

Research Activities is published three times a year by SWOV Institute for Road Safety Research in the Netherlands.

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2007: SWOV 45 years

A.G. Maris, SWOV's first Chairman, in 1962:

"...We are under the impression that the important servant of human society, traffic, is somewhat coarse in his movements. He causes damage. So far, we have done no more than giving him somewhat of a manicure..."



SWOV: your fast lane to road safety knowledge

Four-year programme 2007-2010 has started

The beginning of 2007 was the beginning of SWOV's new research programme for the period 2007 - 2010. The programme will concentrate on four components: research of human behaviour, infrastructure and vehicle safety, assessments and outlooks, knowledge management, and knowledge dissemination.

Components

Four important factors were considered while deciding on the contents of our new research programme: the national and international developments, the vision as laid down in the book entitled *Advancing Sustainable Safety*, the recommendations of the scientific commission which assessed the quality of our work, and, finally, SWOV's own evaluation of our 2003-2006 programme.

Plans

In developing the research plans we used four criteria:

- *Social relevance*: is the road safety problem relevant or does it offer an interesting possibility to improve road safety?
- *Policy relevance*: does the road safety problem fit the current political agenda and the developments that have an influence?

"Road sense is the offspring of courtesy and the parent of safety"

Australian Traffic Rule

QUOTE

- *Scientific relevance*: is knowledge development the core issue, using the keywords understanding, insight, description, and explanation?
- *Feasibility*: can the work be carried out within SWOV's preconditions, such as the size of our institute, expertise, possibilities of cooperation with other organizations, past experience?

Main features

The 2007-2010 programme has been divided into ten research programmes (see *Box*) each consisting of a number of research projects and activities. The various research programmes are discussed in this issue of Research Activities.

Ambition

SWOV's ambition is to belong to the world's best scientific research institutes. More so than in the past, we wish to be guided by the opportunities and possibilities for further research and knowledge dissemination which are offered by our surroundings. Cooperation with other national and international partners is important to achieve this purpose. ◀▶

All information about the new four-year programme has been published in SWOV report 'SWOV-programma 2007-2010' (R-2006-3). The report, however, is entirely in Dutch, and contains no English summary. The report may be consulted and downloaded from our website www.swov.nl under Recent publications.

Division into programmes

The programmes within which we will carry out our activities in the 2007-2010 period are:

- Roads and Traffic
- Human Behaviour
- Assessments and Outlooks
- Road Safety Analyses
- International Activities
- Research on Regional Issues
- Advisory Research
- PhD Research
- Fact sheets and Knowledge Base
- Knowledge Dissemination

Design, function, and use: optimally safe

▶ Roads and Traffic Programme

Roads and Traffic focuses on design, function, and use of roads, in relation with their crash rates. Which design leads to which behaviour and to which safety level? How can we ensure that the design is executed in an optimal quality? With this knowledge road designers, road authorities, and town & country planners can make well-considered choices about building new roads and networks or renovating existing ones.

Which are the main questions?

The core subject in this programme is how to design the various road types and transitions between them in order to realize the desired function and desired use, and thus an optimal safety level. Furthermore, we want to investigate how a system of quality assurance can be achieved in the Netherlands which can be used to determine whether existing and new roads also meet the quality standards in practice.



Rob Eenink
Programme manager
Roads and Traffic

What is the reason for this programme?

The relation between function, design, and use of a road and road safety has always been a core issue in road safety research. The acquired knowledge has stood at the base of the Sustainable Safety basic principles, e.g. functionality and recognition, and has demonstrably resulted in greater safety. However, in *Advancing Sustainable Safety* we established that there is still a lot to be gained in this field. In the first place a lot of knowledge is still missing. This knowledge can and must be extended, and this is what we want to work on in this programme. In the second place, gain can be made by increasing the quality of Sustainable Safety measures in practice. For example, at this moment in time, there is diversity in ways of implementation, and Sustainable Safety starting points are not always consistently applied. *Advancing Sustainable Safety* indicates that a quality assurance system can improve this situation.

