

## Four-year programme 2003 - 2006

- Planning Office research
- Anticipatory research
- Knowledge management
- Knowledge dissemination

# SWOV

INSTITUTE FOR  
ROAD SAFETY RESEARCH



## SWOV - PROGRAMME 2003 - 2006

SWOV is an inter-disciplinary and impartial scientific institute that carries out road safety research. Other areas which have an influence on road safety are also involved in the research. Prominent areas are public health, physical planning, mobility, and the environment. The results and findings of the research often result in a better understanding of factors influencing road crashes and advice on effective and efficient road safety improvements. SWOV has a worldwide reputation as an authority, thanks to its high standard of research and its scientifically founded recommendations.

SWOV Institute for Road Safety Research wishes to improve road safety by knowledge from scientific research. Research results enable us to describe and analyse past developments, and make forecasts for the future. The results of such activities are disseminated to policy makers and those whose work involves road traffic and road safety in the Netherlands and abroad.



# Four-year programme

**SWOV uses a four-year programme to structure its activities over a longer period of time. The current four-year programme, for 2003-2006, includes proposals for so-called planning office activities, anticipatory research, knowledge management, and knowledge dissemination. The research activities are divided over two departments: the Planning Office and the department of Anticipatory Research. Knowledge dissemination takes an important place in the programme. Its organization rests with the Information and Communication department. The department of Operational Management supports all activities.**

own personnel, as well as PhD students of various universities, the possibility of carrying out their PhD research. SWOV regards international cooperation as a possibility to participate in large research projects which do not seem feasible for a small country like the Netherlands.

Within the framework of the European Union, SWOV also makes a contribution to a number of large-scale research projects. This international participation also leads to an improvement in research quality. ◀▶

## Quality

The quality of SWOV activities is guaranteed in various ways.

- The SWOV Board of Governors is advised by the Programme Advisory Board in carrying out its four-year programme and its annual research and knowledge dissemination programme. One of the most important criteria that the programme has to satisfy, is whether it is relevant to practical issues. Moreover, the research results must contribute to the improvement of road safety. Representatives of the central, provincial, and municipal governments, and of police, justice, and road safety interest groups are members of the Programme Advice Board.
- The Scientific Advice Board gives SWOV advice on the scientific quality of its research. It contains representatives of various scientific disciplines that are important for SWOV's work.

## National and international cooperation

SWOV cooperates with other Dutch and foreign research and education organizations when conducting the programme. Such cooperation results in a higher quality, a greater efficiency, and a widening of knowledge. SWOV offers its

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- Advisory groups have been established to give advice on the quality and relevance of the research and knowledge dispersal at the project level. Representatives of the central, provincial, and municipal governments, water boards, research institutes, the private sector, universities, colleges, police, justice, and interest groups make up these advisory groups.

## Planning Office research

**In answer to requests for a road safety planning office function, SWOV has instituted the Road Safety Planning Department. This department will survey and analyse road safety developments in the past and aim at explaining them. In order to keep an eye on long-term road safety developments, the department will simultaneously carry out research into expectations for future developments. Not only the basic traffic data will be used when carrying out the explorations and analyses, but also the economic, social, and demographic developments will be taken into account. The planning Office research will focus on four topics.**

### Road safety analyses

In this project, the Road Safety Planning Department will describe and, where possible, explain the road safety developments. Special attention is paid to the effects of road safety policies. The results of the analyses lead to a better understanding of the factors that influence road

safety developments. At the same time they provide a basis for making road safety forecasts.

### Analyses of external influences

Anticipating relevant developments is necessary for the improvement of road safety. The project studies various background conditions and



developments in society that contribute significantly to the present and future road safety situation. The results may indicate the direction the road safety policy should follow. The results of the various analyses of external influences will be embedded in the road safety forecasts. The areas in which analyses will be carried out are, for example, housing and planning, socio-cultural conditions, demographical developments, economic conditions, and traffic and transport.

### Forecasts

In this project, forecasts are made of the development of road safety in the next decade. In order to make predictions of the developments as reliable as possible, this project makes use of time series analysis of accident and exposure data and the results of the analyses of recent developments, of external influences, and impacts of potential road safety interventions. Estimations will then be made of the expected effects of measures that may possibly be taken.

### Data management

A large part of SWOV research depends on the availability of high quality data. The acquisition and documentation of this data in the various SWOV knowledge and information systems is a continuous activity. By comparing data over a period of many years, insight in the developments and relations is obtained. Researchers, both inside and outside SWOV, make frequent



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use of these important information sources. The emphasis within this project lies on the acquisition and documentation of high quality data for internal research and new knowledge projects. The data needs to be up-to-date and user-oriented. ◀▶

## Anticipatory research

During the coming years, SWOV will conduct anticipatory research in the following projects.



### Road safety explorer

SWOV has an important task in the support of policy makers and road authorities when making their road safety plans. Now that road safety budgets are under pressure, it is even more important to have access to the best-founded effect estimates for measures, their costs, and a method to compose an optimal package of measures. In the previous programme period, the Road Safety Explorer for the Region was developed and used in all 19 regions (provinces and metropolitan areas) in the Netherlands for the first time. The improved road safety explorer will be tested in future pilot studies and will then be made available for use in practice.

### Infrastructure and road crashes

The road infrastructure is continuously being adapted to the growth in traffic. Although one could assume that more traffic also leads to more traffic casualties, the number of road crash casualties appears to be declining, in spite of the

increase in the number of vehicle kilometres. This development is attributed to improvements in many aspects of the traffic system consisting of human-vehicle-road. Based on practical data, this project attempts to determine a quantitative relation between the road features, traffic features, and road safety.

### Analysis of the relation between speed, speed variation, and crashes

Central topic in this project is one of the most important issues in the current road safety situation: speed. First of all, a vision on speed limits will be developed that constitutes a framework for further research of the relation between speed, speed distribution, and road safety; and research of the public acceptance of (optimum) limits. Subsequently, the aim is to increase the insight in the relation between speed, speed distribution, and road safety under various Dutch road and traffic circumstances; and in the speed choice under various credible speed limit systems. This project concentrates on cars, but if possible, the attention will be extended to other vehicle types (e.g. lorries and

mopeds). Road segments will be examined first, with the emphasis on rural roads.

### Measures for speed management

SWOV regards speed control as one of the main components of a policy aiming at a further reduction of the number of road crash casualties. Each single percentage over the speed limit results in 3% more road deaths. Within this framework, SWOV proposes to aim at all road users complying with the then current speed limits, (practically) everywhere, within a period of ten years. The project examines possibilities of achieving such an ambitious goal and achieving the desired speed control. To do this, two approaches will be used: police control and surveillance in combination with public information (campaigns), and new technologies along the road or in the vehicle. Examples are optimizing police surveillance, but also vehicle measures such as Intelligent Speed Adaptation (ISA) are interesting.

### Choice of route in a road network

Road users' route choice is not always in agreement with the reason why the infrastructure was designed and constructed the way it is. In other words, the road's use deviates from its function. This project aims to determine how the route choice of motor vehicle drivers can be influenced in such a way that it fits the requirements of a Sustainably-Safe transport and traffic system. Sustainably-Safe advocates an environment whose infrastructure is adapted to the limitations of human ability. This means, among other things, that the shortest/quickest route is at the same time the safest route. This project will not only use simulation models, but will also make use of research methods that make a further study of declared road user route preferences. The results from this study will be tested using observations and simulator research.



#### Anticipatory research in the following projects:

- Road safety explorer
- Infrastructure and road crashes
- Analysis of the relation between speed, speed variation, and crashes
- Measures for speed management
- Choice of route in a road network
- Recognizable layout and predictable behaviour
- Novice drivers and driver training
- Effects of education and information campaigns
- Optimal investments
- Use of information in decision making on traffic safety

### Recognizable layout and predictable behaviour

Important principles of Sustainably-Safe concerning roads are expressed in the core concepts of functionality, homogeneity, and uniformity. The transposition of the functional

requirements, via the operational requirements, to concrete design guidelines is an important bottleneck. This applies especially to the functional requirement 'make road type recognizable'. This project studies the way in which the layout of a road and its surroundings can increase the recognition of the type of road, and thus the predictability of traffic behaviour. A correct recognition of the road type will 'provoke' desirable (safe) behaviour and make undesired (unsafe) behaviour less probable.

### Novice drivers and driver training

Novice drivers of 18-24 years old have an almost three times greater chance of being injured or killed in a road crash than older and more experienced drivers. The combination of 'too rosy a self image' and an underestimation of the complexity of the driving task is the basis of their behaviour which results in a disproportionate crash involvement. The term 'calibration' is used for the balance between self-estimation of skills and the estimation of the complexity of the driving task. Understanding, measuring, and influencing 'calibration' is the essence of this project. The insights gained will be transferred to instruction methods and diagnostic measuring instruments for the driver training.

