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Working Party on Road Transport

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Comments transmitted by Hungary and PIARC on TRANS/SC.1/2005/5

The following comments have been submitted by Hungary and PIARC on the French proposal regarding road safety inspections and audits (TRANS/SC.1/2005/5).

Comments by Hungary

Some sentences of the document are unfortunately far from our viewpoint.

1. "... a systematic inspection must be made of all new roads in order to check that safety criteria have been complied with and improvements to the roads are in keeping with that objective." This method is close to the "Safety Audit" process, but not to a Road Safety Inspection.

It is a very important part of Road Safety Inspection, that old sections of the road network come under the inspection process too. Frequent Road Safety Inspections can find deficiencies of inspected sites, using new legal standards or new safety guidelines (checklists).

Changes in the operation of an existing road may result in this road being inconsistent with the rest of the network, which may result in safety problems. Similarly, the widespread application of new technical regulations may result in some existing roads having outdated safety or traffic control devices that will surprise drivers, resulting in safety problems.

2. It is not the case, as stated in the document, that road safety inspections "entails a vast programme of roadworks and, moreover, no guarantee that they would be effective".

3. "An approach based on the analysis of accidents to persons over a period of several years could mobilize attention on eliminating or reducing the dysfunctional factors which have caused accidents." The main characteristic of RSI is the possibility

of applying existing general safety knowledge on a site (or itinerary), regardless of local accident data; as opposed to the use of local accident data in the safety analysis of the road network.

4. Chapters "1. Criteria for assessing infrastructure safety qualities" and "1. Main aspects subject to inspection" look like a checklist. In my opinion it is very hard to make a good nationwide checklist. On the other hand it is not on the level of United Nations. The UN has to send a political message to Governments: "Road Infrastructure Safety is a very important question now".

5. I see this message in "2. Distribution of responsibilities", but some parts of this chapter are more detailed.

6. The EU Road Infrastructure Safety Management Directive is currently under preparation. This proposal describes the basic ideas of the following road safety management procedures:

"(1) For new roads and major changes of operation of existing roads, a road safety impact assessment is proposed to inform about the accident implications on the road and the adjacent network.

(2) To verify a new design, either of a new road or a reconstruction measure, road safety audits shall provide for an independent control and recommendations.

(3) Where no reconstruction is planned, management of high-risk road sections and network safety management are to target remedial measures to parts of the network with a high concentration of accidents and/or a high potential to avoid them for the future.

(4) Safety inspections as part of regular road maintenance will allow detecting and treating deficiencies in a preventive way by means of low cost measures."

The present proposal for a Directive translates these objectives into a comprehensive system of "Road Infrastructure Safety Management".

I feel from the "High level expert meeting on INFRASTRUCTURE SAFETY" held in January this year, that there are a big differences between current approaches of countries on this topic, so I think it is too early to make this proposal.

TRANS/SC.1/2005/5 is based on the knowledge of French professionals. We have to say a big thank you for their efforts, but - in my opinion - we have to wait for a nation-wide agreement on this topic. I hope that this year will see the agreement of professionals, and that it can be a basis of a UN proposal.

Tibor Mocasari

Comments by PIARC

We completely agree with the preamble as far as it focuses on the human factors. Since the XX World Road Congress in Durban 2003 it is PIARC's conviction that we have to adapt the technical parts of the road transport system to the physiological and

psychological abilities and limitations of road users (compare PPIARC Road Safety Manual Pages 422 ff). After decades of trying to adapt road users' behaviour to the road infrastructure we have to accept that the results were not sustainable. On the other hand we could experience that a consistent and predictable alignment, easily capable intersections such as roundabouts and traffic calming measures in towns have long-lasting safety effects without any additional enforcement.

Regarding the inspections of new roads and existing roads there has been international agreement about the definitions since the World Road Congress in Kuala Lumpur 1999. Today, we are using the definition "Road Safety Audits" (RSA) for the systematic checking of the documents such as drawings and descriptions of the future road.

For the systematic inspection of existing roads, we are using the definition "Road Safety Inspections" (RSI). We disagree with the French paper that RSI "cannot really be envisaged on the basis of safety criteria". Road Safety Inspections had an early start in the Netherlands in 1972, when measures had to be taken in order to improve road safety at that time.

Later on in Great Britain the technique of road safety inspections (and audits) developed in the late 1980s. In principle, this method implies that a small team of safety specialists systematically examines an existing road section in order to identify accident risks. After this, a plan for the elimination of the observed deficiencies is prepared and implemented.

On the bases of the experience with Road Safety Audits the method has been further developed by Swedish, Dutch and German experts to a systematic tool for example in an EU Technical Assistant project for Romania (EuropeAid/114414/D/SV/RO) and a Swedish International Development Aid (SIDA) Project in Vietnam.

It is one of PIARC's objectives to create a guideline for a Road Safety Inspection which is integrated in the road safety management system. It will contain as annexes the checklists for the systematic safety check of interurban and urban main roads, examples of Road Safety Inspection reports and a catalogue of safety deficiencies with cost effective remedies such as road surface, shoulders and verges, drainage, signing and marking, passive safety installations and the needs for none motorized road users including traffic calming.

The process of RSI does not "entail vast programmes of road works". RSI are even much easier to perform than RSA because the experts can see and measure the road conditions. To detect design faults is much more difficult and needs a civil engineering education and experience as a designer. For the performance of RSI it is helpful to have the accident data of the road section, but along the checklists we will find the deficiencies that lead regularly to accidents also when detailed accident data are not available.

A blind test of RSI was made in Germany along rural roads without getting the accident data before the RSI report. The comparison of the entire **rating of the deficiencies** with the real accident figures came to a high correlation. Most – of

course not all- of the accidents could be explained by the deficiencies which had been detected.

So systematic Road Safety Inspections are extremely useful in developing or emerging countries where good accident data are seldom available and where the need of improvement is high.

The **Criteria for assessing infrastructure safety qualities** are quite reasonable and similar to the RSA-Guidelines of different countries.

The **Methodology for Road–Monitoring Missions** contains the main aspects subject to Road Safety Audits and Inspections. But the number of Audit phases differs from other country's regulations. In most countries the following Planning Phases are implemented in the planning and design

- **Feasibility Study**
- **Preliminary Design**
- **Detailed Design**
- **Before Traffic opening**

The first two audit phases may be combined in one to save time. But there should be a second audit during the design phases to reduce additional efforts for changing the drawings and documents. The Audit before traffic opening will be very similar to an RSI and the checklists for the different types of roads may be the same.

Regarding the **Distribution of responsibilities** most countries follow this concept: The *client* (generally the road authority), the *designer* (consultant) and the **auditor(s)** are the three parts that participate in the audit process. The function of each party is different and their roles are well defined and consistent.

The client initiates the safety audit and commissions the auditor, who shall be a person, or a team, independent from the project. All information and reports are distributed via the client. The auditors perform the safety audit, the client decides, the designer modifies the scheme to satisfy the requirements and the client approves the results and, if needed, mediates between the auditor's recommendations and other competitive private or public interests and planning's.

The Road Safety Audit must be an independent process with fixed rules and as such an essential part of the planning process. The time required for the road safety audit is very short compared to the individual planning stages. Nonetheless, it should be considered well in advance.

The contractor has to follow the design and will be less important than the designer. There is one exception regarding road works or road construction under traffic. In these cases it is the task of the contractor to deliver his plan for the performance of the road works. It is in discussion if these cases are to be audited as well.

PIARC is working on a RSA Guideline including a catalogue about safe design policies with examples of bad and good experience.

Final remarks

On the background of experiences in developing and European emerging countries, the donors and development banks should install their own independent RSA-teams. The high fatality rate in these countries is more often the result of design faults than of road user behaviour. The funding of killing - or coffin roads - as they are called by local people - should be avoided.

A special issue is the so-called linear settlements which are growing faster and faster along interurban main roads like in Romania and most developing countries. Along these results of urban mismanagement we find the highest proportion of fatalities, especially non motorized road users and children.

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