Which activities will it entail?

In the first place we will explore setting up a research database to extend our knowledge. It will contain the raw data and results of all kinds of studies, for example those from SWOV's 2003-2006 four-year programme. This information about, for example, traffic volumes, road types, road features, driving speeds, and crashes, will

provide us with more data to find answers to specific questions about the relation between design, function, use, and safety. We also hope to determine quantitative relations between design, function and use for the various road types. Furthermore, we want to examine if it is possible to set up an information system in the Netherlands in which road authorities can deposit their own data on measures, behaviour, and safety. Such an information system would produce a wealth of information about measures and their effects. Other topics that will specifically be dealt with in this programme are the influence of a road network design on route choice and the effects on traffic flow and safety; and the effects of design on expectations, credibility, and behaviour. To this purpose we will certainly also examine intersections and transitions. In the first instance, the work on quality assurance will focus on the elaboration of what is described in *Advancing Sustainable Safety*. The practical feasibility of such a quality assurance system is of importance here.

What will be the results?

With the *Roads and traffic* programme we intend to gain new knowledge about the relations between design, function, use, and safety. This knowledge will not only advance scientific discussion, it can also immediately be used by, for example, road designers, road authorities, and in guidelines. Combined with a well working quality assurance system, this will result in improved road safety.

Who will we cooperate with?

To achieve all this in the next four years we intend to work together with various universities and research institutes, but certainly also with municipalities and regions in the Netherlands. ◀▶

More analyses, more insight, better measures

► Road Safety Analyses Programme

A truism, or in other words: garbage in, garbage out. Reliable and detailed data is necessary to analyse developments scientifically, for example to make assessments and outlooks. Only then we may find explanations for increases or decreases in the number of traffic casualties.

Which are the main questions?

In this programme we aim at obtaining and processing relevant data to show road safety developments. We very much need this data to, for instance, be able to indicate which quantitative target is feasible for road safety policy in the Netherlands. The questions we ask ourselves are: which factors influence road safety developments? Which data increase our insight in this issue and is therefore important to follow? How can we make the effects of road safety measures better measurable?

What is the reason for this programme?

Every year the road safety data on road deaths of the previous year challenges researchers and government to give a reason for the increase or decrease. It's not always possible to find a satisfactory explanation. Unfortunately, important data is missing, as are the linkages between the data and road safety.

Reality is not easily expressed in numbers. After all, many factors are important. That is why it is difficult to attribute trends and fluctuations in time of, for example, the number of casualties, to concrete measures. We would like to be able to quantify this



Henk Stipdonk
Programme manager
Road Safety Analyses

relation better. In this programme we do preparatory work for other research which, for example, is done in *Assessments and Outlooks*.

Which activities will it entail?

The activities can be specified as follows:

- Management of available data. This is a continuous activity. Every year new data is made available by other organizations. A good rapport with these suppliers is important for data quality, and thus for our research. Technical management of the various information systems is also an important task. Both our own researchers' wishes and those of others outside SWOV ensure continuous improvements of these databases which, for that matter, are publicly available via the internet.
- Analysis of those developments which strongly influence road safety. Some factors play an important part in road safety, but little is known about the causes. An example are the single vehicle crashes which have hardly been decreasing for years now. In the meantime, this crash type is responsible for 50% of all fatal crashes in the Netherlands. What are the causes? And, more important, how can we prevent this crash

type? Another example is the question whether crashes are often the result of an unfortunate chain of events, or whether many crashes are caused by a small group of people violating laws and rules.

- Studies of specific factors. Some examples are:
 - Statistics seem to suggest that the number of road deaths is declining more rapidly than the number of in-patients. If this really is the case, how can this be explained?
 - Previous studies have shown the influence of weather to be plausible. However, the relations found are indicative. What exactly is the influence of weather on our mobility and on the crash rate?
 - The number of 30 km/h zones has increased substantially in the Netherlands. The number of fatal crashes in these areas is higher than we would expect from a good, sustainably safe design. How is this possible?

