The VMS Unit: Work Plan

Alberto Arbaiza (DGT, Spain)
Chair of the Small Group on VMS
Antonio Lucas (DGT-UVEG, Spain)
Secretariat
# CONTENTS

<table>
<thead>
<tr>
<th>INTRODUCTION</th>
<th>WAY FORWARD</th>
<th>REASONS FOR 3 AXIS</th>
<th>CONCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road markings</td>
<td>P vs. VMS: comprehension</td>
<td>P vs. VMS: visual</td>
<td>Work Plan sketch</td>
</tr>
<tr>
<td>Posted signs</td>
<td>P vs. VMS: design</td>
<td>P vs. VMS: parameters</td>
<td></td>
</tr>
<tr>
<td>Electronic signs</td>
<td>Full matrix</td>
<td>VMS transfer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Geneva, UNECE WP.1, 23 March 2010
INTRODUCTION – VMS Unit background
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: A BROADER VIEW IS NEEDED

Making road networks safer and more efficient public spaces worldwide
WHAT KIND OF DESIGN?

1. COMPONENTS
2. CONTACT
3. INFORMATION
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: A BROADER VIEW IS NEEDED

flexible, essential tool

mobility

safety
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION:

CLASSICAL, AGE OF CONVENTIONS (1909-1968)
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: NEW DEVICES, MORE PLACES

Number of cars in the world

- 1900
- 1950
- 2000

Geneva, UNECE WP.1, 23 March 2010

number of cars in the world (x 100000)
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: TELEMATIC AGE, FIRST APPLICATIONS
<table>
<thead>
<tr>
<th>ROAD MARKINGS</th>
<th>POSTED SIGNS</th>
<th>POSTED VMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO FACILITATE POSITION, TRACKING and LOCATION ON THE ROAD</td>
<td>TO POINT TO DANGEROUS OR STRUCTURAL STABLE CONDITIONS OF THE ROAD ON SITE</td>
<td>TO WARN / INFORM ABOUT DIFFERENT CHANGING ROAD / TRAFFIC EVENTS ON AND OFF SITE</td>
</tr>
</tbody>
</table>
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: NEW DEVICES, MORE PLACES
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: NEW DEVICES, MORE PLACES
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: NEW DEVICES, MORE PLACES
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: NEW DEVICES, MORE PLACES

Geneva, UNECE WP.1, 23March2010
### USE OF INFORMATION: WHY

<table>
<thead>
<tr>
<th>ROAD MARKINGS</th>
<th>POSTED SIGNS</th>
<th>POSTED VMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO FACILITATE POSITION, TRACKING AND LOCATION ON THE ROAD</td>
<td>TO POINT TO DANGEROUS OR STRUCTURAL STABLE CONDITIONS OF THE ROAD ON SITE</td>
<td>TO WARN / INFORM ABOUT DIFFERENT CHANGING ROAD / TRAFFIC EVENTS ON AND OFF SITE</td>
</tr>
</tbody>
</table>
USE OF INFORMATION: ONCOMING

IN-VEHICLE

› TO Warn / INFORM ABOUT WHATEVER TRAFFIC INFORMATION, AT WHATEVER POINT OR MOMENT

INTERNET

› TO ACTIVELY SEEK INFORMATION ABOUT WHATEVER TRAFFIC RELATED ISSUE, AT WHATEVER PLACE OR MOMENT
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: A CHANGING LANDSCAPE

from permanent to temporary
from static to Variable, ubiquitous
from one-dimensional to multidimensional
from passive to proactive
RELATIVE **IMPACT** OF INFORMATION DEPENDS ON...

- PERCEPTION
- COMPREHENSION
- INFLUENCE
Why?

ISSUES AND PROBLEMS

OUR PREVIOUS THOUGHTS

KEY POINTS IN
TRAFFIC SIGNS = PUBLIC INFORMATION CONCERNING TRAFFIC

TRAFFIC SIGNS = POSTED SIGNS & AND ROAD MARKINGS

POSTED SIGNS & ROAD MARKINGS = THE ONLY PUBLIC INFORMATION ON ROAD

NOT SINCE THE 1980s
ISSUES AND PROBLEMS

KEY POINTS IN OUR PREVIOUS THOUGHTS:

SYLLOGISMS

POSTED SIGNS HAVE LEGAL IMPLICATIONS

LEGAL IMPLICATIONS ARE IMPORTANT

POSTED SIGNS ARE IMPORTANT

VMS HAVE NOT LEGAL IMPLICATIONS

VMS ARE NOT IMPORTANT

CONCLUSION: WE (WP.1) ONLY DEAL WITH SIGNS (TRAFFIC INFORMATION) THAT EITHER INVOLVE OR CAN BE SUSCRIBED BY LEGAL AGREEMENTS...
VMS Unit: THE PERSPECTIVE

ROAD INFORMATION: A BROADER VIEW IS NEEDED

Making road networks safer and more efficient public spaces worldwide

Geneva, UNECE WP.1, 23March2010
New devices exist that allow for ubiquitous access to information. Can we ignore them? At what price?
OUR MISSION? OUR WORRY:

