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## Investigating road safety management processes in Europe

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### Abstract

The work package 1 of the EC FP7 project DaCoTA investigates road safety management processes in Europe. It has drafted a model to investigate the state of the art of road safety policy-making and management at the national level and to define “good practice”. The DaCoTA “good practice” investigation model recommends no “one-best-way” solutions, either for attaining a particular objective or for organizing the road safety sector, as the national context always needs to be taken in account when determining policies with consequences in terms of road safety or when modelling road safety management processes. The model is put to test and will be enhanced through a campaign of face-to-face interviews with road safety experts and policy-makers, carried out in 2011. By December 2012 several case studies illustrating “good practice” will be made available to policy-makers, road safety experts and the public through the ERSO web site.

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## 1. Introduction

The work package 1 (WPI) of the European Framework Programme 7 project DaCoTA (Road safety Data Collection, Transfer and Analysis) has, since January 2010, investigated expert and stakeholder needs in terms of data and technical tools. The results of these activities can be found in previous DaCoTA WPI deliverables (Muhlrad & Dupont, 2010; Machata, Barnes & Jähi, 2011). The third deliverable available, *D1.2 Road safety management investigation model and questionnaire* (Muhlrad, Gitelman & Buttler, 2011), sets forth the investigation model and the questionnaire, which the DaCoTA WPI has developed in order to produce data on, and analyze, road safety management systems and processes. The investigation model is based on an extensive review of literature and on previous research by DaCoTA WPI members (e.g. Bliss & Breen, 2009; OECD, 2008; Muhlrad, 2009).

Some of the references the group reviewed were based on only few case studies limited to well performing developed countries, but prescribe nonetheless the implementation of similar structures for road safety decision-making and management regardless of the local context. Other references, however, promote a more analytical approach and provide case studies from a more varied set of countries. The group drew elements from all available models, thus ensuring that while the investigation model is now used to study road safety policy-making and management processes in Europe, its use is not restricted to Europe or to the developed countries. The investigation model inquires about the actors, components and processes of road safety management, most of which probably can be found more often in well-performing countries than in those which are still in the initial stages of road safety management.

The questionnaire has been used to perform expert interviews in 15 European countries in 2011. The DaCoTA WPI team now proceeds with the data analysis. The results will allow assessing the hypothesis, already found in literature, that a good road safety record is necessarily linked to certain components of the road safety management system. The investigation model aims at finding out good practice road safety management components that really exist. Therefore, it is not a “good practice” model in the normative sense. Rather, it intends to describe specific policy-making and management practices that improve road safety records. This paper outlines the characteristics of our investigation model with regard to a preliminary definition of “good practice”. We start by defining the concepts we use, then we explain the relations between the elements of the system and indicate what our hypotheses of “good practice” are.

We define “road safety management” as an area of government activity, geared at reducing the number of road crashes and crash victims on the national territory and in the population. Road safety management is justified by its outputs in terms of measures or action programmes which are implemented to prevent or reduce road crashes, crash fatalities and injuries. The road safety management system is complex and includes sets of components described as “policy-making tasks” and “transversal processes”, as well as the organisation necessary for these components to develop and produce the desired outputs.

“Good practice” criteria are identified as necessary characteristics of the road safety management system, ensuring that the expected road safety outputs are effectively obtained and are as efficient in reducing road crashes and injuries as we can make them, given the present state of road safety knowledge. This means that certain pre-conditions must be met, the institutional structure and organisation for road safety must support the essential processes and policy-making tasks, and policy formulation must be based on factual knowledge of the safety situation and what creates it, and of the potential effectiveness of road safety interventions (Hauer, 2005; 2007).

## 2. Policy-making tasks

Policy-making can be defined as a cyclical series of tasks. The cycle goes from “agenda setting” to “policy formulation”, then to “policy adoption”, “policy implementation” and finally “policy evaluation”,

before the cycle begins again—and there are of course feedback loops going from evaluation to policy formulation and implementation stages.

