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**Economic Commission for Europe****Inland Transport Committee****Working Party on Road Traffic Safety****Sixty-fourth session**

Geneva, 24-27 September 2012

Item 6(a) of the provisional agenda

**Convention on Road Signs and Signals (1968):****Amendment Proposal on Variable Message Signs****Proposal from the informal Expert Group on Variable  
Message Signs to the Working Party on Road Traffic Safety****Addendum****Note by the secretariat\*****I. Introduction and mandate**

1. At its sixty-second session, the Working Party on Road Traffic Safety requested the informal expert group on Variable Message Signs (VMS) to issue a specific proposal amending the 1968 Convention on Road Signs and Signals, so that VMS are appropriately considered.
2. The Working Party at its sixty-third session was informed about the progress made by the informal VMS expert group which presented a proposal amending the 1968 Convention on Road Signs and Signals to include Variable Message Signs (ECE/TRANS/WP.1/2012/1). The Working Party requested the secretariat to modify ECE/TRANS/WP.1/2012/1 by embedding the proposals into the relevant parts of the Convention. The present revised ECE/TRANS/WP.1/2012/1/Rev.1 will be tabled for consideration by the Working Party.

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\* In accordance with the programme of work of the Inland Transport Committee for 2012–2013 (ECE/TRANS/2012/9, cluster C, page 9) the Working Party on Road Traffic Safety (WP.1) examines matters and adopts measures aimed at improving Road Traffic Safety. The present document is submitted in conformity with that mandate.

3. The modifications to the existing text of the Convention are marked in bold for new or strikethrough for deleted characters.

4. Annex I contains the explanatory notes provided by the VMS expert group for each proposal. Annex II contains comments by the secretariat, on further consideration for some of the proposals.

## II. Proposed amendments to the 1968 Convention on Road Signs and Signals

### A. Chapter I, General Provisions, Article 1, Definitions

(w) A Variable Message Sign (VMS) is a sign for the purpose of displaying one of a number of inscriptions and symbols that may be changed or switched on or off as required.

Note by the secretariat: The VMS expert group proposes this definition as a slight rewording of the definition in R.E.2. However the VMS expert group also agrees with using the R.E.2 definition unaltered, if it is the preference of the Working Party.

### B. Chapter II, Road Signs, Article 8

1.ter

Variable Message Signs should only be used for managing temporary events. Issues which require long-term use in a static location should always be shown on permanent (fixed) road signs.

### C. Annex 1, Road Signs, Section E, Special Regulation Signs, sub-Section II, Descriptions point 1, Signs indicating a regulation or danger warning applying to one or more traffic lanes

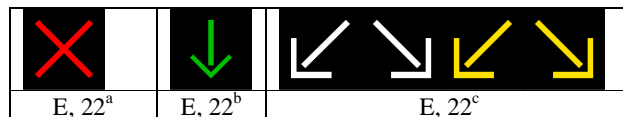
(iv) E, 22a “Traffic may not proceed along the lane over which it is placed.”

(v) E, 22b “Traffic may proceed along the lane over which it is placed.”

(vi) E, 22c “The lane is about to be closed to traffic and the road users on that lane must move over to the lane indicated by the arrow.”

### D. Annex 3, “E” Signs

Add:



## **E. Chapter II, Road Signs**

### **Article 8. bis**

- 1. When used, pictograms should always provide the main unit of information in any VMS message.**
- 2. When a VMS has such a capability, graphical elements (pictograms, symbols) should always be used as much as possible to replace the need for text.**
- 3. If used, a regulatory pictogram/symbol should not require any supporting text to be clearly understood by road users**
- 4. Danger warning messages (using the red triangle) should generally not be used when the dangerous spot or stretch of road is far from the VMS (for instance, more than 5 km). When using words in danger warning messages, place the information about the nature of the danger first and then brief complementary advice can be added.**
- 5. When a VMS is used to inform about a situation at some distance (for instance, 5 km or more) or in the future (e.g. expected road works), additional information (e.g. distance, or respectively an indication of date and time) is necessary. The recommended order of the message is the following:**
  - (i) Information about the nature of the event;**
  - (ii) Distance and/or time indication;**
  - (iii) Additional information (e.g. advice, cause).**
- 6. VMS should not display scrolling, alternating or sequential messages.**
- 7. The meaning of a pictogram, should not also be shown in text in a VMS message, unless required to educate drivers as to the meaning of a new pictogram.**
- 8. Use only well-known and international abbreviations (e.g., 'km' for kilometre, 'min' for minutes, etc.).**
- 9. To ensure they are safe for drivers to read, VMS messages should contain no more than 4 units of information.**
- 10. A VMS should be blank when no traffic related messages have to be displayed. An exception could be the display of dots or the time to indicate that the VMS is working.**
- 11. Commercial/advertising messages are not permitted.**

Note by the secretariat: The new article is a slightly re-worded version of section 5.3.2.1 in R.E.2.