What will be the results?

The result of all these activities will be improved accessibility of background data and a more detailed insight in the factors influencing road safety. This provides knowledge about measures that contribute to achieving the road safety target, and the extent to which they contribute.

Who will we cooperate with?

To strengthen this research we wish to work together with other research and knowledge institutes and the relevant departments of the Dutch Ministry of Transport. ◀▶

The dangers of alcohol, drugs and medicines in traffic European study DRUID has started in the Netherlands

Late 2006, the agreement for the DRUID project was signed by the European Commission and the consortium of participating countries. DRUID, DRiving Under the Influence of Drugs, alcohol and medicines, is a large-scale study aimed at gathering knowledge on how to combat the use of drugs and medicines in traffic.

DRUID is a cooperation of 36 partners from 18 European countries. The Dutch contribution will be made by the police, the University of Groningen, the University of Maastricht, TNO research and SWOV.

DRUID aims at giving scientific support to:

- determining drivers' use of psychoactive substances, i.e. drugs and medicines, in roadside surveys;
- determining the risks of that use by both epidemiological and experimental research;
- setting risk-related limits, comparable to alcohol limits, for the use of drugs and medicines in traffic for future legislation;
- testing the practical use and scientific reliability of different detection methods, like for example saliva tests.

SWOV is closely involved in all these activities and is in charge of the part of the project which is responsible for testing the detection methods. The

project has a four year duration.

DRUID is intended to give recommendations for:

- uniform legal limits in all EU countries for the most common drugs and psychoactive medicines. These limits are comparable to those for alcohol in traffic;
- public information about the risks of drug and medicine use in traffic. Guidelines will be made for doctors and chemists;
- the most effective ways to detect drug use in traffic;
- the rehabilitation of drug offenders. ◀▶

More information about the DRUID project can be found on its own website <http://www.druid-project.eu/>

Lessons from the past; predictions for the future

► **Assessment and Outlooks programme**

Since the 2003-2006 programme SWOV has a Road Safety Assessment Department. The most important responsibility of this department is to provide explanations and prognoses for road safety developments. This task will be carried out in the Assessments and Outlooks programme.

Which are the main questions?

In this programme we aim to explain why road safety has developed the way it has. If we are successful, it will enable us to make well-founded predictions for the future. The most important question this programme will try to answer is how the road safety development can be explained in terms of causal and influencing factors.

What is the reason for this programme?

To be able to improve road safety we wish to understand the underlying mechanisms. This understanding will help us to assess interventions in the past, and from that identify possibilities for further improvements. This knowledge will help



Paul Wesemann
Programme manager
Assessments and Outlooks

us to predict more correctly how road safety will develop in the coming years.

Which activities will it entail?

We will continue to develop valid, scientifically based models of road safety developments. Over the last few years we have already made quite some progress, but we are not there yet. An important problem was and still is the lack of sufficient basic data (see also *Road Safety Analyses*). Based on the available data we work towards an increased understanding of road safety developments. These insights will result in a new road safety assessment. This will describe and, if pos-

sible, explain the road safety developments in the past period. In the remaining years, using the annual data, a one year assessment will be made which will use the last published analysis as reference. This analysis can take a closer look at the suspected reasons for increases and decreases in the number of traffic casualties and study what happened and what was done during the past year.

We will also use the insights thus obtained to produce a road safety outlook, a prediction of the road safety development. This outlook will be a scientifically well-founded estimate of road safety developments in the future, expressed in terms of traffic casualties.

Who will we cooperate with?

We attach a great deal of value to the insights, data, and critical view of other experts, both in the Netherlands and abroad. Although we do indeed develop our models ourselves, we are members of various international expert groups where we submit our work for peer review. We also publish our work on models in international journals. The assessments and outlooks are discussed with those in the Netherlands who are directly involved, particularly with experts from ministries and other research institutes. ◀▶

People in traffic

► **Human Behaviour programme**

The goal of the Human Behaviour programme is to increase our knowledge and improve our insight in the various aspects of human behaviour in traffic and the underlying factors. Based on this, measures can be taken to further improve road safety.