In the *agenda setting* stage road safety is identified as a major public health problem. It is described, measured and analyzed; efforts are made to understand its nature and evolution over time. Governmental communication emphasizes the importance of the issue and provides justification for future public action in order to gain citizens' support for it. Road safety thus becomes a public policy area and steps are taken at a high political level to initiate action and provide the conditions required for its completion.

In the *policy formulation* stage, a number of objectives are devised and among the available options for reaching these objectives, the choice of means is made after thorough consideration of the various alternative modes of action, their primary (intended) and secondary (un-intended) consequences (Weber, 1978). It is to be noted that this “instrumentally rational” definition of the policy formulation process implies that factual knowledge (or evidence) is collected as a basis for all choices to be made, which is one criteria of “good practice”. Policy objectives may be short, medium and long term and the rational solution may prove different according to the situation in each country. This can be because of the current characteristics of the road safety problem, or the previous and present road safety measures or interventions. The eventual policy may thus include some or all of the following components: a long term vision, a strategy in terms of specific issues to be addressed or main principles and sectors of intervention, a short-to-medium term goal (defined by a quantitative target), a short-to-medium term multi-sectoral or “integrated” action programme, priority sectoral interventions, and provisions for implementation.

In the *policy adoption* stage, each policy component needs to be formally adopted by the adequate decision-makers in order to be implemented. For the road safety policy elements requiring adoption at the national level (on which our model focuses), the Government, the Parliament or other adequate decision-maker needs to undertake multi-sectoral consultations and may have to seek for legislation to evolve. The contents and the shape of the adopted policy components may differ from the original draft formulation due to external constraints or possible changes resulting from the stakeholders' consultation. Policy adoption is a negotiation process in which, for “good practice”, a balance has to be struck between what has previously been rationally planned and what is acceptable for the stakeholders, in order to ensure that the goals will be reached. This task may overlap with policy formulation through a feed-back process.

In the *policy implementation* stage, the adopted policy components are put into use. The factors which may slow down the application or reduce the efficiency of the road safety measures (such as resistance from some parts of the society and the media, lack of motivation or of knowledge of actors, insufficient budget allocation or human resources, etc.) have to be controlled and countered, which might imply some preliminary action. The number of actors, including various stakeholder groups, involved in implementation increases alongside with the complexity of the policy. To avoid the risk of a substantial policy adoption–implementation gap, all actors need support and any necessary links between them have to be established. The competent road safety authority (which can only be a government structure given the nature of its tasks) thus has to mobilize actors, set timelines for the implementation of each policy component, provide the necessary legal or regulatory framework and technical guidelines or standards, allocate funds, provide special training where needed, monitor the implementation processes and ensure that operational interventions are consistent with the adopted policy.

In policy implementation, “good practice” can be defined on effectiveness basis. Funds are available as planned to implement the adopted policy; fund allocation takes into account the schedule and duration of implementation of each measure or intervention in the programme; funds are efficiently allocated precisely where they are needed so that none are wasted (Muhlrad, 2005). The criteria for “good practice” in funding include that there are sustainable funding mechanisms for the long term road safety measures or interventions (as well as for road safety management processes and tasks); that the sources of funding are identified and their respective contributions to road safety are specified in the phases of policy

formulation and policy adoption. They include also that the procedures for fund allocation to road safety interventions are rational and precisely defined; this means in particular that there are adequate linkages between the officially adopted policy components and the disbursement of funds.

Road safety *policy evaluation* includes two types of tasks addressing two separate goals:

a. monitoring is intended to check whether implementation is proceeding according to plans, is likely to reach its goals (e.g. has reached intermediate targets), and whether potential undesirable side-effects are kept under control. This may lead to revisions of the some policy components or of their implementation conditions. Monitoring is a continuing, or a periodical task, which may be formalized.

b. longer term “product” evaluation is aimed at checking that the quantitative targets in terms of crash and injury reduction are reached. Furthermore, the evaluation is designed for assessing the efficiency of various specific interventions and for learning from the experience. The new situation after the implementation of the policy is the starting point for a new policy-making cycle.

