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Working Party on Road Traffic Safety
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**AMENDMENTS TO AND IMPLEMENTATION OF THE 1968 CONVENTIONS
ON ROAD TRAFFIC AND ON ROAD SIGNS AND SIGNALS AND THE
1971 EUROPEAN AGREEMENTS SUPPLEMENTING THEM**

**Report of the informal meeting on safety in tunnels
held on 13 and 14 June 2002**

Background information

In order to speed up work within the Working Party on Road Traffic Safety (WP.1) on the study of the recommendations falling within its jurisdiction, WP.1 had decided at its thirty-eighth session to establish a small group comprised of France, Norway, Switzerland, the European Commission, PRI, IRU and the secretariat. The group's mandate was to consider the recommendations, also taking into account the measures contained in the declaration adopted in Zurich by the ministers of transport of the Alpine countries in November 2001, to identify those which came within the jurisdiction of WP.1 and to propose solutions for their incorporation to best advantage in the Vienna Conventions, in the European Agreements, or in Consolidated Resolutions R.E.1 and R.E.2.

Attendance

The meeting took place on 13 and 14 June 2002 with Mr. Bernard Périsset (Switzerland) as Chairman and in the presence of Ms. Géraldine Bonnet (France), Mr. Gunnar Hoel (Norway), Ms. Marie-José Rambeau (PRI), Mr. Bernd Thamm (European Commission) and Mr. Paul White (IRU) and of the secretariat.

Report of the meeting

As the guiding thread of its discussions the small group used an informal document prepared by Switzerland with a condensed list of all the measures to be considered contained in the reports of the Ad Hoc Multidisciplinary Group of Experts on Safety in Tunnels (TRANS/AC.7/9-TRANS/AC.7/9/Corr.1 for the French version only and TRANS/AC.7/9/Add.1) and in the declaration of Zurich which is reproduced in document TRANS/AC.7/2002/1.

The representative of the European Commission informed the small group that the proposed directive on safety in tunnels was in the process of adoption and that a CD-ROM was being prepared.

The following recommendations were considered:

A.1 Recommendations by the Group of Experts concerning road users

Measure 1.01 - Information campaigns: the representative of the Commission introduced the brochure which will be distributed in the European Union to inform users about behaviour to be observed in tunnels; the countries of the European Union and the automobile associations will be closely associated with this campaign. The Group referred to the possible role to be played by UN/ECE in the campaign and considered that it was important to inform non-EU countries of the existence of the brochure so that they could take their inspiration from it. Rules for appropriate behaviour in tunnels should nevertheless be included in **R.E.1**.

When this measure was considered, the small group was of the opinion that the wording of **Article 25 bis of the Vienna Convention** on Road Traffic should be changed so as to indicate clearly that in tunnels stopping in lay-bys is only possible in the event of danger.

Measure 1.02 - Driving tests: the small group was of the opinion that this measure should be incorporated in Consolidated Resolution **R.E.1** and not in the APC agreement.

Measure 1.03 - Drive out burning vehicle: after discussion, the small group considered that this measure was for the time being more suited to inclusion in **R.E.1**.

Measure 1.04 - Roadside checks: this measure should be incorporated in **R.E.1** in the form of a special chapter on checks.

Measure 1.05 - Tests for professional drivers: although this measure could be incorporated into Article 41 of the Convention on Road Traffic, the small group was of the opinion that for the time being it was a matter for **R.E.1** pending the implementation of these checks Community-wide.

Measure 1.06 - Test for dangerous goods drivers and Measure 1.07 - Regulations for dangerous goods transport: these two measures come under WP.15. However, if WP.15 decides to create the five dangerous goods cargo groupings recommended, an amendment will be required to the Vienna Convention on Road Traffic.

Measure 1.08 - Overtaking: the rules for overtaking are currently defined in Article 11 of the Convention on Road Traffic. The small group considered that if a provision were to be introduced to prohibit overtaking by heavy vehicles under certain circumstances and in particular on gradients greater than 3%, it should concern all situations and not only tunnels. General principles along these lines could be added to **R.E.1**.

Measure 1.09 - Distance between vehicles: a general provision already exists in article 13 of the Convention on Road Traffic. A provision could, however, be added to **R.E.1** on maintaining the distance in tunnels when vehicles are stopped. As regards the recommendation to introduce a minimum distance between vehicles in traffic, the small group did not consider it advisable to keep it since it applied only to special cases. It did, however, stress that WP.1 should consider its relevance in terms of the importance of a measure of that nature for road safety.

Measure 1.10 - Speed limit: this measure does not entail any change.

Measure 1.11 - Access to the profession (see TRANS/AC.7/9/Add.1): is a matter for SC.1.

Measure 1.12 - Emergency information systems for drivers (TRANS/AC.7/9/Add.1): is a matter for SC.1 but WP.1 should consider whether certain aspects concern it.

A.2 Recommendations concerning road users (declaration of Zurich)

- Alcohol level limit at 0.2% for professional drivers: the European Agreement supplementing the Vienna Convention contains a general provision on the subject of alcohol (cf. last paragraph under point 7 “Ad Article 8 of the Convention (Drivers)”. The small group considered that it was premature to insert a provision of this nature in the Agreement since it was a political problem. It was, however, necessary to consider incorporating the question of alcohol and drugs in **R.E.1**, taking into account existing EU and ECMT documents.
- Centralized register of safety offences: this highly political subject far exceeds the scope of tunnels and the individual competence of WP.1. A provision does, however, exist in the Convention on Road Traffic (article 3 §6) urging countries to cooperate with regard to offences. Similar provisions exist in the AETR concerning breaches of driving and rest times.

- Measures concerning both reinforcement of requirements relating to working conditions and training for professional drivers and harmonization of requirements for these drivers are a matter for SC.1.

B. Recommendations for operation by the Group of Experts as a factor influencing road traffic and safety

Measure 2.08 - Closure of lanes: although this measure essentially concerns SC.1 with reference to the AGR, WP.1 might consider it necessary to introduce a general provision into the European Agreement supplementing the Convention on Road Signs and Signals or **R.E.2** recalling the need to indicate the closure of a tunnel or a lane sufficiently in advance.

Measure 2.11 - Monitoring compliance with traffic regulations: increased monitoring of compliance with distance and speeds in tunnels could be referred to in the special chapter on checks to be introduced into R.E.1 (see measure 1.04).

The declaration of Zurich also deals with the need to reinforce checks.

C. Recommendations by the Group of Experts concerning the infrastructure as a factor influencing road traffic and safety

Measure 3.09 - Road-signing systems and Measure 3.10 - Signing of escape routes and safety facilities: the new signs (see E.) need to be harmonized either in the Convention on Road Signs and Signals or in R.E.2.

D.1 Recommendations by the Group of Experts concerning vehicles

Although these measures essentially come within the jurisdiction of WP.29, the small group gave its attention to the following measures:

Measure 4.01 - Fire extinguishing devices: these devices are already required on buses and coaches and on vehicles carrying dangerous goods. The small group wondered which Working Party (WP.1 or WP.29) was competent to extend the obligation. When the question was put to the secretariat of WP.29, it emerged that the Working Party on General Safety Provisions (GRSG) had taken responsibility for this question but that the assistance of WP.1 to extend the obligation to other categories of commercial vehicles would be welcome.

Measure 4.04 - Weight and dimensions of heavy goods vehicles: the small group questioned the relevance of creating a new legal instrument and considered that the question should be put to the Inland Transport Committee. WP.29 considered, at its March 2002 session, that the subject was outside its responsibility (TRANS/WP.29/841, para. 27).

Measure 4.06 - Technical inspections: the points contributing to the prevention of vehicle fires should be addressed by the 1997 Agreement (cf. TRANS/WP.29/841, para. 27). The implementation of the Agreement currently depended on the position of the signatory countries which were due to ratify it.

D.2 Recommendations concerning vehicles (declaration of Zurich)

WP.1 is informed that the majority of the measures mentioned in the declaration of Zurich, i.e., rear and front underrun protective devices (Regulations Nos. 58 and 93), lateral protection including tanks (Regulation No. 73), speed limitation devices (Regulation No. 89), minimum standards for exhaust gases for heavy vehicles (Regulation No. 49), have already been addressed by UN/ECE in the Regulations annexed to the 1958 Agreement. Work has moreover begun or is about to begin to render them more stringent.

With reference to the tyre pressure indicator, work on a global technical Regulation (under the international Agreement of 1998) has been delayed by regulatory action by the United States of America. Questions of minimum performance per tonne of total weight and the installation of air conditioning are linked to the use of the vehicles and will not be addressed by WP.29 either through existing agreements and/or mandates.

N.B.: It should be stressed that since regulations prepared within WP.29 are optional, they will only become mandatory once the States parties to the 1958 Agreement introduce the relevant provisions into their own regulations. Paragraph 1 of Annex 5 to the Convention on Road Traffic stipulates that "All vehicles in international traffic must meet the technical requirements in force in their country of registration when they first entered into service." The result is that, if a country has not incorporated a requirement of an ECE Regulation into its national legislation, and if this requirement has been made mandatory by an amendment to Annex 5 to the Vienna Convention, this country may only be exempted from this obligation by entering a reservation. In this case, vehicles from the country will continue to be accepted in international traffic on the basis of the rule recalled above.

E. Recommendations of the Group of Experts concerning road signs and signals (Annex)

The small group adopted the annex to the report of the Group of Experts and its appendix for inclusion in **R.E.2**, with some amendments. The amended text is reproduced in the annex to this report.

It further considered that the sign E, 11a ("Tunnel", see page 246 and Annex 1, section E, paragraph 9a of the Convention on Road Signs and Signals) already indicates the application of special rules which are defined in article 25 bis of the Convention on Road Traffic (including the obligation to switch on driving lamps), which itself refers to the presence of special road signs, in this case sign E, 11a. There is therefore an obligation, through the association of the two Conventions, to switch on lights at the entrance to the tunnel since the sign is displayed there. However, since the sign is not mandatory, the question arises as to whether signs E, 11a and E, 11b (end of tunnel) should be made mandatory for all tunnels whatever their length or whether a minimum length should be established.

The report of the Group of Experts also asks that the sign E, 11a should include an additional panel indicating the length and the name of the tunnel. The small group considered that the second subparagraph of **Annex 1, section E, paragraph 9a of the Convention on Road Signs and Signals** should be amended so as to permit the addition of this panel, since the paragraph currently only permitted information to be displayed on the sign E, 11a.

Where *variable message signs* were concerned, the small group considered that it was necessary, by means of a questionnaire, to ask what signs were used by countries before special provisions were included in existing legal instruments.

As regards the pictograms appearing on the signs “*emergency telephone*” and “*extinguisher*” as defined in the appendix to the report of the Group of Experts, they should be included in **section F of Annex 1 of the Convention on Road Signs and Signals**, according to the small group.

The sign “*lay-by*” should be included in **Annex 1, section G, paragraph 8 of the Convention on Road Signs and Signals**. However, it should be possible to add a panel indicating an “*emergency telephone*” or an “*emergency telephone plus extinguisher*” to this blue or green sign. It should also be possible to incorporate this information on the sign “*lay-by*” itself. It should also be possible to use this sign to indicate lay-bys on roads or motorways.

Lastly, the signs “*emergency exits*” and the direction signs “*emergency exits*” which are green should be incorporated in **Annex 1, section G of the Convention on Road Signs and Signals**.

Annex

ROAD SIGNING FOR TUNNELS

Signing should conform to the following specific rules both in sign selection and in the materials used.