What is the reason for this programme?

The *Advancing Sustainable Safety* vision was the leading principle in putting together the *Human Behaviour* research programme. The vision presents various ideas about speed management that require further elaboration and testing in practice. Two new Sustainable Safety principles were formulated which concern human behaviour: state awareness and both infrastructural and social forgivingness. These principles also require detailing and translating into practice. The programme particularly focuses on these three subjects.

Which are the main questions?

With regard to speed management there are a number of clear views about, for example, credible speed limits, using technology, and increasing public support for measures. The new pro-



Divera Twisk
Programme manager
Human Behaviour

gramme needs to find ways to put these ideas into practice. The essence of state awareness is that road users make sure that their traffic task is never more difficult or complex than they can deal with at that moment. The question here is how we can convert this principle into concrete measuring instruments and measures. As yet, we have not progressed as far regarding the principle of social forgivingness. The principle of forgivingness involves forgivingness of the traffic environment, but also what we call the social forgivingness of road users. Road users must allow for other peoples' errors in order to prevent serious consequences. The initial question in this part of the programme is how we can make this principle more concrete.

Which activities will it entail?

Each subject has its own questions to be answered. With regard to *speed control* we will study how public support can be gained for an innovative and coherent package of speed management measures; and how and to what extent alleged and actual public support influences the ultimate decision making. This research will partly consist of field studies and partly of laboratory studies. We for example envisage a simulator study of dynamic speed limits. Do dynamic speed limits indeed increase credibility and are drivers consequently more inclined to obey such a limit? The study of *state awareness* focuses on two groups: novice drivers and the elderly. Both groups are confronted with a change in status which makes correct recognition of their own capabilities and limitations very important. Young drivers are developing from inexperienced into experienced drivers; and the elderly are confronted with a decline in functions and skills. We will study how to measure state awareness, which discrepancies there are between 'actual' status and 'self-imagined' status, and how to reduce these discrepancies.

(Continued on page 5)

Crossing borders

► **International Activities programme**

SWOV's various international activities have found a place in the *International Activities* programme. By bringing all these activities together in one single project, acquisition, management, and knowledge management of these activities can be done more efficiently. These international activities are closely linked to SWOV's other research projects.



Rob Eenink
Program-coordinator
International Activities

SWOV has a good international reputation as an institute that makes important and high quality contributions to road safety knowledge. We participate in various large international projects and chair international working groups. A coordinated approach of international activities will enable SWOV to strengthen its position as a respected road safety institute, to extend its international net-

(Continued from page 4)

With regard to *forgiveness* we will first study the personal interactions between road users, and to what extent the recognition of potential errors and limitations of 'others' are involved.

What will be the results?

The programme will produce more theoretical insight as well as new knowledge about actual traffic behaviour that is being obtained through empirical research. In addition, we will gain knowledge about concrete speed management measures, about the content of the driver training and its testing instrument, the driving test.

Who will we cooperate with?

In all projects within the *Human behaviour* programme we will be actively and intensively working together with knowledge consumers, regional organizations, the police, the Public Prosecutor's Office, and the Dutch Ministry of Transport; there will also be a strong cooperation between SWOV and several Dutch universities. ◀▶

work, and to further improve availability in the Netherlands of the results of these activities.

Why international?

International cooperation contributes to the scientific quality of road safety research and offers SWOV the possibility to participate in ambitious research for which the Netherlands is too small. In the first place it clears the way for critical reviews of and possible additions to SWOV's work by renowned experts. This is not only good for the scientific quality of SWOV's work, but also for the applicability of its knowledge and products. International cooperation, therefore, increases the pace of knowledge development.

Which international activities is SWOV involved in?