Monitoring and evaluation are in themselves elements of good practice, provided they are performed on the basis of sound methodologies, using reliable data, and their results are actually acted upon (Muhlrad & Dupont, 2010). “Good practice” relies on good quality data on road crashes, injuries and exposure for monitoring the road safety situation and for “product” evaluation; for both “process” and “product” evaluation it relies on ad hoc investigations and quantified observations of relevant items of behaviour. “Good practice” calls for qualified and independent scientific and technical staff to perform “process” and “product” evaluation, which in organisational terms means strong cooperation between knowledge production institutions and the road safety actors involved in coordination and implementation. As for monitoring implementation, there is a need for periodical data collection on activities and outputs in all sectors and for all interventions adopted in policy-making, and for formal reporting procedures (defining information content and time schedule) to the higher level. Finally, for the monitoring process to be useful, “good practice” rests on adequate feed-back procedures to ensure that the necessary changes in policy or implementation conditions are actually performed.

### **3. Transversal management processes**

To accomplish these policy-making tasks, some specific management processes are necessary. Each of these processes participates in several tasks (or stages) of policy-making, but have a life of their own and thus need to be developed as individual entities. Four main processes have been identified.

#### *3.1. Inter-sectoral coordination*

Inter-sectoral coordination is an active process required in at least three stages of policy-making where different sets of actors may be involved.

Policy formulation (stage 2) is a collective work performed by scientific and technical staff in relation with the decision-makers, for developing a vision, a strategy, quantitative targets, selecting the best programmes or interventions, and defining adequate implementation conditions and funding procedures.

Each adopted policy component (stage 3) has to be supported by the decision-makers in the involved sectors of government. An agreement on the conditions and resources necessary for implementation of the policy must be reached, and the degree of priority of road safety issues over other areas of work has to be clear for the involved actors.

Several government sectors and stakeholders take part in the implementation (stage 4) of the adopted policy components. Decision-makers and implementers must jointly monitor activities and introduce, as necessary, organisational, financial or technical changes needed to preserve the consistency of the policy and to solve any unexpected problems that could arise and hamper the implementation process.

As inter-sectoral activities cannot easily be carried out in a hierarchical government structure (Muhlrad, 2009; OECD, 1984), the transversal links to be established must be formalized into stable management structures. For good practice, two conditions have to be met: the management structures must be appropriate for the right type of coordination and the coordination must actually take place i.e. the structures exist, they are properly designed, and they are active.

Inter-sectoral decision-making is first required at a high level to set up goals, define a strategy, adopt a challenging quantitative target, and adopt a multi-annual inter-sectoral action programme or other suitable policy solutions to reach the target. This calls for a formally (i.e. through legislation) established inter-sectoral structure with identified leadership and full responsibility for road safety (Bliss & Breen, 2009). The structure should be a part of the decision-making chain and therefore it belongs to government. All government sectors taking part in road safety action must be represented in it, so that all the actors involved at this level know, understand and agree on their particular role in policy formulation and implementation. The members of this structure need full authority in their sector for implementing the adopted policy; in particular, they will have to organize their overall load of sectoral activities to accommodate the road safety ones at the correct priority level (Muhlrad, 2009). The structure must have appropriate logistics to function: a secretariat, technical and scientific support, a budget for communication, etc. Finally there must be procedures, or at least a well defined process, to follow up in the next stages of policy formulation and implementation.

High level decision-makers will not get into the details of coordinating policy formulation which, according to our definition, involves much scientific and technical work such as in-depth analysis of the current situation, reviewing knowledge in all areas of road safety interventions, weighing advantages and disadvantages of different solutions, forecasting effects, etc. Similarly, they will not directly coordinate implementation which often involves actors dispersed around the country to prepare and perform detailed field operations. The sets of actors involved in policy formulation and in implementation are different and the needs for coordination are therefore at another level. The high level structure must thus delegate to a more technical inter-sectoral body the care of coordinating policy formulation and implementation.