Vertical signing

- [...] vertical signing in the advance warning area of a tunnel should include:
 - the sign “Tunnel”, as described in the Vienna Convention on Road Signs and Signals (sign E, 11a); this sign, [...] **to which the application of special rules defined in Article 25 bis of the Vienna Convention on Road Traffic is linked**, should also include an additional panel indicating the length and the name of the tunnel in particular for tunnels over 1,000 metres
 - the specific maximum speed limit (sign C, 14) to be followed in the tunnel
 - the “Overtaking prohibited” sign (C, 13a /C, 13aa/ C, 13ab for all vehicles or C, 13b/C, 13ba/C, 13bb for goods vehicles) when appropriate
 - if necessary, other additional signs such as that prohibiting entry to vehicles carrying dangerous goods (C, 3h) or certain dangerous goods (C, 3m or C, 3n; see also Measure 1.7).
- [...] vertical signing in tunnels **over 1,000 metres** should include, **repeated at regular intervals**:
 - the “Maximum speed limit” sign (C, 14) [...]
 - when appropriate, the “Overtaking prohibited” sign (C, 13a /C, 13aa/ C, 13ab for all vehicles or C, 13b/C, 13ba/C, 13bb for goods vehicles) [...]
- [...] vertical signing beyond the tunnel should include:
 - the sign (E, 11b “end of tunnel”) and the appropriate signs revoking the speed limitation (C, 17b) or prohibitions (C, 17c “end of prohibition of overtaking” or C, 17d “end of prohibition of overtaking for goods vehicles”).
- Optimum conspicuity high quality retro-reflective materials should be used in vertical signing:
 - signs inside tunnels should be made of materials with maximum **standard** retro-reflection and be internally or externally permanently illuminated to give optimum conspicuity both in day and in night-time conditions

- materials used both in tunnels and in their advance warning area, should be of the highest level of performance in reflectivity, specified in the national standards of each country, [...]

Horizontal signing (road markings)

- Horizontal delineation should be applied at the roadside edge (edge lines). **The distance should be** between 10 and 20 cm from the carriageway limit. The line should have a width of 30 cm. Centre lines should have a width of a minimum of 15 cm [...].
- In the case of bi-directional tunnels, retro-reflective road studs (“cats eyes”) should be applied on both sides of the median line (single or double) separating the two directions at a distance ranging between 10 and 15 cm from the external edge of each line.

Retro-reflective road studs, following the national legislation concerning their maximum height and dimensions, should be applied every 20 metres, maximum. If the tunnel is in a road curve, this distance should be reduced, up to 8 metres, for the first 10 reflectors from the tunnel entrance.

- Optimum conspicuity high quality retro-reflective materials should be used in horizontal signing:
 - road markings shall be of the highest quality to grant day and night time visibility 24 hours
 - road markings shall deliver the highest possible conspicuity in wet conditions
 - retro-reflective road studs shall be of the highest quality in order to achieve the highest visibility at night.

Signs, panels, pictograms for signing of facilities

A list of possible signs, panels and pictograms to be used for signing of facilities appears in Part A of the following appendix

Variable Message Signs

- In tunnels under surveillance, variable message signs (VMS) should be used at the tunnel entrance, and if possible in advance of it, to display specific messages in the case of an incident in the tunnel or in order to stop the traffic before entering in the case of an emergency
 - In long tunnels, such devices should also be repeated inside the tunnel.
 - [...]
-

Appendix

[...]

(A) Signs, panels, pictograms for signing of facilities

Safety niches

Safety niches are intended to provide various safety equipment, in particular emergency telephones and extinguishers, but are not intended to protect road users from the effects of a fire. Signs should indicate the equipment available to road users, such as:

Emergency telephone



[...]



Extinguisher

[...]

In safety niches, a very legible text, written in several languages should indicate that the safety niche does not ensure protection in case of fire. An example is given below:

**THIS SPACE DOES NOT ENSURE
PROTECTION
IN CASE OF FIRE**

Please go to an emergency exit
following the signs on the walls

Lay-bys

Lay-bys are widenings intended for stopping in emergencies. They should be signed as shown below; a green background colour may also be used; **they must be equipped with a telephone and where necessary an extinguisher [...]** indicated by an additional panel **or the sign itself. [...]**



Emergency exits

The signs to indicate “Emergency exits” should **be indicated as follows [...]**. Their background colour is green. [...]:



It is also necessary to sign the two nearest exits on the sidewalls, about every 50 metres, at a height of 1-1.5 metres. **Their background colour is green.** Examples are presented below:



[...]
