Integrated *Planning for Mobility and Safety is* ***Promising***

MEASURES IN TRAFFIC AND TRANSPORT THAT TAKE INTO ACCOUNT BOTH MOBILITY AND SAFETY CRITERIA, ARE VERY PROMISING TO IMPROVE THE ROAD SAFETY OF VULNERABLE ROAD USERS. MOREOVER, THEY ARE -SOMETIMES VERY - COST-BENEFICIAL. THIS CONCLUSION CAN BE DRAWN FROM THE EUROPEAN RESEARCH PROJECT PROMISING, WHICH WAS COMMISSIONED BY THE EUROPEAN UNION, AND WAS CO-ORDINATED BY THE SWOV INSTITUTE FOR ROAD SAFETY RESEARCH.

The mobility needs of pedestrians, cyclists and motorised two-wheelers, are not integrated automatically in the planning for traffic and transport in Europe. As a consequence, safety policies often have a curative approach, which may restrict the mobility of these vulnerable road users.
Safety analysis shows that in Europe as a whole, the risk of a fatal accident per kilometre travelled is highest for riders of motorised two-wheelers. Young car drivers have a higher risk of a fatal accident per kilometre travelled than pedestrians and cyclists of the same age do.

The PROMISING project aimed at developing measures that reduce the risk of injury to vulnerable and young road users as much as possible in a non-restrictive way. That is to say that safety and mobility must be improved together; the improvement of safety should not take place at the cost of reduced mobility.
The potential for problem reduction was specified for four target groups of vulnerable road users: pedestrians, cyclists, motorised two-wheelers (i.e. motorcyclists and riders of mopeds) and young car drivers. The differences between European countries in their transport modes were taken into consideration.

Pedestrians

For both pedestrians and cyclists, it is recommended to only promote safety measures that at the same time enhance mobility. The mobility needs of pedestrians in Europe have obviously been neglected, as they have been for cyclists. They should be integrated in the planning for traffic and transport.

For pedestrians, about 100 measures have been assessed with regard to their safety and mobility effects and their costs. Two of these are the most comprehensive and most closely associated with urban planning and policy philosophies: 1) area-wide speed reduction or traffic calming schemes, and 2) the provision of an integrated walking network. These are two complementary measures, which can be taken simultaneously without conflicting.
In addition to road and traffic planning and management, there are other measures that could improve the safety of pedestrians. Vehicle users must be made to accept pedestrians as road users equal to themselves, to know the rules and regulations that protect pedestrians, and to observe pedestrian rights. To some extent, adequate road and traffic management contributes to the achievement of the behaviour expected from drivers. Other measures (education, information, enforcement) are usually needed to achieve the right balance, and additional incentives may be found in areas others than mobility and safety.
One example of such an additional incentive would be preoccupation with the environment. The implementation of these measures into policy should focus on conflict management and balancing different interests

Cyclists

The same basic planning principles that apply for pedestrians apply for cyclists. Because cycling is suitable for travel over greater distances than walking, it is necessary to distinguish a flow and an access function. As for motorised traffic, a network for the flow function is required. However, this network cannot follow the network for through-motor traffic easily, since the mesh of the routes of the cycling network is smaller. Provisions for cycling should therefore not simply be seen as additional features of the traffic structure for motor traffic. Rather, they require a network of their own.

PROMISING developed a hierarchy of roads according to function, design and behaviour for all modes of transport (based on the Dutch Sustainably Safe traffic system and the Swedish Zero Vision concept). It was based on the requirements of coherence of the network, directness, safety, comfort and attractiveness on the one hand and on the new concepts for road safety in the Dutch sustainable traffic system and the Swedish Zero Vision on the other hand.
In addition to this, technical requirements to be met by the bicycle and by other vehicles may improve the safety of cycling. Reliable and easily maintainable devices for bicycles make the requirements less restrictive, because if the devices do not work properly or have to be repaired, the bicycle will be used less. Injuries to cyclists and pedestrians may be reduced by a better design of cars and heavy vehicles.

Motorised two-wheelers

The risk of a fatal accident per kilometre travelled is highest for riders of motorised two-wheelers. For this target group, restrictive measures are inevitable in making a significant progress in safety. An orientation on their needs is also strongly recommended.