## Annex I

### A. Explanatory notes by the VMS expert group concerning the amendment to article 1, addition of point (w) and to article 8, addition of paragraph 1.ter

1. After discussion, the VMS Expert Group members agree on the convenience of not defining the different signs in the Convention (i.e. road markings, road signs, and traffic signs). Definitions create certain boundaries that then can be difficult to manage.
2. One exception, however, concerns the definition of VMS themselves. VMS are complex signs that combine and change pictograms, alphanumeric, words, abbreviations, and the like. Fixed signs, once placed, remain there and can be easily subject to criticism (and in fact are). Such signs, equal for all, can even be built up by a unique agency and then distributed. But VMS are so flexible, go on and off, are used by different hands... and some basic structural rules are recommendable because otherwise the “anything goes” can become practice within the different Traffic Control Centers. So, to begin with, if we are to apply certain rules to certain type of road signs, we must define which ones. These rules only apply to VMS actually. And variable signs can be opposed to fixed signs quite clearly.
3. This definition is based on the following rationale. Contrary to the past, in our days the category of what we call “road sign” is not adequately represented just by fixed signs. **Variable Message Signs** are also road signs.
4. One should realise that the specific context in which road signs are presented to drivers has an influence on the driver’s interpretation of such signs and on the subsequent actions taken by them. Two specific contexts are of relevance here due to its direct influence upon road sign comprehension:
  - (a) The referent (reality) represented by the sign itself. One clear example is the danger warning signs concerning wind, congestion or snow, i.e. variable situations. When drivers on a trip to the mountains see fixed signs indicating the possibility of dangerous spots in August, or when they go home and are informed about the possibility of a congested section in a quiet Saturday afternoon, they understand such signs are placed there for other moments and don’t react to them as if it was January or Monday morning. The very same sign has not the same meaning in very different contexts according to the nature of the sign itself;
  - (b) Not all road signs have the same status in terms of the link to present (current, real-time) reality. Fixed signs presented to drivers are not always and exactly interpreted and reacted upon in the same way as road signs presented in variable format. A classic example is the swing bridge danger warning sign. When presented in fixed format, such a sign indicates to drivers that they drive towards a swing bridge that may be open or closed (i.e., may be dangerous or not). When present in variable format, such sign indicates drivers that they drive towards an opened swing bridge, dangerous in real-time.
5. The statement proposed for the new clause 1.ter of Article 8, should prevent from massive VMS use (variable signs “becoming static”), as this practice hinders VMS functionality and effectiveness.

## **B. Explanatory notes by the VMS expert group concerning the amendment to Annex 1 and Annex 3 (signs E,22 a,b,c)**

6. Originally, lane control devices were made as a special sort of traffic light signals, with the use of traffic light lenses. Later, when lane control became more popular, matrix signs (VMS) were used; first with crosses and arrows only, later also using speed limits over the "free" lanes.

7. The use of combinations like these means that crosses and arrows are now legally "traffic lights", while the signs shown on adjacent lanes are legally "traffic signs", while in reality we are looking at one system. This is creating two different legal meanings for actually the same signs.

8. In this way, nothing changes in the 1968 Convention, paragraphs don't move (traffic light signals are still so), but crosses and arrows are also given the status of signs that can then be combined with other signs (as many signs do). Crosses and arrows are, as content, valuable information to combine, full road signs.

## **C. Explanatory notes by the VMS expert group concerning the addition of a new article (8.bis)**

9. Rule 9. Units of information: a more appropriate term for VMS that can display pictograms, alphanumeric, abbreviations, words...

10. VMS display pictograms, abstract signs, numbers, words (e.g. descriptors, a toponym) and abbreviations forming information units. An information unit may be described as the answer we obtain for a question that is meaningful to drivers [3, 4]. For example, if I ask to myself "What happens?" or "What should I do?" the first question could be answered with "congestion" or "wind" and the second could be answered with "slow down" or "take exit A-23". An information unit may be made by one or several words or pictograms. In order to ensure intelligibility, information units are normally placed in the same line on the VMS, thus helping a coherent read.

## Annex II

### Comments and considerations by the secretariat

#### A. General Comments

1. These amendment proposals, in accordance with the Convention, may be tabled only by Contracting Parties to the Convention. As Spain is currently a signatory but has not ratified the Convention, it is not considered a Contracting Party. Therefore, these amendments cannot be considered by the Working Party as having been tabled by the Government of Spain. While the Working Party may consider these proposals, they should be tabled by a country that has ratified the Convention in order to be endorsed.

#### B. Wording

2. The wording in all proposals may need to be reconsidered, to ensure both technical and legal clarity, and also for the purpose of maintaining consistency throughout the text. Some terms and expressions are not ideal for use in a legal text. The secretariat recommends that all proposals are re-visited for appropriate legal wording.

Some examples:

The proposed new article 8 paragraph 1ter:

“Variable Message Signs **should shall** only be used for ~~managing temporary events~~  
**as a temporary measure** {..}

The proposed new article 8bis, paragraph 1:

“When used, **pictograms** should always provide the main **unit of information** in any VMS **message**.”

3. The words in bold create a consistency problem. The word “pictogram” is not used or defined anywhere in the convention. In the proposed definition of VMS (new point (w) in article 1), the terms used are “inscriptions and symbols”. The word pictogram will either have to be defined, or replaced by wording consistent with the definition.

4. The same applies with the term “unit of information”. This is a technical term, which is not mentioned or defined in the Convention.

5. Furthermore, the VMS expert group has proposed that in the definition of VMS (new point (w), article 1), the word “messages” is replaced by “inscriptions and symbols.” It is therefore inconsistent to use the word “message” in other parts. The introduction of the term “inscriptions and symbols” also means that VMS will have to conform to the applicable rules on inscriptions and symbols as reflected in the Convention.

#### C. Fixed and Variable Signs

6. It is useful to differentiate fixed from variable signs, as one is for regular and long term use and the other is for temporary or emergency use. However, fixed/permanent signs are not defined anywhere in the Convention. As a result, if the term “fixed” is used in the new article 8 paragraph. 1ter, then this term has to also be defined.

For example:

“Issues which require long-term use in a static location should always be shown on permanent (fixed) road signs”

#### **D. The double function of crosses and arrows as lights and as VMS**

7. According to article 23, point 11 (a) and (b), crosses and arrows signalling lane availability are considered traffic lights. This allows crosses and arrows to be used on a long term basis, like signs.

8. The VMS expert group proposes to insert them into Annexes 1 and 3 of the Convention as signs, without modifying their original function as lights in article 23. It appears that there is no real value added with such a modification, as article 23 already provides the possibility of the use of crosses and arrows on a long term basis – even under the title of lights. Having crosses and arrows both as signs and as lights will likely be a confusing development. If the Working Party wishes to convert crosses and arrows into a sign, it may be that they should be removed from article 23 as lights.

9. In addition if crosses and arrows are lights or signs, then they will not be considered VMS under article 1 point (w) and under the new article 8 paragraph 1.ter which specifies the temporary nature of VMS.

10. Finally, no other VMS symbols were proposed for insertion to the Convention. All signs that may be used for VMS remain in R.E.2 and are thus non-binding recommendations. This implies that all signs in the Convention may potentially be illustrated as VMS. Is this something that Contracting Parties agree to?

#### **E. Numbering and location of pictograms**

11. It is proposed to insert the pictograms of arrows and crosses into Annex 1 and Annex 3 of the Convention. The pictograms are numbered as E, 22 (a), (b) and (c), following the relevant numbering in R.E.2. However in the Convention, “E” signs are numbered from E, 1(a) to E, 18(b). It is therefore confusing to add a set of “E, 22” signs. If they are to be inserted, they should be placed consistently with the Convention’s numbering. As a result they can either take the number E, 1 (d), (e) and (f) and be placed with other signs indicating lanes, or they can be added at the end of the “E” sign section as E, 19 (a), (b) and (c).

12. The location proposed presents some further noteworthy complications. If these pictograms are to be considered signs and placed alongside other signs in the Annexes, then they will not be considered VMS. As mentioned above, then they will be intended for permanent use, unlike other VMS that are intended for temporary use. If this is the intention of Contracting Parties, then the numbering is the only recommended change to the proposal. However, if the Convention defines VMS, introduces rules on their use and appearance but has no VMS section in the Annex, then this may be cause for concern. All signs that may be used for VMS are included in R.E.2. Perhaps there would be merit in introducing a VMS sub-section in Annex 3 under the title “Signs that may be used as VMS”, while leaving crosses and arrows separately as signs and/or lights.