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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on Road Traffic Safety

(Forty-sixth session, 14-16 March 2005,  
agenda item 5 (j))

**REVISION OF THE CONSOLIDATED RESOLUTIONS R.E.1 AND R.E.2**

**Variable message signs (VMS)**

Transmitted by the small group

At its 45th session, the Working Party examined a document prepared by the small group on variable message signs (France, Germany, Netherlands, Spain under the chairmanship of Spain) on the historical evolution of variable message signing, on different attempts at harmonization already undertaken, and on differences in existing systems (TRANS/WP.1/2004/13).

The small group was requested to prepare for the 46<sup>th</sup> session of the Working Party a document outlining what VMS signs are currently in use, what signs should be phased out, what new signs could be introduced, and proposals for distinguishing between danger warning and informative signs.

The small group on variable message signs met in Rotterdam on 9-10 December 2004. Its proposal appears below.

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[A new article on VMS could be inserted in chapter II (maybe article 20 or 22 could be used) of the 1968 Vienna Convention on Road Signs and Signals.]

## 1. Definition

A Variable Message Sign (VMS) is a sign for the purpose of displaying one of a number of messages that may be changed or switched on or off as required.”<sup>i</sup>

## 2. Colour inversion

[Current article, 8, paragraph 1 bis, of the Vienna Convention on Road Signs and Signals could be placed here.]










## 3. List of recommended Vienna Convention signs for use on VMS

[The small group recommends to extend the meaning of the “cyclists entering or crossing” danger warning sign (A-14) to “cyclists on the road”.]

Regulatory	Danger warning	Informative	
		<i>Tactical</i>	<i>Strategic</i>
<i>Restrictive</i> C-1a C-2 C-3e C-10 C-13aa C-13ba C-14 C-17a C-17d <i>Mandatory</i> D-1a D-9	A-4a; A-4b A-5 A-9 A-14 A-16 A-17 A-23 A-24 A-31 A-32	G-17 H-1 H-2 H-5	G-1a G-1b G-1c

## 4. New signs for use on VMS

[Chapter III, article 23, to be added to paragraph 11: “If there is no possibility to show the signals over the traffic lanes, the lane allocation can be shown in one sign.” (see proposal I-1).]

Regulatory	Danger warning	Informative	
		<i>Tactical</i>	<i>Strategic</i>
<i>Mandatory</i> I-1 (lane allocation)  ii	A-33 (pedestrians)  iii A-34 (slippery road – ice or snow)  iv A-35 ( <i>accident</i> ) – see below. A-36 ( <i>fog</i> ) – see below. I-2 (ghost driver)  v	G-24a, G-24b, G-24c, (hard shoulder use)  vi G-25 (road closed)  vii G-26 (exit closed)  viii H-10 (snow machine)  ix H-11 (slow machine)  x	G-23 (rerouting) – see below.

[Some definitions for the new signs and corresponding examples follow:]

## Regulatory signs

### Mandatory

I-1. Regulation of lane allocation [as an alternative to “lane signals” above each lane of a carriageway, proposed in the amendment of the Vienna Convention that entered into force on 30 Nov 1995.]

Example for only left lane open



Any other combinations of crosses and arrows are allowed, even for roads with more than two lanes.

### Danger warning signs

A-33. Pedestrians on the road.



A-34. Danger of slippery road because of ice or snow



Another possibility is the combination of A-9 with the additional panel H-9



A-35. Obstruction due to accident (see below).

A-36. Reduced visibility due to fog, rain or snow (see below).



I-2. Driver coming the wrong way (so-called “ghost driver”).

### Informative signs

*Tactical (i.e. VMS messages affecting the same road section)*

G24a. Temporary hard shoulder availability or unavailability

- G-24a: Use hard shoulder



- G-24b: Stop using hard shoulder



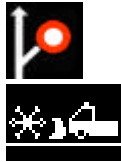
- G-24c: Clearing of hard shoulder



G-25. Road closed ahead - next exit compulsory



G-26. Next exit closed – proceed



H-10. Snow-removing machine operating ahead.









H-11. Slow machine ahead.



*Strategic (i.e. VMS messages affecting other roads)*

G-23. Recommended alternative route (rerouting) – see below.

