Best Practices For Road Safety in Europe: A Systematic Approach

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Abstract

In general, implementation of road safety measures is a highly complex process which bears a lot of opportunities and risks for all parties involved. These stakeholders may consider a lot of criteria for definition of their political position and their strategies. However, it can be supposed that any stakeholder getting active has a certain interest to solve a specific road safety problem and absolutely no interest in going wrong. These interests have recently resulted in a strategy relatively new to the field of road safety: "Best Practice". In order to support this particular approach towards successful road safety work, the European Commission, DG Energy & Transport, has taken the initiative to support and fund a large cooperative exercise towards identification and dissemination of Best Practice solutions for road safety problems.

The crucial task of any kind of best practice selection lies with the sound identification of the superior ones from the vast amount of available measures. In order to facilitate this process, a set of tools for classification, selection and ranking of measures was developed, along with guidelines for the assessment process at country level. On this basis, a network of Country Experts gathered information from various stakeholders.

Analysis, synthesis and further selection of collected data was carried out along 9 categories of measures, covering all areas of road safety work. A set of 8 criteria has been developed to assess the proposed measures. Thematic reports have given a detailed description of best available practices for each of these categories, featuring basic characteristics such as target groups, quantitative and qualitative goals, key issues, duration of implementation and effects, coverage, costs, actors involved and implementation procedures. These results have been given a second stage of feedback from the country experts and involvement of organisations at European and international level in order to identify key success factors and potential implementation barriers in other countries or at the European level.

The results have been synthesized into 3 core products. The "Handbook for measures at the Country Level" addresses road safety measures, which can be implemented Member States' governments, by regional or local authorities. Measures more or exclusively suitable for implementation at supra-national level were summarised within the "Handbook for measures at The European Level".

1. Introduction

The objective of SUPREME (Summary and Publication of Best Practices in Road Safety in the Member States) was to collect, analyse, summarise and publish best practices in road safety in
the Member States of the European Union (EU25), Switzerland and Norway. By making the study results available to a broad target audience across Europe – and thereby encouraging the take-up of successful strategies – the project shall contribute to reaching the 50% reduction target of road fatalities, which the European Commission set in its White Paper "European transport policy for 2010: time to decide" (2001).

The project started in December 2005 and was finalized in June 2007. A total of 31 national and international road safety related organizations were involved as project partners.

2. Methodology

The most demanding task of the SUPREME project was the selection of Best Practice Measures from the vast variety of initiatives undertaken to improve road safety. A broad field of different topics, various different approaches and a huge variety of implementation scenarios had to be considered for being included in one single structure. Furthermore, a process suitable to assess all these measures had to be developed. As a starting point, a set of instruments was prepared:

- A list of categories, sub-categories and sub-subcategories of road safety measures in order to systematically structure collection, analysis and summary of the measures;
- A definition of Best Practice and a
- A list of required information about potential Best Practices suitable to enable in-depth assessment.

On this basis, a questionnaire for data collection was designed. This list of required information fed into a web application accessible by all project partners ("Country Experts") and, if necessary, also external information providers. A second questionnaire was designed as a guideline for interviews with stakeholders on the supra-national level (e.g. European level).

3. Definition of "Best Practice"

A commonly agreed definition of what is “Best Practice” was not available. However, this obviously refers to a road safety policy that has proven to be successful. Successful road safety policy brings about a sustainable reduction in the number of road accidents or accident victims, in particular the number of fatalities and serious injuries. Nevertheless, SUPREME was not only dedicated to list successful road safety measure, many of such lists have been created before. The term "successful" receives additional meaning, if measures are proposed to be spread all over Europe and recommended for implemented in 27 countries reflecting a vast variety of political and organisational tradition, ethical background, functioning of traffic systems and attitudes towards traffic safety.

In order to cover all these issues systematically and lay the basis for later assessment, eight criteria were defined in order to select and describe Best Practice candidates:

3.1 Focus of the measure

Best Practice Measures (BPM) shall have a clearly defined focus. This includes a clear definition of the road safety problem to be solved and precise idea of how the measure will affect this problem.
3.2 Size of the road safety problem
BPM aim at reducing traffic accidents or risk factors, which stand for a large proportion of severe injuries and fatalities in road accidents.

3.3 Expected effects on safety
This criterion addresses the process of implementation and asks for a quantitative assessment carried out before, possibly based on experiences from other areas or based on pilots.

3.4 Evaluation of effects
An evaluation of effects of BPM on road safety is ideally based on accident statistics. Ideally, the implementation of BPM results in an obvious reduction of fatalities and severe injuries. However, used as an initial requirement, in the course of the project this turned out to be too restrictive. Particularly measures from the fields of education, driver training, rehabilitation or diagnostics are hard or even impossible to evaluate in terms of accident numbers, deaths or injuries. Therefore, in such cases, an approved impact on risk contributing factors was added as a second criterion.

3.5 Costs and benefits
BPM provide a cost-benefit analysis with the result that, in monetary terms, benefits exceed their costs.

3.6 Acceptance
BPM have good public and policy maker acceptance.

3.7 Sustainability
BPM are not single events, they are rather characterized by duration and continuity. Likewise their effects on road safety are long term effects.

3.8 Transferability
BPM include strategies for using the measure successfully on a larger scale, either on the regional, national or European level.

