Economic Commission for Europe

Inland Transport Committee

Working Party on Road Traffic Safety

Group of Experts on Road Signs and Signals

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Programme of Work

Electronic Convention on Road Signs and Signals (e-CoRSS)

Note by the secretariat

This document contains, following a request by the Group of Experts on Road Signs and Signals at their 6th session, a secretariat proposal with costs estimate for developing an e-CoRSS (i.e. electronic Convention on Road Signs and Signals) which is internet-based, interactive and searchable. The proposal is presented to the Group of Experts for their consideration, feedback and possible action.

I. Introduction

1. The availability of the 1968 Convention on Road Signs and Signals and its 1971 European Agreement Supplementing the Convention (Agreement) in an electronic, interactive format – one that is also searchable, which displays images and descriptions of Convention/Agreement signs in a user friendly-way, allows adjusting relevant sign models for national use, and makes signs used in Convention's/Agreement's Contracting Parties publicly available – is advantageous in many ways. In particular, it facilitates using and comprehending the Convention by anybody, without the need to constantly move between the Convention's Annex 3 (reproduction of signs), Annex 1 (sign's definitions), the text of the Convention and of the Agreement.

2. An important benefit of developing an electronic, interactive format of the Convention – one in which the images of signs are displayed together with their definitions and other references as contained in the Convention or its Agreement – would be the identification of all the instances in the Convention or Agreement that could be elaborated or otherwise adjusted to improve the Convention's/Agreement's readability and comprehension. As new signs are agreed upon to be added to the Convention's sign system, e-CoRSS could immediately accommodate them.

II. Actions necessary to design and implement e-CoRSS

A. The development of e-CoRRS requires that every Convention's sign, as defined by the Convention is reproduced as image and assigned its specific number-code. This is currently not the case in the Convention (see observation 1 of ECE/TRANS/WP.1/GE.2/2016/1).
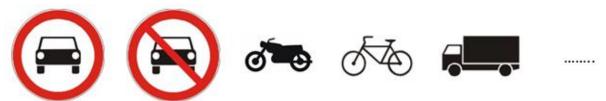
Actions needed:

A.1. Develop a new sign number-coding system for the Convention that would be flexible for adding new signs in the future. Number coding is to be specific not only to signs, its alternative models (see observation 2 of ECE/TRANS/WP.1/GE.2/2016/1) but also to symbols used on multiple signs and for modifiable signs. It further needs to be consistent for 'end of regulation' signs (see observation 4 of ECE/TRANS/WP.1/GE.2/2016/1). This will have no implications on national legislations/regulations as Contracting Parties do not use the Convention's coding system preferring developing their own.

A.2. Reproduce images for all signs as defined by the Convention in a vector format (ie. high resolution) and when doing so make necessary adjustments in design as recommended by the Group of Experts on Road Signs and Signals during the sign review and as related to observation 3 of ECE/TRANS/WP.1/GE.2/2016/1.

B. The development of e-CoRSS would allow making it possible to construct interchangeable/superimposable signs/or symbols for signs provided in the current Convention's system as examples. e-CoRRS will thus allow to construct a specific sign, whether a specific speed limit or zonal or direction sign (see observation 1 of ECE/TRANS/WP.1/GE.2/2016/1).
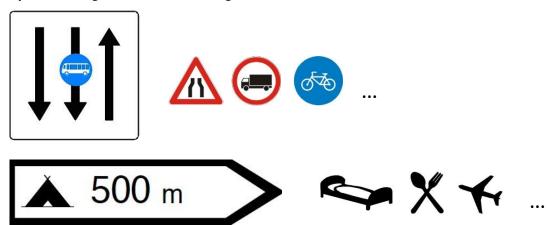
Actions needed:

B.1. Group all modifiable signs in the following clusters:

    (i)   signs incorporating changeable inscription;
    (ii)   signs with interchangeable symbols, and;

(iii)   signs incorporating other signs and symbols.

B.2.   For the signs with interchangeable symbols, prepare for each sign a list of symbols to be used in those signs.

B.3.   For the signs incorporating other signs and symbols, prepare for each sign a list of symbols and signs to be used in those signs.

C.   The development of e-CoRRS requires that every Convention sign is associated with its Convention's definition and all relevant references in the Convention/Agreement. When necessary, for clarity and completeness, a proposal for revising the definition or references or adding information supporting the clarity and usefulness of the sign should be made.

Actions needed:

C.1.   Create sign tables associating every sign as per its number code with its definition and all references.

