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INLAND TRANSPORT COMMITTEE

Working Party on Road Traffic Safety
(Thirty-fifth session, 3-6 October 2000,
agenda item 3 (d))

**REVISION OF THE CONSOLIDATED RESOLUTIONS ON ROAD TRAFFIC (R.E.1)
AND ON ROAD SIGNS AND SIGNALS (R.E.2)**

Road works signing

Note by the secretariat

1. At its thirty-fourth session (4-7 April 2000), the Working Party considered modifications to the draft recommendation on road works signing and safety proposed by Denmark and the Russian Federation in document TRANS/WP.1/2000/7.
2. The Working Party requested the secretariat to prepare a new draft of the recommendations incorporating those modifications to the extent possible and decided to consider the new draft at its thirty-fifth session.
3. The new draft appears below. New text is shown in bold and text for deletion in square brackets. It is proposed that the recommendation could be placed in a new chapter 3 in the Consolidated Resolution on Road Signs and Signals (R.E.2).
4. However, on certain points, the delegates of Denmark and the Russian Federation offer different approaches to the draft which cannot be resolved by the secretariat and which are presented for a decision by the Working Party. These differing positions are outlined below:

Denmark

5. In chapters 2.1 and 2.2, technical requirements are given. From the Danish point of view these requirements contain too many technical details. As the work in WP.1 primarily concerns legal questions it is proposed that the technical requirements in the two chapters should be deleted and replaced by the following more general statement:

“1.6 Domestic legislation should provide that road signs, markings and additional markings of vehicles should be lighted or equipped with reflective material or reflecting devices, provided that this does not result in road-users being dazzled.”

This proposal is in line with the general rule in the Convention on Road Signs and Signals, Article 7.1.

6. As indicated, it is proposed that the above-mentioned text should be part of chapter 1, “General requirements”. Chapter 2.3 should be renumbered 1.7, and chapter 2 as it now stands would disappear. The following chapters should be renumbered accordingly.

Russian Federation

7. The sense of the recommendation for inclusion in the Consolidated Resolution being that the requirements should be detailed, paragraphs 2.1, 2.2 and 7.1 should be retained in full.

8. Once drafting of the recommendation is complete, it will be necessary to edit the text of R.E.2 recommendation 1.5 to avoid duplication.

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DRAFT RECOMMENDATION FOR ROAD WORKS SIGNING AND SAFETY

1. General requirements

- 1.1. Road signs, horizontal and vertical delineation devices, electrical lighting installations, traffic control devices and protective barriers shall be made of high performance materials, capable of resisting the rough conditions of use on road work zones and be easy to install and remove.
- 1.2. Mobile barriers, fences or guardrails or any other suitable devices shall be used to ensure the safety of the persons working on roads as well as the road users passing through the work zone.
- 1.3. The wearing of safety garments described in Recommendation No. 4.2 of the Consolidated Resolution on Road Traffic (TRANS/SC.1/294/Rev.5) is strongly encouraged on all road work zones.

- 1.4. Vehicles used on road work zones, especially those of a special shape or kind and used for special purposes and in special conditions should be marked [as mentioned in Recommendation 2.4.^{1/} of the Consolidated Resolution on Road Traffic (TRANS/SC.1/294/Rev.4)] with preferably the recommended red and white oblique bands clearly visible in the same way by day and by night.
- 1.5. Slow moving vehicles, in particular those which by construction cannot exceed the speed of 30 km/h, should also be marked with additional rear markings as recommended in the Consolidated Resolution on Road Traffic (Recommendation No. 2.10) in document TRANS/SC.1/294/Rev.5.

(Denmark)

- 1.6. **Domestic legislation should provide that road signs, markings and additional markings of vehicles should be lighted or equipped with reflective material or reflecting devices, provided that this does not result in road users being dazzled.**

(Russian Federation)

- 1.6. **Vehicles to be used for road works shall be equipped with special amber warning lights.**
2. Technical requirements
 - 2.1. The photometric and colorimetric properties of all road signs, markings and additional markings of vehicles should comply with the provisions set out in the International Commission on Illumination (CIE) publication 39-2 (TC-1.6) 1983 "Recommendations for Surface Colours for Visual Signalling".
 - 2.2. The minimum requirements regarding the photometry of retroreflective materials used on road work signs should be those of Class II materials described in the above-mentioned CIE document.
 - 2.3. Damaged material, signs, markings and safety equipment shall be replaced whenever necessary; to this effect, regular inspections shall be carried out during the entire duration of the road works.

^{1/} Recommendation 2.3. "Marking of vehicles of special shapes or kind or used for special purposes and in special conditions", and Recommendation 2.4 "Marking of roads or equipment projecting at the front of vehicles" were deleted from R.E.1 by decision of the Working Party at its twenty-eighth session (TRANS/SC.1/WP.1/56, annex).

3. Advance warning signs

- 3.1. Advance warning that work is in progress on the section of road ahead shall be given by the sign **A,16** with the shape A^a according to the 1968 Convention on Road Signs and Signals and the European Agreement supplementing it.
- 3.2. This sign shall be placed at sufficient distance ahead, allowing drivers to adapt early enough their driving to the particular situation they will encounter.
- 3.3. Any other additional signs, such as speed reduction indications (C,14); narrow carriageway (A,4) **width**, height, [width or] weight **or axle load** restrictions (C,5 - 6 -7- 8); prohibition of overtaking (C,13); indication of lane changes, etc. [shall] **may** be placed in such a way that drivers can clearly distinguish them from other road traffic signs regulating normal traffic conditions.
- 3.4. Should several signs be used at the same time and should they have to be grouped on the same support, not more than two messages at a time shall be shown.

4. On-site road signs

- 4.1. Use of only a certain number of significant road signs should be encouraged. These signs are reproduced in the appendix to this annex.

5. Vertical on-site delineation

- 5.1. All delineation devices should show red and white or red and yellow retroreflective markings in such a way that they have the same aspect by day and by night.
- 5.2. Cones, vertical lane separators, barrels and barriers should have such retroreflective bands to fulfil the requirements in paragraph 5.1.
- 5.3. Electrically illuminated vertical delineators [shall] **may** be used whenever necessary in addition to [those] **the devices** mentioned above.

6. Temporary horizontal markings

- 6.1. To the extent possible, where vertical delineation devices are used on road work zones, temporary horizontal markings should be used to provide continuous visual guidance to drivers under all conditions both by day and at night. The choice of use of horizontal markings should depend on the importance and duration of a road work zone.
- 6.2. Temporary horizontal markings shall be conceived in such a way that road users can clearly distinguish them from any normal horizontal markings which may be left in place. Any normal horizontal markings which could cause confusion should be either erased or blacked out.

- 6.3. If temporary horizontal markings are used they shall be made of materials easily removable and visible by day and by night.
7. Deviation signing
- 7.1. **Signs indicating diversions or detours should have orange or yellow ground with black symbols and inscriptions in accordance with Convention on Road Signs and Signals, Section G, Chapter I, 4.** [Where a road is closed to all vehicles or certain categories of vehicles, and if a detour is required, the signs described in Recommendation 1.5. of the Consolidated Resolution on Road Signs and Signals (R.E.2.) (TRANS/SC.1/295/Rev.3) [should] **shall** be applied.
- 7.2. These signs should be made with either yellow or orange retro-reflective backgrounds as mentioned in paragraph (b) of the recommendation mentioned above.]
8. End of restrictions
- 8.1. All temporary restrictions should always be cancelled at the end of a road work zone.
- 8.2. Should permanent restrictions to traffic prevail **also after** [at] the end of road works, they should be repeated as soon as possible after the above-mentioned sign.
9. Traffic light signals
- 9.1. Traffic light signals used to regulate traffic flow at a road work zone should preferably be of the three light type.
- 9.2. When possible, vehicle detectors should allow for traffic operated regulation, especially in the case of large variations of the traffic flow.
10. Removal of unnecessary restrictions
- 10.1. All unnecessary restrictions, obstacles and barriers to traffic flow on road work zones should be removed when work is not in progress on weekends and public holidays and also at the time of peak traffic if some traffic lanes were closed because of the work.
- 10.2. Only the necessary warning signs and temporary horizontal **markings** and vertical delineation **devices** [markings] should prevail under these conditions.
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Appendix
ROAD SIGNS TO BE USED FOR ROAD WORKS

The signs reproduced below shall be made in such a way that they are fully retro-reflective

1. Danger warning signs



A, 16
[A,15]



A, 4^a



A, 4^b



A, 23
[A,19]



A, 7^a



A, 9
[A,8]



A, 10^a
[A, 9^a]



A, 17^a
[A, 16^a]

2. Prohibitory or restrictive signs



C, 1^a



C, 2



C, 5



C, 6



C, 7



C, 8



C, 13^{aa}

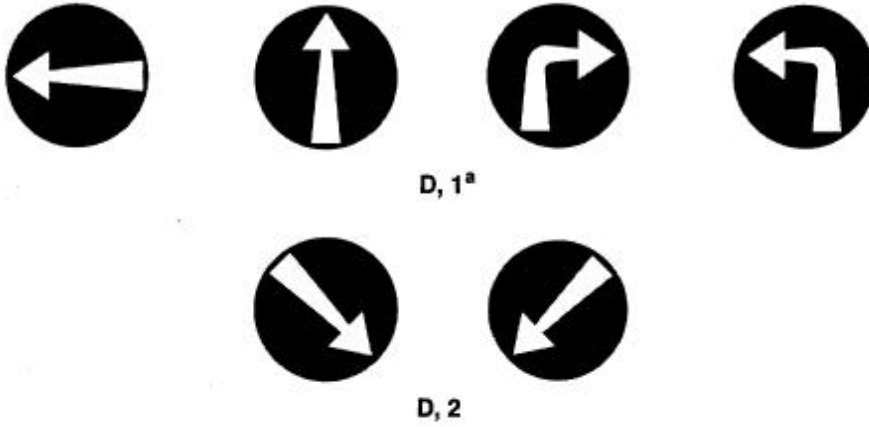


C, 14

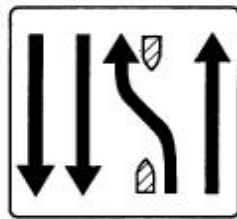




3. Mandatory signs



4. Direction, position or indication [informative] signs



G, 11^c
[G, 1^c]



G, 12^a
[G, 1^a]

5. Signs regulating priority on narrow sections of road



A, 23
[B, 5]



B, 6