- THOSE (NEW) DEVICES SHOULD DISPLAY APPROPRIATE INFORMATION (INTERNATIONAL, UNDERSTANDABLE) FOLLOWING WP.1 DESIGN PRINCIPLES AND STYLE (FORMAT, FUNCTIONS, INFORMATIVE ELEMENTS)

- THAT PROBLEM SHOULD BE SOMEHOW MANAGED BY US

- ...AT SOME POINT IT WILL HAVE LEGAL IMPLICATIONS...
CONTENTS

INTRODUCTION

WAY FORWARD

REASONS FOR 3 AXIS

CONCLUSION

Road markings
Posted signs
Electronic signs

P vs. VMS: comprehension
P vs. VMS: Visual
P vs. VMS: design
parameters
Full matrix
VMS transfer
P vs. VMS: harmonisation

Work Plan sketch
WAY FORWARD: A PROGRESSIVE SCENARIO

RE-ESTRUCTURE 1968 CONVENTION ON ROAD SIGNS AND SIGNALS

ROAD MARKINGS
POSTED SIGNS
ELECTRONIC SIGNS

Geneva, UNECE WP.1, 23March2010
Way Forward: A Progressive Scenario

- Electronic signs (e-signs)
  - Traffic lights
  - Traffic signals
  - VMS
  - In-vehicle devices
    - OBU
    - Navigators
    - Nomadic
  - Off-the-road
    - Road kiosks
    - Internet

Geneva, UNECE WP.1, 23 March 2010
WAY FORWARD: A PROGRESSIVE SCENARIO

THE FUTURE IS NOW: RE-ESTRUCTURE 1968 CONVENTION

- ROAD MARKINGS
- POSTED SIGNS
- E-SIGNS
PRESENT: INTELLIGENT TRUCK PARKING

AVAILABLE ANYWHERE AND FOR EVERYBODY

EXAMPLE I: CHALLENGES ALREADY HERE
NEAR FUTURE: GHOST DRIVERS

BEWARE OF THEM - ALSO IN-CAR!

EXAMPLE II: FORTHCOMING CHALLENGES
NEAR FUTURE? PLATOONING

SOCIAL DIVISION OF LABOUR, ON ROAD

EXAMPLE III: COMING CHALLENGES

“FRONT CAR LEAVING ROW IN 2 MIN”
REASONS FOR 3 AXIS

POSTED AND ELECTRONIC SIGNS:
SAME SIGNS, DIFFERING COMPREHENSION

Warning: You approach a swing bridge

Warning: swing bridge opened

Geneva, UNECE WP.1, 23 March 2010
REASONS FOR 3 AXIS

NEED TO ADMINISTER DIFFERING VISUAL PARAMETERS

RESPECT “INDIVIDUAL” DIFFERENCES
REASONS FOR 3 AXIS

CONTEXT, REFERENTS AND DESIGN PARAMETERS

BOTH ROAD SIGNS, BUT DIFFERING REFERENTS

Posted signs: domain of (fixed) road conditions

Electronic signs: domain of (changing) traffic situations
REASONS FOR 3 AXIS

MAKING THE MOST OF FULL MATRIX VMS:

AN EASY TRANSFER PLATFORM OF “CORRECT” WP.1 DESIGN STYLE
REASONS FOR 3 AXIS

MAKING THE MOST OF FULL MATRIX VMS:

NEED TO HARMONISE SIGNS THEMSELVES
CONTENTS

INTRODUCTION

WAY FORWARD

REASONS FOR 3 AXIS

CONCLUSION

- Road markings
- Posted signs
- Electronic signs

- P vs. VMS: comprehension
- P vs. VMS: Visual
- P vs. VMS: design
- P vs. VMS: parameters
- Full matrix
- VMS transfer
- P vs. VMS: harmonisation

Work Plan sketch
THE THIRD BUILDING BLOCK FOR THE 1968 CONVENTION: SLOW PROCESS

ROAD MARKINGS

POSTED SIGNS

ELECTRONIC SIGNS

Traffic lights, traffic signals, VMS, IN-VEHICLE
WAY FORWARD: PROGRESSIVE SCENARIO

- Fill in the gaps **progressively** on due time:
  - Reform following a piecemeal basis
  - Consider main issues, main pictograms, elevate proposals, etc.

- References **to follow**:
  - Previous work done by the Small Group on VMS
  - CEDR document (issued 2009)
  - Work done by ES4 (also ES4 Guidelines)

- References **to be monitored**:
  - EsOP (Nomadic and in-car displays)
  - ISO standards, etc.
WAY FORWARD: PROGRESSIVE SCENARIO

1. Keep on work on VMS as the main contemporary electronic signing device
   1. Look after the correct transference of design principles (previously applied to posted signs) to VMS

2. Be aware of transference possibilities of electronic signing coined for VMS (full matrix) to other electronic signage (notably, in-vehicle)

3. Monitor the key points on the evolution of road signs displayed in-vehicle
   1. Specific work plan for in-vehicle electronic signage
   2. Identify the signs that will most easily brought to in-vehicle
   3. Propose signs according to WP.1 design style
   4. Worry about structure and development of legal bindings