4. Structuring, Collecting and Analysing Best Practice Candidates
Road safety work has been structured and subdivided into disciplines many times before. For the specific case of SUPREME, with a given range of topics and fields to cover, a set of nine categories was chosen:

- Education and campaigns
- Driver training, testing and licensing
- Rehabilitation and diagnostics
- Vehicles
- Infrastructure
In total, 250 Best Practice nominations were submitted by the project partners, taking the eight selection criteria into account. The category “Education and campaigns” received the highest amount of contributions, followed by the categories “Infrastructure” and “Enforcement”. An overview on the complete data collection is available on the European website (Final Report, Part B, see reference list). For each of the above categories, a „Thematic Report“ gives a detailed description of the best practices nominees and the selection process within the category.

5. Structure of Results

The selection process of SUPREME clearly showed that although road safety has become an important policy objective, still little is done in order to investigate the activities for their real impact. After data collection and data analysis, the consortium had to face the fact that the eight criteria proved to be quite restrictive and demanding. In order to cope with these circumstances some fine-tuning of the initial selection process was necessary – and a distinction between best, good and promising examples seemed to be necessary.

In order to be labelled as **Best Practice**, a measure should comply with most of SUPREME’s internal selection criteria. In particular its effectiveness in terms of expected reduction of road crashes, deaths and serious injuries should have been demonstrated in previous scientific evaluation work.

**Good Practice** measures: For some of the best practice candidates, evaluation to the level of reduction of crashes, deaths and/or injuries was difficult or even impossible to carry out. If such a measure was based on a sound theory and at least impact on risk determining factors was evident, it could qualify as good practice.

**Promising Practices** are mainly “new” measures that have not yet been subject to a full-fledged evaluation but, according to expert opinion, have a high potential of improving road safety. Some of the impact assessment studies were only based on small scale field trials or pilot studies. However, a sound scientific background was required in any case.

6. Level of Implementation

In the course of the comprehensive analysis and selection process, a total of 55 measures were identified for final publication, 24 of them as Best Practice, 21 as Good Practice and 10 as Promising Practice. In an internal survey, the county partners of the SUPREME consortium were asked whether each of the measures was implemented in their country in the same way, in a similar way or as a pilot. This information was computed in order to define a comparable quantitative parameter, structured by the 9 categories. 100% implementation would be, if every measure of one category would be implemented in all countries. For Europe as a whole, figure 1 shows the result.
Figure 1. Level of best practice implementation, Europe

This "level of implementation" can easily be calculated for any country, e.g. to be used as a traffic safety performance indicator, and priority fields for road safety activities can be identified.

7. The SUPREME output

- The Final Report Part A outlines the methodology that has been applied to identify Best Practices.
- All nominated measures are listed in Part B of the Final Report.
- The "Review of Implementation at the Country Level" summarizes the state of implementation of the proposed Best Practices in the SUPREME countries, experiences made during implementation of these measures and later.
- „Thematic Reports“ on the nine topics mentioned above provide valuable insight into the respective category.

7.1 The SUPREME handbooks

Some road safety areas, e.g. vehicle safety, are largely under the responsibility of the European Commission and other international bodies. However, as most areas remain within the responsibility of national governments, those areas are increasingly delegated to regional or local authorities. The Handbook for Measures at the Country Level (Part C of the Final Report) provides a basis of information and possible measures for national, regional and local policy makers and decision makers, for road safety practitioners, for interest groups, etc.; in short, for all those who are professionally involved in road safety work. It contains a large variety of practices of best, good and promising road safety measures from all parts of Europe. It is not a scientific report but a valuable pool of information. The Handbook describes Best Practice measures in the nine areas (see table 1 in the annex).

The Handbook demonstrates that road safety improvements can be achieved through implementation of relatively simple measures and examines successful experiences elsewhere in Europe. “Reinventing the wheel” and “trial and error approaches” to road safety can thus be largely avoided.
The Handbook for Measures at the European Level (Part D of the Final Report) focuses on measures which have little chance of being implemented at the country level, or even no possibility, if the topic is subject of European legislation. However, it is not only addressed to people having their desks in Brussels or Strasbourg. It might give valuable information to officials and politicians backing up the Member States representatives in the European Union boards and committees and support them with information.

The European Commission will seek to translate the Handbook for Measures at the Country Level into all official EU languages in due course.

8. Next Steps

Road safety measures are a fast-moving field from various reasons. Most important, once a measure is implemented, it is out of the agenda.

Opinions about road safety measures may change; measures once considered successful may later be rejected due to new scientific results or simply by being solved in another way. As an example, anti lock brakes (ABS) received much attention two decades ago, meanwhile every car is fitted with these systems without any law requiring it (except for trucks and busses).

The SUPREME collection of best practices does not claim being exhaustive. And it will not remain up-to-date for longer. A Best Practice database should therefore be created, which is easily accessible to anyone interested. It should offer an up-to-date collection of best practices. For that purpose, a standard procedure for assessment would have to be developed making use of the experiences made within the SUPREME data collection and analysis process.

Furthermore, SUPREME results could be used to artificially design road safety measures, "meta-Best-Practices". E.g., in terms of speed enforcement, a country setting up a new system could merge Best Practice elements from France (automatic speed enforcement system) and the Netherlands or Austria (section control). The Austrian multiphase driver licensing model as another example could be improved by including the Swedish "Safety Halls" Best Practice.

Meta-Best-Practice could also mean to look at the processes which underlie successful implementation of road safety measures.

9. References


A full repository of SUPREME can be found at the following link: