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Working Party on Road Traffic Safety

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REVISION OF THE CONSOLIDATED RESOLUTION ON ROAD TRAFFIC (R.E.1)

Safety in tunnels

Note by the secretariat

Following comments made at the 45th session of WP.1, members of the Working Party will find below the draft revised text on safety in road tunnels prepared by the small group (France, Norway, Switzerland (chair), European Commission, PRI, IRU and secretariat).

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Regulations relating to tunnels to be integrated in the restructured draft of R.E.1

Chapter 2. General rules relating to driving behaviour

2.5 Tunnels (*“tunnel” report TRANS/AC.7/9 (introduction of C.1.1 (principles) and document TRANS/WP.1/2002/28)*)

In-depth analysis of incidents on the roads network shows that an accident is the consequence of one or more faults in a complex system involving drivers, vehicles, the road and its surroundings. However, the principal factor in road accidents is human error, so any effort to increase the level of road safety has to be primarily aimed at the prevention of this type of error as well as on ways to reduce the consequences without however ignoring other factors linked to the infrastructure and to vehicles.

2.5.1 General rules to be observed

Basically, the driving rules that apply in tunnels are the same as those for open roads, i.e. maintaining a safe distance, observing speed limits and maximum loads, thoroughly securing all loads and warning other road users in the event of a breakdown or congestion or severe slowing of traffic. And even more than on open roads, it is recommended that drivers listen to their radio while in tunnels, on the given frequency, so that they are able to receive any message or instruction that concerns them.

2.5.2 Specific rules to be observed

However, there are a number of additional traffic regulations, described below, that apply especially to tunnels.

When driving in a tunnel **indicated by special road signs (E 11 a), it is obligatory to respect the provisions of Article 25 bis of the Vienna Convention on Road Traffic (obligation to switch on passing lamps, prohibition to stop (except in cases of emergency), to make a U-turn or reverse.**

[...]

These rules should also be respected in tunnels not indicated by special road signs.

Moreover, the attention of drivers should be drawn to the fact that, when they are driving in a tunnel, it is imperative to:

- **maintain an adequate distance (or that indicated at the entrance to the tunnel or in the tunnel) from the vehicle in front. In normal conditions, drivers of cars should respect a distance from the vehicle in front at least equal to that which a vehicle can cover in 2 seconds. For heavy vehicles, this distance should be doubled (4 seconds).**

- **and respect the signing and/or road markings prohibiting overtaking. Even in the absence of such markings and/or signing, drivers should, when there is only one lane in each direction, avoid overtaking.**

Moreover, in tunnels with two lanes in each direction, the authorities should carry out a risk analysis to decide whether or not to prohibit drivers of heavy vehicles from overtaking.

2.5.3 Rules for behaviour in special situations

In addition, **drivers should observe** the rules of behaviour described below in the following situations:

- (i) In the event of traffic congestion:
 - Switch on warning lights;
 - Keep sufficient distance from the vehicle in front, even if the traffic is moving slowly **or stopped. When stopped, a distance between vehicles of at least 5m should be kept – except in cases of emergency;**
 - Switch off the engine if traffic is completely stopped;
 - Not leave the vehicle, **unless instructed to do so;**
 - Listen for messages given on the radio.
- (ii) In the event of a breakdown or accident in own vehicle:
 - Switch on warning lights;
 - **If possible, drive to the exit of the tunnel or to the nearest emergency stopping point. If that is not possible:**
 - Switch off the engine;
 - Leave the vehicle;
 - Call for help, **in the first place**, from an emergency point **and follow the instructions given.**

Moreover, it is possible for national legislation to also require the placing of a prewarning triangle and/or the wearing of a safety jacket.

- (iii) In the event of a fire (own vehicle):
 - **Switch on the warning lights;**
 - If possible, drive to the exit of the tunnel **or to the nearest emergency stopping point.** If that is not possible:
 - Pull over to the side;
 - Switch off the engine;
 - Leave the vehicle immediately **with the passengers;**

- Attempt to put out fire using the vehicle's extinguisher or one available in the tunnel; if that is not possible, move away without delay to an emergency exit;
- Call for help, **in the first place**, from an emergency point and **follow the instructions given**.

Moreover, it is possible for national legislation to require the wearing of a safety jacket.

(iv) When stopped by a fire in another vehicle:

- Switch on warning lights;
- Pull over to the side;
- Switch off the engine;
- Leave the vehicle immediately **with the passengers**;
- Attempt to put out the fire using the vehicle's extinguisher or one available in the tunnel; if that is not possible, move away without delay to an emergency exit.

Moreover, it is possible for national legislation to require the wearing of a safety jacket.

See also on this subject recommendations 5.1.1.2, 5.1.2.3 and 5.2.1.3.

Chapter 5 How to influence behaviour on the road

5.1 Education/training

5.1.1 Driving permit

5.1.1.2 Driving in tunnels (*"tunnel" report TRANS/AC.7/9 and document TRANS/WP.1/2002/28, measure 1.02*)

Tests (*theory part*) to obtain a driving permit for all categories of vehicles should include questions specifically concerning the special regulations for tunnels indicated by special road signs (Article 25 bis of the Vienna Convention on Road Traffic) as well as the correct behaviour to assume in particular situations, for example in the event of a vehicle breakdown, congestion, accident or fire in a tunnel (*see recommendations 2.5.1 to 2.5.3*).

5.1.2 Professional instruction (*3.1 and Annexes 4, 5, 6 and 7*)

5.1.2.3 Instruction

- (c) (*"Tunnel" report TRANS/AC.7/9 and document TRANS/WP.1/2002/28, measure 1.05*)

The training of drivers of lorries, coaches and buses should include certain aspects concerning correct behaviour in tunnels. It is also essential that they

possess adequate knowledge of the safety-relevant aspects of their vehicles and equipment. In particular, all **these** drivers should be trained in the correct use of a fire extinguisher. **All these safety aspects should be studied not only during initial training, but also in refresher or retraining courses (at least every five years), which should be encouraged and generalized.**

5.2 Awareness/communication

5.2.1.3 Special case of tunnels (*“Tunnel” report TRANS/AC.7/9 and document TRANS/WP.1/2002/28 (C.1.1 (principles) and measures 1.01 and 1.03)*)

In order to increase user awareness of safety in tunnels, information campaigns should be regularly organized in collaboration with the principal partners involved.

(a) These campaigns should cover the behaviour road users should adopt when approaching and driving through tunnels or when they encounter special situations such as a vehicle breakdown, congestion, an accident or a fire, as well as the safety equipment available in tunnels.

In this regard, the rules to be observed as described in recommendations 2.5.1 to 2.5.3 should be borne in mind.

(b) These campaigns should be effected in particular by means of displays in rest areas before tunnels and at tunnel entrances themselves when the traffic is stopped (for example, at tolls).