As the technical inter-sectoral body needs to master implementation processes, it has to be part of the government administration and fully integrated within the administrative sectors; it also has to be closely linked, or at least report, to the high level structure endowed with responsibility for road safety. In order to be able to work, this “second level” inter-sectoral road safety institution should meet the following criteria. It should be legally established with identified leadership and the responsibility of directing the formulation of the action programme(s), of preparing the conditions for, and ensuring adequate implementation. It must include representatives of all sectors involved, personally designated for a length of time sufficient to supervise at least a medium-term programme (Muhlrad, 2005) and with experience or training in road safety. It has to have appropriate logistics and a budget for applied research and studies and link with the scientific and technical support staff to coordinate the preparatory work for policy formulation (studies, information gathering, etc.). It should be able to dialogue with the high-level inter-sectoral structure in order to get any necessary policy components adopted, and with the implementers to identify needs and implementation requirements (resources, training, etc.). It must be able to monitor the implementation process and act upon the identified needs or discrepancies affecting the implementation.

### *3.2. Consultation of stakeholders*

While road crashes, crash fatalities and injuries are a recognized public health problem, there is no consensus on the appropriate ways to deal with it. Any one measure that is taken to alleviate the problem impacts on the economy, the environment and citizens’ everyday life. Both governmental actors and non-governmental stakeholders are multiple and have varied interests in road safety, ranging from advocacy

through participation in action to downright opposition to specific measures (Muhlrad, 2009). Involving non-governmental stakeholders in policy-making may include two complementary approaches.

In the “bottom-up approach” the initiative lies with the non-governmental stakeholders who may advocate for road safety or lobby on an issue, undertake some action of their own (communication, training, technical development etc.) or develop policies and implement them (as local governments do). These activities may help decision-makers grant a higher priority to road safety in public policies at the agenda setting stage. The potential effects of these initiatives may be taken on board when quantifying targets and selecting solutions at the policy formulation stage. Some stakeholders may also be called to participate in the implementation of particular components of the national policy adopted.

Obviously, the road safety authorities at the national level need to gain a sufficient overview of the road safety initiatives likely to affect the road safety situation, instigated by other stakeholders (local authorities, NGOs, stakeholders from the private sector). A comprehensive picture is obtained through a systematic information gathering process. Monitoring the road safety scene to keep track of un-planned and un-coordinated actions that may counteract the effects of the national policy is also a tool of “good practice” as it enables the road safety authorities to take action (consultation, negotiation or legislation).

In the “top-down” approach the initiative lies with governmental actors who consult in order to identify potential support or opposition. The governmental actors then adapt or negotiate the policy components before their adoption to overcome obstacles and to ensure that local policies will contribute to the overall target, rather than contradict the national policy. Thus they benefit from the competences and motivation of key non-governmental stakeholders to enrich the policy and facilitate its adoption and implementation. The governmental actors need to establish an inventory of stakeholders interested in the goal or the measures to be implemented, in the targeted road users, or in the implementation conditions, so that they can seek the support of these stakeholder groups for the national policies.

Both of these approaches may be informal, in which case there is a risk that the most vocal stakeholders are the most influential; or they may be performed as systematic and organised processes. Empirical experience has shown that it could indeed be practical to involve stakeholders in a systematic way at an early stage in policy-making (OECD, 2008).

For both approaches, negotiation and coordinating processes have to be established between the leading governmental road safety actors and the other stakeholders. The consultation process should allow integrating effective regional or local initiatives in the national policy while it is formulated (the “bottom up” approach) or discussing policy components with the relevant stakeholders in order to check their acceptability, identify potential problems, negotiate implementation conditions and enlist participation in the implementation (the “top down” approach). The consultation process should also allow monitoring and coordinating implementation to ensure compatibility of the road safety activities carried out by the different actors.

