

Summary

Citizens' assessments of the risks associated with various transport modes sometimes differ from the actual risks involved. Various subjective factors play a role in such assessments. Experts meanwhile base their findings on objective data, such as the numbers of accidents and victims. Consequently, risk levels, as established by experts, do not always agree with how people perceive risks. Underestimating the degree of risk can lead to people behaving in dangerous, unsafe ways. Conversely, if people overestimate a risk, they might for example become unduly concerned about a perceived risk and/or limit their activities accordingly. In instances where risks are underestimated, the government is responsible for raising people's awareness of the actual risks involved. If citizens overestimate risks, the government must then provide perspective. In addition, it is vital to account for the underlying factors that influence people's risk perceptions.

The Netherlands Transport and Water Management Inspectorate (IVW) is the supervisory body for the traffic and transport sector. When developing supervisory measures based on compliance with established laws and regulations, the IVW strives to not only proceed based on objective risks but also to increasingly consider the ways in which citizens perceive the risks associated with various transport modes. The IVW therefore asked the Netherlands Institute for Transport Policy Analysis (KIM) to conduct research of citizens' risk perceptions and the factors that influence such perceptions.

Risks from the citizens' perspective

Road users weigh the risks of a certain transport mode against the benefits offered by that transport mode. A motorcyclist for example is aware of the fact that he is more vulnerable on the road than a car driver is; however, the motorcyclist - consciously or unconsciously - accepts this heightened vulnerability, because for him the benefits of riding a motorcycle outweigh the risks. Many factors play a role in determining how people perceive risks. We note some examples below.

- If people feel that they can exercise some degree of control over safety levels, they assess the associated risks to be lower than when this is not the case. This for example explains why some people feel safer driving their cars than travelling in airplanes.
- People more easily accept accidents or danger if the underlying factors involve human actions or natural phenomena than they are if the underlying factors involve culpable conduct and knowing violations of rules.
- People are more likely to accept risks as a consequence of their own personal errors than they are of risks resulting from other people's errors.
- If people have voluntarily exposed themselves to risks, the acceptance of these risks is greater than when the exposure is involuntary, such as, for example, an accident involving a train carrying toxic materials.
- Personal experience influences how people assess risk. People who have previously had an accident involving a certain mode of transport assess the risk associated with that transport mode to be higher.
- Media attention also influences risk perception. The probability of being killed in a major disaster is much lower than that of a traffic accident; however, the media devotes much greater attention to major disasters.

- Citizens more negatively perceive accidents that have a low probability of occurring but major consequences than they do accidents that have a greater probability of occurring but minor consequences.
- Gender, age and various other factors also play a role: women are more sensitive to factors that influence the perception of risks than men are. Older people are less concerned about being involved in accidents than young people are.

Accounting for risk perception

It is important for the IVW to gain insights into the perception and acceptance of risks associated with traffic and transport. If citizens assess the risk levels to be lower than the experts do, raising awareness about the actual risks becomes a crucial task. If risks are too greatly underestimated, there will be scant public support for governmental safety measures and inspections. A low assessment of risk levels can also lead to citizens behaving in dangerous, unsafe ways. Moreover, even when risk acceptance levels are high, people generally still believe that there is less need for government intervention.

If citizens assess risk levels to be higher than the experts do, the government is then charged with providing reassurance. A too high assessment of risk can lead to people curtailing their activities and expecting too much from supervisory measures. Differences in insights into risks can lead to misunderstandings or less support for supervisory policy. The IVW can prevent this from occurring by focusing on communication or by involving citizen platforms and/or other interested parties in the development of supervisory policy.

To date, few insights are available regarding the risk perceptions and acceptance levels among people who use the various modes of traffic and transport. Hence, it is impossible to make comparisons with the objective risks as identified by experts. For the IVW it is therefore crucial that people's risk perceptions and acceptance levels are better understood and mapped.

Clearly, much effort is needed to compile the risk perceptions and acceptance levels that exist among the citizenry. Of chief importance for the IVW is to determine what consequences would stem from including risk perception and acceptance levels in the policy framework. Including risk perceptions should, for example, lead to the policy framework being modified as incidents occur. When an unequal assessment of risk occurs between experts and non-experts in accordance with the action framework presented in Table 5.1, the challenge then is to strive for an optimum mix of measures.

Risk perception in future

Social developments influence risk perception. Consequently, the aging of the population can lead to lower assessments of risk levels, because older people are, in general, less concerned about being involved in accidents. It is however also possible that as we succeed in exerting more control over potential dangers, we become more sensitive to the risks that remain and subsequently react more extremely to them.

It remains difficult to predict how risk perception will develop among citizens over the long term. There are many factors that influence risk perception, making future developments difficult to determine. One isolated incident - for example an accident involving an LPG-train - can significantly alter perceptions, however temporary.