

The Road Safety Information System RIS: A Tool for Decision Makers

Lecture for the Russian-Swedish Seminar on Traffic Safety, Moscow, June 18, 1996

Report documentation

Number: D-96-2
Title: The Road Safety Information System RIS: A Tool for Decision Makers
Subtitle: Lecture for the Russian-Swedish Seminar on Traffic Safety, Moscow, June 18, 1996
Author(s): Paul Wesemann & Martha Brouwer
Research manager: Paul Wesemann
Project number SWOV: 75.620
Client: The research that has been carried out on behalf of this lecture, was funded by the Dutch Ministry of Transport and Public Works.

Keywords: Policy, mathematical model, accident, accident prevention, safety, forecast, statistics, Netherlands, SWOV.

Contents of the project: The subject of this lecture is the use of knowledge in the preparation and evaluation of road safety policy. The following subjects will be dealt with: the organization of Dutch road safety policy; the type of knowledge that can enhance the effectiveness of this policy; the setup of the developed Road safety Information System, to which will be referred by its acronym 'RIS'; the advantages of the RIS for the users; further application potential of the RIS.

Number of pages: 10 pp.
Price: Dfl. 12,50
Published by: SWOV, Leidschendam, 1996

SWOV Institute for Road Safety Research



Stichting
Wetenschappelijk
Onderzoek
Verkeersveiligheid
SWOV

Postbus 1090
2260 BB Leidschendam
Duindoorn 32
telefoon 070 3209323
telefax 070 3201261

Contents

1.	<i>Introduction</i>	4
2.	<i>The organization of policy in the Netherlands</i>	5
3.	<i>The knowledge available</i>	6
4.	<i>Purpose and setup of the RIS</i>	7
5.	<i>The advantages of the RIS for the users</i>	8
5.1.	Quality	8
5.2.	Tailor made	8
5.3.	Explanation	8
5.4.	Prognoses	8
5.5.	Effective measures	9
6.	<i>Further application potential of RIS</i>	10

1. Introduction

The subject of this lecture is the use of knowledge in the preparation and evaluation of road safety policy. In Dutch there is a short but pithy saying: 'Knowledge is power' - in the Russian language: 'Znáníe Sfla'. Everyone knows that this is only one part of the truth, otherwise the world would be ruled by scientists. The essence of the saying is rather to indicate that political and social leaders would achieve their aims more effectively if they made good use of all the existing knowledge in the process. In theory, this stance is universally supported. Paradoxically, however, it must be noted at the same time that those in power often do not exploit the available knowledge in practice, also in cases where this could clearly offer an advantage.

Those in charge of the Dutch road safety policy are no exception to this rule.

In this lecture, the following subjects will be dealt with:

- the organization of Dutch road safety policy;
- the type of knowledge that can enhance the effectiveness of this policy;
- the setup of the developed Road safety Information System, to which will be referred by its acronym 'RIS';
- the advantages of the RIS for the users;
- further application potential of the RIS.

2. The organization of policy in the Netherlands

In the Netherlands, over one million road accidents are registered every year, of which about 300,000 are registered by the police; some 1,300 fatalities and 11,000 severely injured people are registered annually. The overall economic damage as a result of traffic accidents amounts to at least nine thousand million Dutch guilders a year, or five thousand million dollars.

However, compared with other countries, Holland is performing quite well in road safety. Leonid Braimaister compared the traffic safety in Holland with Russia. The risk of being killed in traffic is twelve times as much in Russia. If nowadays the risk in Russia would equal the Dutch level, 3,000 people would be killed in traffic instead of 36,000.

Since 1985, Dutch road safety policy has been based on a Long Term Plan, which formulated tasks for the medium and long term that were further intensified shortly afterwards:

- in the year 2000, a 25% reduction in fatalities and people injured compared to 1985;
- in the year 2010, a 50% reduction in fatalities and a 40% reduction in people injured compared to 1986.

The plans of the government also describe what areas of attention in the field of road safety policy have a high probability of success and what measures should be taken to achieve the tasks set.

In view of these plans, the main conditions for a rational road safety policy have been fulfilled. The objectives for the years 2000 and 2010 are known; at any given moment, it is therefore possible to estimate whether there is a reasonable probability of these objectives being achieved.

An interim evaluation will then reflect the progress made. Policy is in this way 'monitored', as it were.

To this end, it is necessary to possess a good understanding of the actual developments in road hazards. Favourable - but more particularly, unfavourable - developments should be identified as quickly as possible. Furthermore, it is desirable that an insight be obtained into the effects of policy. Policy that is not effective can then be discontinued or adjusted, while good policy can proceed with greater drive.

The same plans by the government also describe how such policy must be carried out and who carries (co)responsibility in this regard. In particular, government at a lower level, both provincial and municipal, are allocated a pivotal role. This means that the monitoring of policy should not confine itself to a nationwide level; the activities at regional and local level should also be closely followed.

In order to operate in such a rational way, a lot of information should be gathered, transferred to decision makers and applied by them.

3. The knowledge available

The Netherlands has quite a long and rich tradition of road safety research. As a result, a large volume of policy-relevant information is available. For example:

- accident data;
- mobility data;
- behavioural measurements (alcohol, seat belts, speeds);
- analyses of the above data: effect measurements of policy implemented; prognoses;
- knowledge about effective measures, based on research reports published both at home and abroad.

Some time ago, it was confirmed that all this knowledge was insufficiently exploited by policy organizations. This was partly because of the large amount and the complexity of the data. Another reason was the decentralization of major tasks from the national level to the regional and local level.

To improve this situation, the Dutch Ministry of Transport then asked the SWOV to develop the RIS, in cooperation with automation experts.