SWOV plays an important role in various EU projects (see Box). EU activities will be continued and, where



Martijn Vis
Program-coordinator
International Activities

possible, extended. Also, SWOV will carry out research of the possible contribution of vehicle/ITS measures to achieving the Dutch road safety targets. Such measures are strongly influenced by international regulations and developments. In addition SWOV is active in international organizations like OECD, ECMT, PIARC, the World Bank, WHO, etc. ◀▶

EU projects

The table contains an overview of the EU projects that had already started before January 1st 2007 and will have been completed before 2010. The duration of the DRUID and CAST projects has not yet been determined exactly. For more information about these and other projects, you can for example visit the website www.erso.eu.

EU project	Duration	Subject
HUMANIST	2004 – 2008	Bringing together European knowledge about human behaviour in relation to telematics and road traffic.
SafetyNet	2004 – 2008	Development and construction of an information system to support road safety policy in Europe (ERSO).
RIPCoRD	2005 – 2007	'Best practice tools' and guidelines for infrastructural safety measures with which European road transport can be made safer.
InSafety	2005 – 2007	Introduction of the road design principles of 'forgiveness' and 'self-explaining' roads to planners and designers.
SUPREME	2006 – 2007	Inventory and exchange of good practical examples of road safety measures in 25 EU member states plus Norway and Switzerland.
PEPPER	2006 – 2008	Enforcement, especially enforcement of speed, drink driving, and seatbelt use.
DRUID	2006 – 2009	Detection and use of drugs, alcohol, and medicines in traffic.
CAST	2006 – 2008	Design and introduction of mass media campaigns; assessment of effects on crashes and other indicators.



And we do more...

Next to the other programmes discussed in this issue of Research Activities, SWOV carries out a number of activities that are vital for fulfilling its mission to contribute to the improvement of road safety by means of scientific research.

► Advisory Research



Chris Schoon
Programme manager
Advisory Research

Advisory work is the transfer of SWOV knowledge in, for example, working groups or expert panels and answering to requests for advice from governments, organizations, and institutes. We extend and deepen our knowledge by making outlooks about policy areas that may influence road safety, now or in the future. In our 2003-2006 programme, for example, we made outlooks about *Social and cultural factors* and *Public health*. We intend to make the results of these outlooks more specific. We will, for example, elaborate the view to divide goods transport into a main road network for heavy goods transport and a secondary road network for lighter goods and delivery transport. ◀▶

► Knowledge Dissemination: our knowledge is there for you!



Jolanda Maas
Programme-coordinator
Knowledge Dissemination

The decentralization of policy has led to a growth in the number of people involved in road safety. What is more, their fields of interest vary greatly. With our Knowledge Dissemination programme we wish to meet the information demands of all those who are professionally involved as well as possible.

We aim at our knowledge being used in all discussions, orientation, and decision making about

all road safety subjects in the Netherlands. In this way we wish to contribute to the quality of policy decision making and its implementation.

In the coming years we want to choose precisely that means of communication which stimulates the penetration of certain research results and their actual use. Already at the start of a project, we will consult potential users to consider together how the results can best be presented. This way the results will find their way to the users more rapidly.

You will therefore come across SWOV often, for example by its Research Activities, website, fact sheets, papers, participation in working groups, and articles in journals and other media. ◀▶

► Fact sheets and the Knowledge database: two successes



Ingrid van Schagen
Programme coordinator
Factsheets and Knowledge Base

In the last programme we started writing fact sheets about a variety of subjects that are of importance in road safety. This was a bull's-eye, according to many reactions and publications in various media. Although there will be less new fact sheets in the coming years, we will continue this success story. In addition we will update the existing fact sheets. In the coming period we will shift our attention from new topics to keeping the present subjects up-to-date. Of course we will remain alert to developments that have not yet been dealt with.