[The VMS small group asks WP.1 to decide which pictogram to use for fog, accident and rerouting. The following pictograms are proposed:

Bad visibility (fog)				Accident		Rerouting	
							
FOG A	FOG B	FOG C	FOG D	ACCIDENT A	ACCIDENT B	REROUTING A	REROUTING B

[Proposed definitions for the new signs...see above A-35, A-36 and G-23]

## 5. Relation between road situations and road sign classes for VMS

*From danger warning to informative*

In order to differentiate as much as possible danger warning signs, only these should use the red triangle and should be placed on the spot or nearby the VMS (< 2 km).

In order to announce a dangerous situation at some distance (> 2 km) beyond the VMS, informative signs can use the same symbols but in a square, without the red triangle. To make clear the difference between acute danger warning and information on expected danger at some distance ahead, additional information (e.g. distance) is necessary.

*From additional panels to informative*

Some of the symbols used in additional panels can also be used as informative messages (adapting its size to the new dimensions).

## 6. Message content and structure for VMS use

Distinguish between traffic and non-traffic VMS messages.

*Traffic VMS message.*

1. VMS always have full priority, even over static or fixed signs. However, VMS should not replace permanent static signs, and should not be used with permanent messages, unrelated to dynamic situations.
2. When using VMS, always give priority to pictograms over text. The use of specific pictograms instead of generic ones (e.g., a pictogram representing “congestion” instead of general danger A-31) is preferred.
3. Make use of symbols as much as possible in the text part.
4. Avoid alternated messages.
5. Avoid redundancy.
6. Use only well-known and international abbreviations (e.g., ‘KM’ for kilometre, ‘MIN’ for minutes, etc.).
7. Minimize the number of words and symbols (e.g. maximum 7).
8. Regulatory messages have to be shown without any text (except for additional information ‘length’ if necessary).
9. If words are used in danger warning messages, locate the information concerning the prescription or the danger on the first line. Do not give distance and/or length on the second line (it is always nearby < 2 km) and give brief complementary advice on the third line if necessary.
10. If words are used for messages about distant dangerous events (> 2 km), give first the information concerning the nature of the event on the first line, then distance and/or length on the second line, and if useful, complementary information (e.g. advice, cause) on the third line.
11. In the case of strategic rerouting in front of network decision points, it can be useful to divide direction-related traffic information from route recommendation. Then, two separate or alternate panels - one with length, nature of the hazard and location, the other with diverted destination and route recommendation - are possible.

#### *Non-traffic VMS messages*

Non-traffic messages can be divided into neutral messages, general safety messages and other messages.

12. Usually – in case of no necessary traffic message - message boards should be blank.
13. Neutral messages (e.g. dots, time, temperature) are meant to indicate that the VMS is working, but there is no specific traffic message "on"; if considered necessary, it should be very short, at the bottom of the sign so as not to be confused with any real traffic indication.

14. General safety messages (road safety advertisements - e.g. safety campaigns) are generally not recommended, as they could incite drivers not to pay attention to real traffic messages. When used, they should be clearly connected to a temporary general safety campaign. In any case, pictograms should not be used with non-traffic messages.

15. Other messages, e.g. commercial/advertising are excluded.

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### End notes

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- i Definition used by CENTRICO.
  - ii Spanish design (based on traffic lights - crosses and arrows); already implemented.
  - iii Sign already implemented in some national road codes (e.g., Netherlands, Spain).
  - iv Project COST 30 BIS (1985).
  - v Project TROPIC – United Kingdom design (1998).
  - vi G-24 a, b, c: German design; pictogram already implemented in Germany and Netherlands.
  - vii Italian design (after VMS WHITE BOOK, 1991), also adopted by France.
  - viii French design.
  - ix Italian design – additional panel for snow-removing machine.
  - x Italian design – additional panel indicating the presence of a heavy vehicle on the road.
  - xi Project TROPIC – French design for fog (1998).
  - xii Project TROPIC – French design for fog (1998).
  - xiii Project TROPIC – French design for fog (1998).
  - xiv Project COST30 BIS (1985); also tested by Project TROPIC (1998).
  - xv Project COST30 BIS (1985).
  - xvi Project TROPIC – French design (1998).
  - xvii CENTRICO (2000). Note that the pictogram design permits pointing in any direction (within a square).
  - xviii Project COST 30 bis (1985). Pictogram implemented in Germany.