In terms of organisation, the process may be performed by the technical inter-sectoral road safety body and thus added to its duties. A permanent consultation structure may also be formally created to generate continuing dialogue between non-governmental stakeholders and the road safety authorities. Although the present state-of-the-art of research indicates that consultation of stakeholders is good practice (OECD, 2008), it does not provide good enough indications as to which organisation is best suited to the process.

The inventory of relevant stakeholders may vary from country to country according to the degree of involvement of the civil society in road safety issues. Some countries involve members of the Parliament (who ultimately represent the citizens who are the main stakeholders!) in the consultation process. In countries where the national Parliament plays an active role in target setting and/or policy adoption, the relations between the Parliament and the government resemble more to a partnership than to a consultation process.

### 3.3. Knowledge production and use

According to our definitions of the policy-making tasks, knowledge needs to be produced to justify the prominence and priority level of road safety as a public policy. It is also essential in policy formulation for identifying available options, weighing their advantages and disadvantages and selecting adequate solutions. Indeed, the task of policy formulation cannot exist unless it is knowledge-based.

Three main areas of knowledge are concerned.

First, detailed knowledge of the road safety situation in the country and of its evolution is required as a basis for policy-making. This “fact-finding” includes, in particular in the agenda setting stage, monitoring of the road safety situation and trends, safety diagnosis and epidemiological analyses. In-depth analyses of accident causation mechanisms and of crash and injury factors, analyses of behaviour and its determinants, of the social and economic context, etc. are particularly useful for policy formulation.

Second, there is a need for knowledge on the expected effects of potentially efficient road safety measures or interventions (or “packages” of measures) relevant to the problems identified in the strategy, as well as of their cost and implementation conditions. This kind of knowledge is essential in the policy formulation and adoption stages. It can be produced through experimental research and evaluation (the latter as a basis for the policy evaluation stage) and collected from the international pool of experience.

Third, methodological knowledge is essential to fact-finding, target setting, programme design, evaluation, forecasting and monitoring; that is from agenda setting stage to policy formulation, to policy adoption and finally evaluation.

Knowledge is produced through research and studies, provision of data and development of the needed methodological and technical tools. It is gathered and disseminated through the collection, storage and publishing of national research results and accessing international literature and reports. It can then be integrated into the decision-making process. This implies that formal or informal relationships and exchange procedures exist between the scientists and technical staff producing and collecting knowledge and the government authorities and stakeholders involved in road safety policy-making at high level.

However, the timelines for producing useful knowledge and for the policy formulation are different. Road safety actors usually want to have the appropriate knowledge available immediately when they need it. This implies that a road safety knowledge production process is set up not only to get at the roots of the road safety phenomenon, but also to anticipate on the future needs of policy makers. “Good practice” would require that knowledge is actually produced and that the road safety management system supports cooperation between scientists and policy-makers allowing knowledge-based policy formulation.

Road safety is a multi-disciplinary field of research, so knowledge production is team work which requires an appropriate multi-disciplinary framework. Based on experience, a set of criteria for “good practice” can be proposed. There is one or several independent and sustainable multi-disciplinary scientific institutions carrying out road safety research on a continuing basis, so that the needed skill set can develop and research results are stored and memorized. A significant government road safety research budget is allocated to this institution to ensure that research anticipating the needs of, and supporting, decision-making is performed in adequate research conditions. This includes developing contacts and exchanges with a network of similar institutions in Europe and in the world. The scientific team(s) have access to all relevant data and information available and they contribute to fact finding, programme development, monitoring and evaluation (“technical support”); yet they have the freedom to disseminate results (Muhlrad & Dupont, 2010). Research institutions may disseminate research findings (in addition to scientific publications) that may be useful to policy-makers for advocacy, agenda setting or policy formulation. There is an active cooperation between research institutions and road safety policy-makers and/or the technical inter-sectoral coordinating body in order to make technical support a permanent feature and knowledge-based policy formulation a current practice.