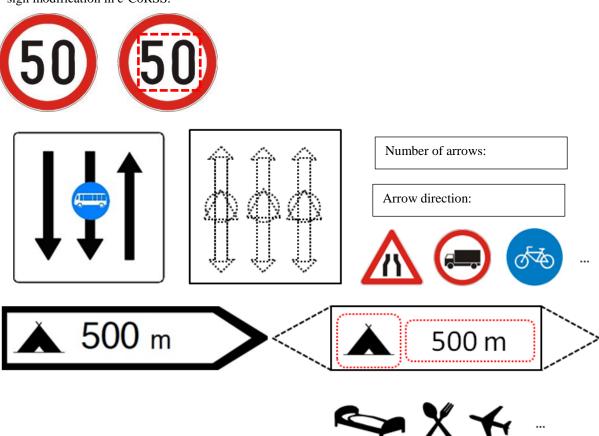| Number-code	Image	Definition	References
….	….	….	….

C.2.   Prepare necessary definition elaborations or clarifications or add other information on a sign. Present them in a way showing the necessary amendments to the Convention/Agreement.

Number-code	Image	Definition and its **adjustments**	References and its **adjustments**
….	….	….	….

D.   The development of e-CoRRS requires that the electronic platform be developed.

Actions needed:

D.1.   Develop an electronic platform with all necessary technical solutions, including sign search and display features. This will include developing various sign search filters; access icons to signs classes/subclasses, search capability using for example full/partial number code of sign/symbol.

D.2.   Identify the best technical solutions and implement them (design of templates) for sign modification in e-CoRSS.

D.3.   Incorporate the existing UNECE Road Sign Management System into e-CoRSS, which is to be managed by Contracting Parties' nominated focal points granted password restricted access to E-CoRSS for uploading, changing or deleting national records in e-CoRSS. This will include assistance to uploading a relevant format sign images to e-CoRSS.

D.4.   Test and adjust the electronic platform.

E.   The development of e-CoRRS makes it possible to improve the Convention by adding signs that over time got developed by Convention's Contracting Parties for complementing its national signs systems (see observations for subclasses of ECE/TRANS/WP.1/GE.2/2016/1).

Actions needed:

E.1.   Identify the signs, agree on their standard, preferred images and definitions. This will include designing sign images and prepare their definitions and references in the Convention.

E.2.   Upload the new signs, their definitions and references into e-CoRSS.

E.3.   Assist in uploading national signs to e-CoRSS corresponding to the new signs.

III.   Phases of e-CoRSS implementation

3.   The e-CoRSS implementation needs to be done in phases, over time and in logical sequences. Certain actions – for example adding new signs – should only be undertaken when there is a common agreement for such an action.

4.   The e-CoRSS could be implemented in three main phases and one additional phase as specified below. The implementation time for phase I-III is estimated to last eight months. The implementation of additional phase is estimated at four months. The additional phase can start at the same time as or during phase III if agreed.

	Phase I	*Phase II*	*Phase III*	*Additional phase*
Actions	A.1.			
	A.2.	A.2.		
	B.1.	B.2.		
		B.3.		
		C.1.		
		C.2.	D.1.	
			D.2.	
			D.3.	
			D.4.	E.1.
				E.2.
				E.3.
Timelines	1 month	2 months	5 months	4 months

IV.   Budget for e-CoRSS development

5.   The e-CoRSS development necessitates IT specialists, graphic designers and sign experts working under the lead of the UNECE secretariat in consultation with the Group of Experts on Road Signs and Signals.

6.   The following costs are estimated.

Action	Rates	Sub-totals in US$
A.1.	One month at US$ 10 000	10 000
A.2.	400 signs for vector format at US$ 30	
	50 signs/symbols redesign at US$ 100	17 000
B.1., B.2., B.3.	One month at US$ 10 000	10 000
C.1., C.2.	Two months at US$ 10 000 per month	20 000
D.1., D.2.	Three months at US$ 15 000 per month	45 000
D.3.	One month at US$ 10 000 (IT)	
	Two months at US$ 4 000 per month (assistance)	18 000
D.4.	One month at US$ 10 000	10 000
E.1.	100 signs design at US$ 100 per sign (includes redesign of initial design)	10 000
E.2.	1 month technical work at US$ 10 000 (IT)	10 000
E.3	Two months at US$ 4 000 per month (assistance)	8 000
	Total	158 000
	Miscellaneous (7.5% of total)	12 000
	Total estimated costs	**170 000**

7.   The e-CoRSS development is expected to cost about US$ 170 000.

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