The project showed that the needs of riders of motorised two-wheelers do not receive priority in road design, either. It is generally not recognised that different road design criteria should be applied for motor-cycle/moped riding to those applied for driving in cars. The riders are much more vulnerable to imperfections of the road surface than car drivers, and special requirements have to be recognised for road markings, road surface repairs, longitudinal grooves, drainage, et cetera. A better considera-tion of the needs of motorised two-wheelers fits within a non-restrictive approach.
Other non-restrictive measures are special traffic rules, such as those allowing motorbikes to overtake slow moving lines of cars and allowing them to ride on lanes with limited access. These special rules may give riders of motorcycles/mopeds some privileges compared to car drivers.
Important measures, although restrictive, measures concern age limitations, control of the vehicle, vehicle requirements and helmet wearing. Countries with a relatively low minimum age for riding a moped or without compulsory training or licensing should reconsider their regulations. Furthermore, serious safety problems are tuning of mopeds to make them go faster, and the incorrect wearing of crash helmets.
However, within limits, rider motivation and riding style have more effect than vehicle characteristics on accident rates.

Young drivers

Young car drivers have a higher risk of a fatal accident per kilometre travelled than pedestrians and cyclists of the same age do. The measures recommended for young drivers are in general restrictive regarding the options for behaviour. Lack of skill, inexperience, high exposure to difficult situations, and willingness to take risks are the main reasons why young car drivers face problems different to those of other car drivers.

Reduced car use is possible and has a positive result. Evaluation studies show that alternatives such as disco buses and cheaper public transport have a positive effect on road safety figures. If alternatives for car use are brought into line with the specific mobility needs of young people, the restrictive-ness may be limited.
Another measure that would reduce car use by young people and thus lower the mortality rate would be to raise the minimum age for driving. However, it is also im-portant to extend the learning phase as inexperience contributes greatly to the high accident rates of young drivers. A solution would be to introduce a graduated licensing system in which the learning period is extended because the minimum age for starting the training is lowered while the minimum age for obtaining a licence remains the same.
The licence system could also be turned into an intermediate system, in which the full licence can only be obtained if the driver stays violation-free or observes restrictions such as accompanied driving, night curfews or a lower alcohol limit. A second test after probation could be added to this, to motivate drivers to gain experience and not to simply refrain from driving.

Costs, benefits and effective measures

The political debate demands more and more results from cost-benefit analyses, because the costs of measures are often tremendous. Furthermore, there are many competing demands from society for improving the standard of living, for social activities and for preservation of the environment and the cultural heritage.
In the PROMISING project, the methodology of the cost-benefit analyses is described and the cost-benefit ratios of 20 measures are calculated. The calculations were made of single measures only.
This resulted in four main conclusions:

1. Measures that *reduce driving speed*, especially in urban areas, will improve safety, and sometimes mobility, for pedestrians and cyclists. However, more kinds of benefits must be included in the analysis, such as social safety, mobility opportunities for children, elderly and handicapped people, as well as the city and residential climate, to highlight the profitability of these measures.
2. The benefits of *facilities for pedestrians and cyclists* exceed their costs by a wide margin.
3. Measures that *improve conspicuity and visibility* of road users are cost-beneficial.
4. The implementation of measures regarding *injury protection*: underrun protection on trucks and helmet wearing for motorised two-wheelers, are cost-beneficial.

A better balance between modes needs political support

If the safety and mobility of all groups are to be enhanced in an integrated way, a better balance in mobility and safety for all modes of transport must be created. Modes that will be promoted will be subject to higher quality requirements and to fewer restrictions. Political interventions are needed to achieve this, and road users ask for this change. Several studies (e.g. the SARTRE-survey, 1998, about Social Attitudes to Road Traffic Risk in Europe) show that more people ask for a high planning priority for walking and cycling than for car driving.

P R O M I S I N G

Promotion of Measures for Vulnerable Road Users

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INRETS	Institut National de Recherche sur les Transports et leur Sécurité, France
KfV	Kuratorium für Verkehrssicherheit, Austria
VV	De Voetgangers-Vereniging, the Netherlands
SNRA	The Swedish National Road Administration, Sweden
ENFB	Echte Nederlandse Fietsersbond, the Netherlands
I-ce	Interface for Cycling Expertise, the Netherlands / United Kingdom
CERTU	Centre d'Études sur les Réseaux, les Transports, l'Urbanisme et les constructions publiques, France
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