



## A quality assurance system for safer roads

**A quality assurance system can be helpful in improving road safety. The recently published SWOV report *A quality assurance system for road safety in road design and road management* investigated the possibilities for the regional introduction of such a system in the Netherlands.**

In its research programme 2007 – 2010, SWOV carried out several activities aimed at developing a quality assurance system. Three matters are important here: in the first place the availability of (scientifically validated) knowledge about the effectiveness of measures, secondly the availability of guidelines and handbooks that are based on that knowledge, and, finally, the use of the guidelines and knowledge by those involved. The SWOV report focuses on this latter aspect.

### Cyclic system for provinces

SWOV proposes a cyclic system which continuously pays attention to quality, for example Deming's PDCA circle. PDCA here stands for PLAN-DO-CHECK-ACT. The PLAN phase is used for finding possible solutions for problems and drawing up the requirements. These requirements are translated into a concrete project description in the DO phase. The CHECK phase is used to test the specifications from the

DO phase against the requirements from the PLAN phase, and the ACT phase is used for the execution. The successive steps are taken once more in each of the following phases of the project.

Seven provincial road authorities in the Netherlands were interviewed for the study. Provinces were chosen because they have more similarities than, for example, municipalities or water boards. A joint approach is therefore more feasible. In selecting the provinces the differences in organizational structure were also considered, so that every existing organizational structure was represented. This provided a complete as possible picture.

Most provinces have indicated that they are pleased with SWOV's initiative, because road safety is sometimes in danger of being overlooked due to the present integral approach of projects. They have also indicated to feel the

need for custom-made solutions that can be fitted into existing processes. The research question was therefore focused on investigating the possibilities of interweaving the proposed quality assurance system into the present methods.

### Road safety expert

All provinces work in projects and use a road safety expert in nearly all their project. The interpretation of his or her role, however, is insufficiently transparent. In the provincial traffic projects the expert is sometimes the project manager, but at other occasions a policy administrator or a designer. They have different educational backgrounds and it is unclear which expertise is required for the set tasks; these tasks generally not having been clearly defined. Furthermore, a province usually has only one expert. This makes the position of road safety vulnerable and can lead to following personal preferences. SWOV considers it advisable to define requirements for the road safety expert's knowledge and to divide this knowledge among several persons. The sharing of knowledge between provinces in the Netherlands can also be used as a way to lessen the dependence of a single individual. The role of

the road safety expert in the different phases of the project must also be defined clearly.

### **Standards, choices and prioritizing**

Each province has its own 'book of standards', in which general guidelines have been translated for the specific situation in that province. This encourages deviating from the national CROW guidelines. It is unclear in many cases why different standards are being used and what the consequences are. SWOV advises laying down from the beginning of a project to which extent a used standard deviates from an existing guideline. It must also be described clearly which measures have been taken to counter possible negative road safety effects.

Provinces insufficiently document their road safety choices within projects. Therefore, it is difficult to check in consecutive phases of the project whether the requirements of the preceding phase have been met. SWOV recommends drawing up process descriptions and conveyance documents for each phase of the project. Road safety is used as a decisive criterion for prioritizing projects by the one province,

whereas it is not by the other. SWOV proposes explicitly using road safety as a criterion.

### **Process document**

Working with a quality assurance system does not mean that everything needs to be done from scratch. Most provinces already have many documents that can be adapted and supplemented to accomplish a sound approach. A general process document, drawn up, for example, by CROW, can be used as a basis. Such a document should describe for each phase the test moments and the involvement, responsibilities, and authorities of the different project participants, including the road safety expert.

### **No guarantee**

A quality assurance system holds no guarantee for safer roads and safer road use. But it is to be expected that a systematic approach will be responsible for an increased awareness of road safety, which will lead to road safety considerations being more transparent in decision making. This will probably result in road safety improvement.

### **Two SWOV reports have been published about this subject:**

[Pilot study into a quality assurance system for road safety in road design and management.](#) J. Mesken, H. Jagtman, W. Louwerse & C. Bax (2010). R-2010-28. SWOV, Leidschendam.

[A quality assurance system for road safety in road design and road management.](#) J. Mesken, W. Louwerse, M. van der Veen & N. Beenker (2011). R-2011-2. SWOV, Leidschendam.