Consistency between subjects is also important. The heart of www.swov.nl, the Knowledge Base, provides a thematic entry to the entire road safety area. To help a visitor find his way in the multitude of information and knowledge, the database has been organized in layers. Every subject has a short introduction which gives a brief account of that subject's relation to road safety. The visitor who wishes to know more can then read a fact sheet in which more background information is given. The fact sheet, in its turn, includes references to many relevant studies for further and deeper information. In this way we wish to fill the different needs for information. ◀▶

► PhD research



Marjan Hagenzieker
Programme coordinator
PhD Research

PhD research contributes to the continuous development and renewal of knowledge and insight in road safety and is therefore very important for a scientific research institute like SWOV. In the 2003-2006 programme the PhD research became a clearly recognizable part of the SWOV programme, and in the scientific evaluation of SWOV in 2005, this PhD programme was judged very positively. SWOV's PhD students carry out their research within the regular programme. We wish to maintain PhD research at the current level. We therefore expect that during the coming period seven PhD students will complete their dissertations and that three new PhD students will begin their research. SWOV supports the PhD students and attends to any supplementary reports. The dissertations are published in a SWOV dissertation series. ◀▶

► Research on Regional Issues



Letty Aarts
Programme coordinator
Research on Regional Issues

In the Netherlands, road safety policies have to a large extent become a regional responsibility. In the implementation of this programme, SWOV has incorporated possibilities to assist regions in achieving their road safety targets. Together with our regional partners, we will explore the possibilities for further cooperation. So far four projects have been defined. The four chosen projects are: *Analyses of Road Networks*, *Education*, *Investing in infrastructure*, *Instrument for safe speeds and credible limits*. More projects, however, can be added to these four in the coming years. ◀▶

Improving road safety by education

The goal of road safety education is to impart to road users the knowledge, insights, and skills that are necessary in traffic. SWOV carries out research into the effectiveness of traffic education.

A well designed sustainably safe infrastructure is the first prerequisite for a safe traffic environment. However, even in a safe infrastructure road users' behaviour to a large extent determines road safety. Human errors make an important contribution to many crashes. Traffic participation requires road users to apply rules correctly, to recognize and solve dangerous situations, and to anticipate on other road users' behaviour. Human beings do not have the necessary skills by nature, but need to acquire them.

For many years now, traffic education has been used to teach knowledge and skills and to influence opinions. To this end, education programmes use various methods such as driving lessons, education in schools, or public information with brochures. It is important to know how effective a particular education programme is. SWOV has studied the effects of education programmes, examined which requirements a good programme should meet, and has established what one should keep in mind when evaluating an education programme.

Characteristics of good programmes

In the first place, a good traffic education programme focuses on behaviour that is clearly linked to high risks in traffic. Examples are: speeding, alcohol and drugs, tailgating, and pedestrian road crossing behaviour. Improved behaviour will lead to improved safety. A good programme also fits the contents to the target group. For example, the effectiveness of traffic lessons for very young chil-

dren is very slight: you can train them endlessly, but their mental development is still limited. They are not yet mature enough for lessons to take root. Therefore it is advisable not to let them participate in traffic independently.

Furthermore, all kinds of background factors are important when developing a programme. The following questions, for instance, should be answered:

- Does the target group know that there is a problem?
- Does the target group know what one can do to solve it?
- Does the target group know which behaviour is required?
- How prepared is the target group to behave as required?
- Can the target group overcome barriers so as to behave as required?
- Which didactic method should be used?

Only then can the educational goals of the programme be formulated. These goals describe precisely what a programme should achieve. These training objectives do not only determine the structure of the education programme, but can also be used as the measurable criteria when assessing the effects.