4. Purpose and setup of the RIS

The RIS is an instrument used to monitor road safety policy. RIS provides access to policy information via a PC application and the so-called RIS help desk, where users can put their questions.

From time to time, road safety data are collected, accumulated and interpreted. The PC application was developed at the request of the Ministry of Transport and Public Works for the use of their own civil servants who include road safety within their scope of work, both centrally and regionally.

These users have at their disposal a 486 PC, where they can find the information they seek via a simple search system.

In addition, there is a telephone help-desk, the so-called RIS desk, where users can always come with any further questions. The SWOV mans this RIS desk and ensures that the questions posed are rapidly dealt with. In view of the increasing decentralization of road safety policy, it is considered to also make these data available to other user groups.

The information in the PC application is classified according to areas of attention within the field of road safety policy. These spheres are formulated in line with the spearheads of the Long Term Policy for Road Safety (MPV), as follows:

- driving while intoxicated;
- speeding;
- safety devices;
- cyclists and mopedists;
- heavy traffic;
- hazardous situations or black spots.

In addition, there is the field called 'monitoring', which describes the general developments in the field of road hazards and identifies undesirable developments. These are expressed in terms of the number of road accident victims, classified according to age, modal split, type of road and collision partner. Information is also included about the development of mobility in the Netherlands, subdivided according to type of road and type of vehicle.

With regard to the latest developments in the field of road safety, information is available on the phenomenon 'sustainably safe road traffic'. RIS includes a summary of the latest information about measures and a literature review on the topic of 'sustainably safe road traffic'.

Each year, new data are added. The information is provided at a nationwide level and is generally further subdivided according to province. In addition, international comparisons are included in RIS to a limited extent.

Measurable objectives have been formulated per area of attention (or spearhead), so that any progress made can be objectively determined.

5. The advantages of the RIS for the users

The added value of information provided via the RIS for the users is summarized through the key words: quality, made to measure, explanation, prognoses and effective measures.

5.1. Quality

Firstly, information to be included in RIS is carefully screened to safeguard the required quality. For example, it is investigated whether there is clarity about the definitions used, whether the figures covering various years are comparable and whether the figures from various databases correspond with each other.

In addition, the representativity and validity of the figures is checked. The information available on this subject is also included in RIS, such as the degree of registration of road accident victims. This allows users to investigate in what way they can and may apply certain figures.

5.2. Tailor made

The user has a great degree of freedom when requesting data from the RIS. He does not need to select from a number of standard tables, but, by means of a clever search system, can determine for himself what data he wants to call up on the monitor. He can select almost any desired combination of data, and choose for presentation in either table or graph form. When the user requests a table with incomparable variables, or when his choice is not logical, the computer notifies him of this fact. His request is not carried out in that case, unless again specifically stated.

5.3. Explanation

Another unique aspect of RIS is that all tables and graphs requested by the user are explained. As a principle, information from RIS is always provided with an interpretation: it offers answers and not a puzzle to the user. This means that the user does not have to analyze the information obtained - this analysis is already included in RIS. The purpose of such an analysis is to indicate the progress or otherwise for that particular aspect of road safety.

It is also indicated whether or not it is likely that the task set for the year 2000 or 2010 will be achieved and where extra attention should be applied.

5.4. Prognoses

Prognoses can also be derived from RIS. It can be seen how many road accident victims will occur in the year 2010 if the current expectations for developments in the long term are realized and current policy continues unaltered. This prediction of road hazard is further classified according to age and modal split.

5.5. **Effective measures**

Effective measures and any frequently occurring misconceptions in this area is another subject to which RIS devotes attention. Per sphere of interest, the various types of measures are addressed and their known effects are indicated.

6. Further application potential of RIS

To conclude, some new applications of the RIS will now be dealt with. In a technical sense, the PC application is not subject to any restriction with regard to the subjects that can be included. In consultation with the users, the contents can therefore be expanded as desired.

For example, as policy devotes more and more attention to the theme of 'sustainably safe traffic', the information in the system can be supplemented accordingly. Of course, the availability of relevant information represents a restriction. But this may only be of a temporary nature; after all, when the RIS notes a marked need for certain data as expressed by its users, this may offer grounds to compile such information.

Another expansion option concerns the user groups. To date, this only applies to the policy makers of the Ministry of Transport who are active in the field of road safety, whether centrally or regionally. The Ministry, which has fully funded the development and maintenance of the RIS, is also owner of the system.

Now that the policy of the Ministry have become increasingly decentralized and delegated to provinces and municipalities, and private industry is also held to task for its responsibilities, the group of potential RIS users is growing. A decision about possible expansion of the user group will probably be made soon.

Finally, it could be considered to also make the RIS accessible to users outside the Netherlands. The SWOV has a positive attitude towards such a distribution of knowledge; however, the final authority on this subject rests with the Ministry of Transport, as owner of the system. While the PC application in principle does not represent an obstacle to the export of the RIS, the availability of suitable data is much more of a problem. Most information with which the system must be filled should, after all, relate to the country in question. General knowledge about effective measures, however, can be derived in part from international literature on the subject.

Just recently the SWOV has sent in a interesting proposal to the European Road Safety Federation. The project aims at developing a prototype of a RIS for Hungary and should be financed by PHARE. Our Ministry of Transport has approved the use of their RIS for the development of such a foreign prototype.

If the Ministry of Transport shows itself willing to cooperate on a larger scale with such an export of knowledge and technology, then the SWOV can offer important support with the practical implementation. This certainly represents an area in which cooperation with Russia could be further developed; hopefully this will be the case within the foreseeable future.