### 3.4. Capacity building

In order for the road safety management system to work and the policy-making tasks to be performed according to expectations, some attention must be given to the persons involved in the system and participating in these tasks in order to analyse their professional position (are their other duties compatible with their road safety work and responsibilities?), their needs (in terms of knowledge or methods), and the resources that are available to them. Attention must also be given to strengthening capacity in the long term, which means investing in a sustainable process of knowledge production and dissemination.

Capacity building thus involves several types of activities applying to human and technical resources, policy making and implementation conditions, and organization.

The first one concerns the institutional organisation. It consists in ensuring that the right people are allocated to each task or process; that the road safety actors are properly integrated into the road safety management system, so that they get the links and the human environment they need to perform their tasks and are rewarded for their road safety duties as for their other responsibilities.

The second activity concerns the implementation conditions. Adequate human, technical, and financial resources are to be allocated to each task and the corresponding actors.

The third one deals with strengthening abilities. The needs in terms of methodological approaches and knowledge required for each road safety process or task must be identified, as must the needs for information and knowledge transfer to the actors in post. Finally, the knowledge that the different categories of actors are found to lack must be provided to them under an adapted format.

The existence of a capacity building process to provide specialized knowledge to current or future road safety actors is in itself “good practice” as it is a systematic way to ensure that all actors with a part to play in road safety do it on sound methodological basis and with a common understanding of the scientific bases of their work. More precisely, two criteria of “good practice” in capacity building applied to human resources can be defined: ensuring that the policy is knowledge-based; ensuring that road safety work is effectively and efficiently carried out at all levels so that expected effects on the road crash and injury situation are actually obtained. This means bringing up human resources working in road safety at all stages of policy-making to adequate levels, both in number and in qualifications. It also entails providing differentiated training to all categories of actors involved. The scientific institutions performing road safety research on a regular basis are obviously involved as they develop and collect new knowledge with which to update the skills of road safety practitioners. Given the number of field actors involved in most implementation areas, some networks of trainers, themselves trained by the scientific teams, have to be organized. Thus, “good practice” requires sound planning of capacity building activities.

## 4. Road safety management system

The policy-making tasks and processes which have been described so far require an enabling organisational setting which is the backbone of the road safety management. Whatever the particular national characteristics might be, this system is a complex institutional structure involving cooperating and interacting bodies which supports the tasks and processes necessary to the prevention and reduction of road traffic injuries (see ISO 9000, 9001 and 9004 Quality Management Definitions).

The road safety management system is linked to its environment, such as the other areas of government, the stakeholders and the civil society. It is further characterized by its formal structure, the persons populating it and the interrelations those persons establish with each other. The provision of necessary data and technical tools, the available resources, equipment and technologies complete its description (Muhlrad & Dupont, 2010). According to our definition, the road safety management must be



designed to support the essential processes and the policy-making tasks enabling the government to reach the objectives set for road safety. Ultimately the relevant measure of “good practice” is the system’s performances in getting tasks and processes accomplished and in producing the desired outputs.

The legal and regulatory aspects of the road safety management system should not be neglected. A form of organization supporting inter-sectoral coordination or consultation of stakeholders cannot be integrated into the classical hierarchical administrative patterns but requires transversal linkages, which may substantially modify work practices of the involved actors. Thus, legislation or at least regulations have to formalize the new institutional structures, the new set of responsibilities, and financial and human resource allocation. Legal dispositions are also necessary in making the institutional organisation sustainable. Adopting a long-term vision (enduring through successive governments) for road safety further supports sustainability. “Good practice” implies that the necessary legislation does exist and takes care of all details to ensure effective and smooth functioning of the system. As the conditions for road safety management evolve, it is important for legislation to include clauses of reviewing and updating.

