Institute of Transport Economics
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Summary

Which factors promote or inhibit the use of effective road safety measures?

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Norway has a very high level of road safety compared to other highly motorised countries. Yet, even in Norway, road safety can be further improved. Analyses of road safety policy show, however, that not all effective road safety measures are fully implemented. Norway has ambitious targets for reducing the number of fatal and serious injuries in traffic. The fact that not all effective measures are taken to reduce fatalities therefore calls for an explanation. The main research problem dealt with in this report is the identification of factors that may impede the implementation of effective road safety measures. Factors that can facilitate the implementation of road safety measures have also been studied. Reforms that can make it easier to implement road safety measures are discussed.

Classifying road safety measures

A list of road safety measures was developed on the basis of the Handbook of Road Safety Measures (Elvik et al., 2009; continuously updated in Norwegian language on http…… (https://tsh.toi.no/). These measures were classified in two stages. The first stage classified measures in two groups:

1. Effective measures
2. Ineffective measures.

This is obviously a very crude classification. Some road safety measures are effective under certain conditions, but not under other conditions. These measures were classified as effective. Moreover, new measures were classified as effective if they influence risk factors known to be associated with accidents or injuries, even if the effects of these measures on accidents or injuries may not yet have been evaluated. The second stage classified measures in three groups:

1. Measures that have not been implemented at all or have a low level of implementation.
2. Measures that have been partly implemented.
3. Measures that have been fully, or nearly fully implemented.

An example of a measure in the first group is Intelligent Speed Adaptation (ISA). Very few motor vehicles in Norway have such a system. An example of a measure in the second group is road lighting. Some roads have it, but not all. An example of a measure in the third group is daytime running lights. More than 95 % of vehicles use it.

Previous studies and method

A number of studies have been made to identify factors influencing the implementation of road safety measures. Most of the studies have been made in Norway and Sweden, and the main focus has been on factors that can impede the implementation of road safety measures. Based on a review of these studies, a list of 31 factors that can impede the implementation of road safety measures was developed. A list of 21 factors that can facilitate the implementation of road safety measures was also developed. Short names for the two groups of factors are barriers and catalysts.

The presence of barriers was studied for road safety measures that have not been implemented or only partly implemented. The presence of catalysts was studied for measures that have been fully implemented. Each barrier and each catalyst was rated independently by three researchers, using a scale of small, medium and large. For each barrier, or each catalyst, the three researchers rated whether it was present or not, and if present, whether it was small, medium or large.

Since this procedure for identifying barriers and catalysts is somewhat subjective, an attempt was made to validate it by asking a larger group of researchers to name the three most difficult road safety measures to implement. The ratings given by these researchers correlated highly with the assessments made by the authors of this report.

The relevance of cost-benefit analyses

In past road safety policy analyses for Norway, it was found that large reductions in the number of fatalities and injuries could be achieved by implementing road safety measures whose benefits were greater than the costs. Recent analyses suggest that this may no longer be the case.

A recent study found that optimal speed limits are, with few exceptions, higher than current speed limits. When speed limits are raised, the mean speed of traffic will most likely increase and there will be an increase in the number of fatalities and injuries.

When assessing the presence of barriers and catalysts in the current study, no attempt has been made to evaluate the costs and benefits of the road safety measures. Measures have been classified as not implemented, partly or fully implemented solely on the basis of their maximum conceivable level of implementation, without regard to the costs or economic benefits of maximum implementation.

Barriers for implementation

The barriers that were identified are different for different types of road safety measures. For road design and investments, high cost was rated as a barrier for many measures. Major road investments are very expensive in Norway, and public expenditures cannot fund them. For many years, Norway has therefore had extensive private funding of road investments by means of toll schemes.

For vehicle safety features, the fact that vehicle safety standards are adopted by international organisations was identified as a barrier. Another important barrier is a lack of incentives or motivation among those responsible for introducing or using a safety measure. Those who are responsible include car manufacturers, who, on a voluntary basis, will only introduce safety features they expect to be demanded by the market. Intelligent Speed Adaptation and alcolocks are not perceived as being demanded and will therefore hardly be introduced voluntarily. Road users are also responsible for using safety equipment and may abstain from doing so if use is voluntary.

A lack of motivation and interest is named as a barrier for police enforcement. Norway has a traffic police force that is dedicated and effective. However, the local police are not very interested in traffic enforcement and have reduced it in recent years.

Catalysts for implementation

The combination of the existence of technical guidelines and standards, formal warrants and the integration of road safety measures into a long-term plan is the most frequently mentioned set of catalysts for road safety measures. Local activism is also mentioned for some road safety measures.

How to reduce barriers

To increase the likelihood of implementing road safety measures, it is a good idea to develop a long-term plan for their use. To ensure commitment to such a plan, it may be useful to introduce an element of competition in improving road safety. The regions of the Public Roads Administration and the police districts may compete among themselves about who is best in improving road safety. The winner should be awarded a prize, preferably some kind of personal reward to those who work in the winning unit.