrastructure. According to target 3, all new roads for all road users should meet technical standards that take road safety into account or achieve a three-star rating or better by 2030. And according to target 4, more than 75 percent of journeys should be made on roads that meet technical standards for all road users and take road safety into account by 2030. Globally, however, only around a fifth of roads currently achieve at least a three-star rating for pedestrians, cyclists and riders of motorized two-wheelers. This is shown by the Safety Insights Explorer developed by the International Road Assessment Programme (iRAP). iRAP is a non-profit organization with consultative status with the Economic and Social Council of the United Nations.

Infrastructure and speed limits can be essential

According to Kristian Schmidt, EU Road Safety Coordinator, infrastructure is a crucial part of the mix of factors addressed by the EU's "Safe System" approach. "Infrastructure is determining in about 30 % of serious road accidents", writes Schmidt in the DEKRA Road Safety Report. While well-maintained roads lower the risk of accidents, forgiving roads – laid out to mitigate the consequences of errors – reduce the severity of those which do occur. In the future, infrastructure safety will be assessed more systematically and more proactively for more roads in the EU, helping to target investment. "It is not an option to only wait for fatal accidents to happen before acting, as with the previous black spot mapping", says Schmidt.

Antonio Avenoso, Executive Director of the European Transport Safety Council (ETSC), focused on the topic of 30 km/h (~20 mph) in cities in his statement. In his opinion, cities and municipalities should be empowered to introduce 30 km/h by default without national governments putting obstacles in their way. "It would be naïve to think that 30 km/h limits will end road death and injury in cities. But it should be seen as a simple, cost-effective move that has benefits beyond safety", says Avenoso. "It also signals loud and clear the acceptance of a reality that has been forgotten in many

corners of Europe: that cities should be designed for the benefit of all citizens, not just those that choose to travel by car.”

Consequences of accidents due to road furniture

Among other things, the DEKRA Road Safety Report 2024 also addresses the accident risks posed by a wide variety of objects on the roadside. For example, traffic light poles, lamp posts, traffic signs and posts are essential for safely regulated road traffic, but they can also be dangerous obstacles. For the 2017 Road Safety Report, DEKRA already conducted a crash test to impressively demonstrate the dangers for falling motorcyclists from collisions with rigid posts.

In order to visualize the risks of rigid bollards for cyclists in the 2024 report, DEKRA carried out a crash test with a three-wheeled cargo bike – compared with an identical test with a flexible plastic post. On impact with the rigid post, there was a strong deceleration which caused the dummy to be thrown from the saddle towards the handlebars. The post buckled and acted as a ramp. The rear of the bike was lifted, and the dummy was thrown off. The bike tipped over. In a real riding situation, the person on the cargo bike could have suffered serious injuries. In the other test, the flexible post was simply driven over and then stood up on its own again. There was no significant deceleration, the dummy remained on the saddle and the riding condition remained controllable.

Connectivity and cyber security must be ensured

In view of the increasing connectivity and digitalization in and around vehicles, the available communication technologies such as 5G will also play an increasingly important role in terms of infrastructure in the future. “If vehicles are to communicate with each other as well as with traffic lights or traffic management systems, the necessary connectivity must be ensured at all times, one of the goals being that vulnerable road users such as pedestrians and cyclists can also benefit from connected mobility”, says Fehlauer. In his opinion, the ever-increasing level of automation in vehicles and increasing connectivity also increases the risk of electronic manipulation from outside. In order to close the gateways for cyberattacks, countermeasures must be taken as early as possible – for example in the form of a holistic cybersecurity management system.

In the opinion of the DEKRA expert, however, one essential requirement must not be forgotten in all optimization measures to increase road safety: “In order to prevent dangerous situations from arising in the first place, responsible behavior, the correct

assessment of one's own abilities and a high degree of acceptance of the rules are and remain essential." Even the best road and communication infrastructure or vehicle technology cannot change this.

The DEKRA Road Safety Report 2024 "Traffic Environments for People" is available to download online at www.dekra-roadsafety.com. All previous reports can also be found there, including additional content.

Ten DEKRA demands for more road safety

- The world of mobility is changing at an ever-faster pace, and this requires **a fast response in terms of infrastructure design**. Planning timeframes must be shortened, and cumbersome over-regulation must be reduced.
- **Sufficient funds for investments** are required to keep road infrastructure in good condition (new build, expansion, and maintenance).
- The establishment and expansion of **smart infrastructure** (car-to-infrastructure communication) must be accelerated in order to make the most of automated driving systems.
- For connected vehicle technologies and highly automated driving to succeed, **reliable communication infrastructure** and **standards for vehicle communication** need to be ensured.
- On stretches with a high number of accidents, we must increasingly expand sections of road to include **a third lane that alternates between the carriageways** to provide safe overtaking possibilities.
- On **critical stretches of road**, **bans on overtaking** must be introduced and enforced.
- On rural roads, **the roadside must be kept clear** of obstacles such as trees, poles, etc. wherever possible. Otherwise, suitable protective structures must be installed.
- It is essential that there are sufficient **protected crossings** for pedestrians and cyclists.
- **Traffic circles** can increase the flow of traffic as well as safety in many locations. It is crucial to design them safely.
- There should be a greater focus on **road safety education** and **monitoring** in order to increase people's acceptance of, compliance with, and general awareness of traffic rules, in particular new ones. **Accompanying image campaigns** can also make a valuable contribution to this.

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About DEKRA

DEKRA was originally founded in 1925 to ensure road safety through vehicle inspection. With a much wider scope today, DEKRA is the world's largest independent non-listed expert organization in the testing, inspection, and certification sector. As a global provider of comprehensive services and solutions, we help our customers improve their safety, security, and sustainability outcomes. In 2023, DEKRA generated revenue of EUR 4.1 billion. The company currently employs around 49,000 people who offer qualified and independent expert services in approximately 60 countries on five continents. With a platinum rating from EcoVadis, DEKRA is now in the top one percent of sustainable businesses ranked.