## 5. Pre-conditions

There are some pre-conditions that are necessary for the establishment of an effective and efficient road safety management system.

The first pre-condition is that there is a *political will* at the higher level. It is necessary for setting up new institutions cutting across the usual administrative sectoral hierarchies and therefore sometimes leading to a loss of decision-making power of individual actors with regard to road safety issues and even to priorities in their own sector. Political will is also necessary for planning and allocating funding to the road safety policy components adopted which may be in competition over budgets with other issues of political value. Finally, some road safety measures are unpopular with all or sub-groups of road users as they may be perceived as restraining personal freedom or, at least, reducing the amount of pleasure derived from mobility; it takes political courage to persist in implementing unpopular but efficient measures at the possible cost of votes jeopardizing political careers, even if some ways can be found to gradually change the attitude of road users.

Political will is hard to measure but it can be assessed through its outputs. We can make the hypothesis that the following elements indicate that such a political will exists (Bliss & Breen, 2009): a lead agency responsible for road safety at the government level; a long-term vision enduring political and government changes; a compelling quantitative target, challenging but achievable and commitment of the higher levels of government to reach it; a national road safety programme adopted at government level; a well-defined and realistic funding scheme; efficient, precisely defined coordinating structures at all necessary levels, identifying key sectors and actors that are involved and detailing their roles and responsibilities; a system for monitoring progress in realizing targets and providing feedback to the agencies in charge of implementation; and a strong process of knowledge production and knowledge transfer.

The second pre-condition is the existence of a *climate* or of a road safety *culture*, shared by the road safety actors and the road users, such that policy adoption becomes smoother and policy implementation feasible. Public approval of road safety goals and policy relies on their knowledge of road safety issues, so that they can form an opinion, which implies that a process of knowledge transfer has taken place from the government, supported by scientific and technical staff, to the public. Other stakeholders may take part in this activity. A favourable climate for road safety encompasses: an active information policy by the government, scientific agencies and other relevant stakeholders; a long-term goal or vision prepared by the government and acted in Parliament; and a national road safety strategy and multi-annual programme emphasizing the notion of “safe mobility system”, which means focusing on the provision of a safe road, traffic, and transport environment as well as on individual road-user behaviour.

In some countries, these pre-conditions may already be met at the onset of the policy-making cycle; they can nonetheless be enhanced at the agenda setting and implementation stages. In other countries, building up political will is a process in itself, if its current weakness prevents coordinated road safety policies from being formulated, adopted or implemented. In any case, building up an effective road safety management system can only be achieved iteratively: experience builds up knowledge and strengthens political and public awareness, and each multi-annual programme is a step towards better practice.

## 6. Applications

The definitions and criteria of “good practice” briefly described above were used as a basis for the design of a questionnaire addressing both high level road safety actors involved in road safety management in their countries and scientific experts with an external, and hopefully critical, view of the system. The questionnaire includes fifty questions aimed at describing pre-conditions, institutional organization, policy-making tasks and management processes and their outputs; moreover, part of the questions refer to the “good practice” criteria and aim at assessing the strengths and weaknesses of each country in this respect. The relevance of the criteria will be checked against the results obtained by each country in road safety improvement over the past ten years (Muhlrad, Gitelman & Buttler, 2011).

As the questionnaire is comprehensive, fairly complex, and (because of the constraints of team work) was designed in English language, it was decided that filling it in would be best performed through face-to-face meetings with the experts selected to respond. Although questions were broken into yes/no items to facilitate data analysis, verbal comments were welcome and were recorded for each question.

By the end of October 2011, interviews have been performed by the DaCoTA team members in 15 large and small European countries representing better or under-performing nations in terms of road safety. The results from the ensuing data analysis will be published by the end of the project in 2012. They will include descriptions of the various forms of road safety management systems to be found in Europe, elements of “good practice” which may be applicable to different countries and a revised methodology for the assessment of good practice in road safety management.

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