### Effects of education and information campaigns

For many years now, traffic education has had a place in road safety thinking as one of the 3 Es (education, enforcement, engineering). However, *(continue on page 5)*





(continue from page 4)

in contrast with the two other areas, we have not been very successful until now in quantifying the effects of education in terms of casualty reduction. The goal of this project is to gain insight in specific

period up to 2020. This sequel project aims at the further development of practical, useable standard methods by which cost-benefit and cost-effect analyses of various road safety measures can be conducted at various levels of



aspects of education by making an inventory of the costs and benefits, and the effectiveness, of various types of education. This will provide basic material for an effective policy.

#### **Optimal investments**

SWOV has already carried out an exploration of the possibilities of a social cost-benefit analysis of nationwide road safety measures for the



decision-making. The effects on accessibility and the environment will also be taken into account. The desired result is a generally applicable evaluation method for road safety measures.

#### **Use of information in decision making on traffic safety**

This project consists of two parts. The first one studies the influence of cooperation on the decision making process around the construction of 60 km/h zones. Points of interest are the large number of actors involved, the costs, the mobility interests, the environmental effects, the quality of the residential areas, and, finally, the presence of public and/or managerial support. The second part concerns the relative weight of road safety interests in the decision making about investments in building and maintaining roads, alongside interests as accessibility, environment, and town and country planning. This part of the project is directed at the decision-making about the allocation of building/maintenance budgets, at the cooperation between various bodies, and at the use and influence of decision-supporting resources. ◀▶

# Knowledge management

Apart from the subjects on which SWOV itself will conduct scientific, empirical, and renewing research, road safety involves a large number of other subjects. SWOV wishes to keep its knowledge in the field of road safety up-to-date. The project called Knowledge management follows the scientific, actual, and policy developments of a large number of road safety aspects. This is done by studying national and international literature, and reporting in 'literature studies'. In addition, so-called 'factsheets' will be published on a large number of subjects. These contain a very brief outline of the most important facts and data about a particular sub-aspect of road safety. The road safety subjects that concern Knowledge management are subdivided into four so-called domains: 'Road user'



(behaviour in the broadest sense), 'Vehicle' (vehicle, telematics, and injury consequences), 'Road' (infrastructure in the broadest sense), and 'Supporting processes and information' (research methods, laws & regulations, and policy development). ◀▶

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# Knowledge dissemination



There is a large demand for scientific knowledge about road safety, from those professionals whose work involves traffic, transport, and road safety, so SWOV continues to experience time and again. SWOV uses various methods to disperse its knowledge and provide information to all those professionally involved with traffic and road safety, both in the Netherlands and abroad. SWOV gives publicity to its research results in a number of ways. Reports and articles are written, contributions to congresses and courses are made, and a continuous contribution is made to literature and knowledge systems. Dutch and international target groups are also informed using the Dutch language SWOV publication SWOVschrift and the English language magazine Research Activities. SWOV's website ([www.swov.nl](http://www.swov.nl)), including the Knowledge Base, plays an increasingly

important role in knowledge dissemination. The website has both an English and a Dutch version.

## Library

The library of the Institute for Road Safety Research SWOV is the central point for road safety literature in the Netherlands. Many publications are also available about related areas such as traffic and transport. Since SWOV was founded in 1962, a great deal of information has been gathered and preserved. The total library collection has grown throughout the years to more than 100,000 titles; and each year this number increases by several thousands. ◀▶

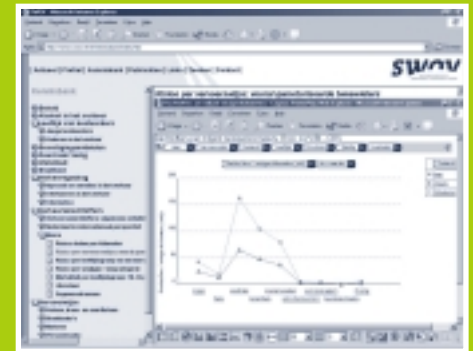
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## Also visit our website

[www.swov.nl](http://www.swov.nl)

The SWOV website offers a wide range of information about SWOV itself and about different road safety topics. The library offers extensive possibilities to search for publications in the field of road safety. The website also offers the possibility to download all SWOV reports that were published from the year 2000 on. Most reports are published in the Dutch language, but contain an English summary. The Knowledge base contains a large amount of information about many road safety issues. The information is offered in a convenient arrangement and is supported by data from different sources.



The full text of the SWOV Programme 2003-2006 has been published in SWOV report R-2003-18 and may be consulted and downloaded from the SWOV website, [www.swov.nl](http://www.swov.nl), under Publications. This publication does not have an English summary.

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