EGRSS. WP.1

VMS
Issues concerning the possible enlargement of the 1968 Convention due to the advent of electronic road signage

Position 1: worrying about it is unnecessary

Position 2: anticipating solutions for some likely problems is necessary

Conclusion

Hybrid-VMS
Departure point

Wind…
Bad visibility…
…
Dangerous bend…
Departure point

Envisage the 1968 Convention as a book of road signs with core, basic meanings…

… that are nuanced by the specific context and the infrastructures displaying signs.
Position 1: there’s no need to worry about specificities brought by electronic signage to the 1968 Convention

1. Because human (drivers) are able of inference

2. Because the paint coat outperforms any electronic matrix
Position 1: there’s no need to worry about specificities brought by electronic signage to the 1968 Convention

- Thought for the very good graphical nuances that paint makes possible, the collection of shapes, borders, rims, silhouettes, inscriptions, figures, panels, currently present in the 1968 Convention catalogue will surely satisfy the visual and representational needs of any coming electronic sign

- The 1968 Convention counts with a sufficient graphical richness to be sure
Position 2: anticipating solutions for some likely problems is necessary

New display technologies introduce three basic needs:

1. The need for new contents (signs and symbols) demanded by electronic signage in particular
2. The need to know specifically how to turn complex signs on the 1968 Convention into signs that make sense for electronic signage
3. The need to determine the way different and differing reading schemes should be displayed simultaneously
First need: new contents demanded by electronic signage

**Annex IX**: recommended signs of the Vienna Convention for use on VMS

**Annex X**: new signs for use on VMS
First need: new contents demanded by electronic signage
Second need: the need to know how to turn current complex signs into e-signs

**Annex IX**: recommended signs of the Vienna Convention for use on VMS

**Annex X**: new signs for use on VMS
Second need: the need to know how to turn current complex signs into e-signs

Consider the 1995 amendment of the 1968 Convention (p. 51):

- “NOTE: Advance direction signs G, 1 may bear the symbols used on other signs informing road users of the characteristics of the route or of traffic conditions (for example: signs A, 2; A, 5; C, 3e; C, 6; E, 5a; F, 2).”

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<tr>
<td></td>
<td>A, 2a</td>
<td>A, 5</td>
<td>C, 6</td>
<td>E, 5a</td>
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G, \(1^c\) as model for e-signs: stack signs

<table>
<thead>
<tr>
<th></th>
<th>G, (1^c)</th>
<th>G, (1^c) plus variable elements</th>
<th>G, (1^c) (no numbers) plus variable elements</th>
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<tbody>
<tr>
<td></td>
<td><strong>Stack signs: top-down or bottom up?</strong></td>
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<td>Example in the 1968 Convention (p. 101)</td>
<td>![Stack signs: top-down or bottom up?]</td>
<td>![G, (1^c) plus variable elements stack signs]</td>
<td>![G, (1^c) (no numbers) plus variable elements stack signs]</td>
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<td><img src="image" alt="Northchurch 1 1/2 Wiggington 4" /></td>
<td><img src="image" alt="Wiggington 4 Northchurch 1 1/2" /></td>
<td><img src="image" alt="Northchurch 4" /></td>
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<tr>
<td></td>
<td><img src="image" alt="Chesham 5" /></td>
<td><img src="image" alt="Northchurch 1 1/2" /></td>
<td><img src="image" alt="Chesham" /></td>
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<tr>
<td></td>
<td><img src="image" alt="Potten End 2 Gaddesden 3 1/2 Ashridge 4" /></td>
<td><img src="image" alt="Wiggington 4" /></td>
<td><img src="image" alt="Potten End 2 Gaddesden 3 1/2 Ashridge 4" /></td>
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**Stack signs:**
- Top-down or bottom up?
G, 1° as model for e-signs: stack signs

**Poor e-signs: Hybrid-VMS. What to do?**

<table>
<thead>
<tr>
<th>G, 1°</th>
<th>G, 1° to variable event (full matrix)</th>
<th>G, 1° to variable event (hybrid)</th>
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<tbody>
<tr>
<td><img src="image1" alt="Northchurch Wiggington" /></td>
<td><img src="image2" alt="Northchurch Wiggington" /></td>
<td><img src="image3" alt="NORTHCHURCH WIGGINGTON" /></td>
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<tr>
<td><img src="image4" alt="Wiggington Northchurch" /></td>
<td><img src="image5" alt="Wiggington Northchurch" /></td>
<td><img src="image6" alt="WIGGINGTON NORTHCHURCH" /></td>
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<table>
<thead>
<tr>
<th>Verbal reading pattern</th>
<th>Event before/towards city</th>
<th>Event between cities</th>
<th>Event after city</th>
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</thead>
<tbody>
<tr>
<td><img src="image7" alt="NORTHCHURCH 1°₂" /></td>
<td><img src="image8" alt="NORTHCHURCH 1°₂" /></td>
<td><img src="image9" alt="NORTHCHURCH 1°₂" /></td>
<td><img src="image10" alt="WIGGINGTON 4" /></td>
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<tr>
<td><img src="image11" alt="NORTHCHURCH 1°₂" /></td>
<td><img src="image12" alt="WIGGINGTON 4" /></td>
<td><img src="image13" alt="WIGGINGTON 4" /></td>
<td><img src="image14" alt="NORTHCHURCH 1°₂" /></td>
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</table>
G, 1\(^a\); G, 1\(^b\) as model for e-signs: diagrammatic signs

<table>
<thead>
<tr>
<th>G, 1(^b)</th>
<th>G, 1(^b) plus variable elements</th>
<th>G, 1(^b) other diagrams</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
<td><img src="image3.png" alt="Diagram" /></td>
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| Example in the 1968 Convention (p. 101) | Hypothetical example for before, between and after | Hypothetical example for *towards Napoli* |

“NOTE: Advance direction signs G, 1 may bear the symbols used on other signs informing road users of the characteristics of the route or of traffic conditions (for example: signs A, 2; A, 5; C, 3e; C, 6; E, 5a; F, 2).”
Third need: how should different and differing reading schemes be simultaneously displayed?
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This way?
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This way?
Conclusion

1. Making explicit differences between signs within the 1968 Convention considering to their final use (as fixed, as electronic) is not actually necessary.

2. However, are there better and worse ways to make new e-signs grow within the 1968 Convention?

3. Clearly, not the elementary or simple signs, but the better way to build up new complex road signs is the current challenge for the 1968 Convention.
Conclusion

There are at least three types of complex situations when using electronic signs:

1. Qualitative location (analyzed in this document): events going on towards, between, after certain locations (Advance Location Signs). This is pretty clear now
2. Rerouting and detour (there are different types of it)
3. Strategic management: telling drivers in one road what goes on in a adjacent or near road

Analytical and empirical efforts should so be pursued