Measuring effectiveness

An assessment is necessary to determine the extent to which an education programme really contributes to road safety. Crashes are not an appropriate measure for this purpose, crashes are rare events and cannot be studied easily. In addition, they are often the result of a chain of events. That is why the effects of education programmes have to be measured using variables such as knowledge, self-reported behaviour, and also observed behaviour. Therefore, two groups are

Colophon

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needed for an effect measurement: an education group and a control group. This makes it possible to distinguish between the effects of education and the effects of other sources. What is more, the subjects should be drawn as randomly as possible for both groups. Otherwise, self-selection could be the explanation for differences between the two groups and not the education. Finally, it is necessary to detect any possible differences between the two groups in a pre-test. In the Effects of Traffic Education project, the EVEO project, which is carried out together with the Dutch Traffic and Transport Knowledge Platform, SWOV studies the effectiveness of traffic education in the Netherlands. This evaluation study focuses on the effects of education on self-reported behaviour. The study which evaluates 11 projects is carried out together with a large number of partners. The results are expected in April this year.

Possibilities and limitations of education

A safe, well designed and equipped infrastructure is the first prerequisite for safe traffic and road users' safe behaviour. Then the questions remain whether education can alter or teach *all* behaviour, and the extent of the effects of informing and motivating.

With regard to driver training, the most important limitation of education is the relatively short period of official driving lessons. This means that road users mainly need to learn from experience. The complex traffic task cannot be taught in a relatively short period. The most effective traffic education consists of a combination of formal instruction and

personal experience. Education is a good measure if errors are made because of gaps in knowledge, insight, or skills.

In spite of training, some people make more errors than others. This indicates that these people are either not, not yet, or no longer capable of carrying out the task correctly. This can be temporary, e.g. because of medicines or fatigue, but also permanent, e.g. as a consequence of aging or certain functional disorders. In those cases education can still play a role, but not by trying to improve the task performance. Here, education is especially suited to show people their limitations and to stimulate them to avoid, what are for them, the most dangerous situations.

Education can motivate people to put into practice what they already know. However, this is dif-

ficult when people have to change 'the habits of a lifetime'. If there is a lack of motivation for 'correct' behaviour, traffic education is ultimately in a better position than education in other fields which also aim at prevention. Safe behaviour can be enforced because it is laid down by law. Where motivation is a problem, police enforcement can stimulate drivers obeying the rules more often and more frequently putting into practice the rules that have been taught. ◀▶

You can find more information about traffic education in the fact sheet 'Content and assessment of traffic education programmes' and in the literature study 'Effectiveness of road safety education' (R-2006-6). Both can be consulted and downloaded on the SWOV website under Research.



Publications

Most SWOV reports are written in Dutch but they all include an English summary. Below is a selection of reports that have recently been published by SWOV. Records of all SWOV reports that were published from 1980 onward can be found on our website (www.swov.nl). Reports that were published in or after the year 2000 can be downloaded free of charge.

The effectiveness of road safety education; A literature review

Nina Dragutinovic & Divera Twisk. R-2006-6. 74 + 9 pp. € 15.- (in English).

Literature review of traffic education programmes. The review examines the current practice in evaluation research and the effectiveness of programmes and their constituting components. The report also looks at the differences and similarities with other fields of education.

Alcolocks: factors influencing implementation, participation and compliance; Literature review contributed to the EU project Alcolock

René Mathijssen. R-2006-7. 23 pp. € 8.75 (in English).

In 2004 there was a sudden, sharp, extra drop in the number of road deaths compared to this downward trend. In 2005 there was a further decrease. This analysis aims to describe and explain this strong decrease, and, with a view to a possible adjustment of the road safety targets, determine the consequences for the number of road deaths in 2010 and 2020.

Use of information when investing in infrastructure; Literature study and research design

Charlotte Bax. R-2006-8. 33 pp. € 10.- (in Dutch with an English summary).

Government bodies do not always use scientific knowledge in the decision making process. This study investigates the extent to which scientific knowledge and information play a role in the decision making processes for the maintenance of rural 80 km/h roads.

Fact sheets:

- Concentration problems behind the wheel
- Cyclists
- Speed choice: the influence of man, vehicle and road
- Measures for speed management
- Advertising and information alongside the road
- Time series analysis
- Effects of police enforcement of protection devices and moped helmet use and red light running