

Towards a common Message Architecture

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CODECS Workshop I2V message architecture
for Long-Term Road Works Warning (and beyond)

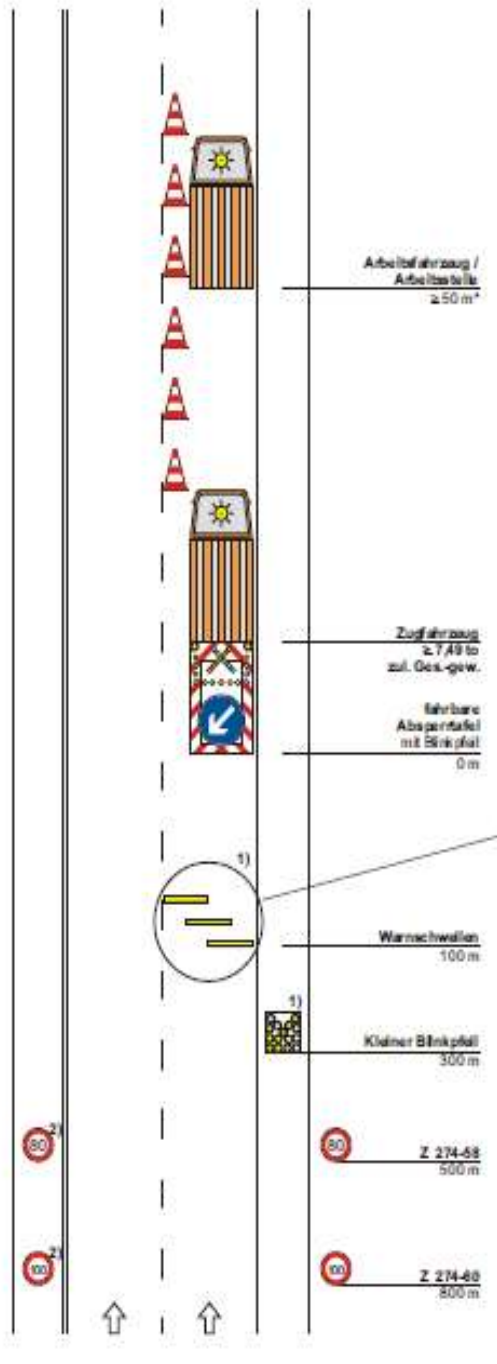
17 October 2017, Bergisch Gladbach



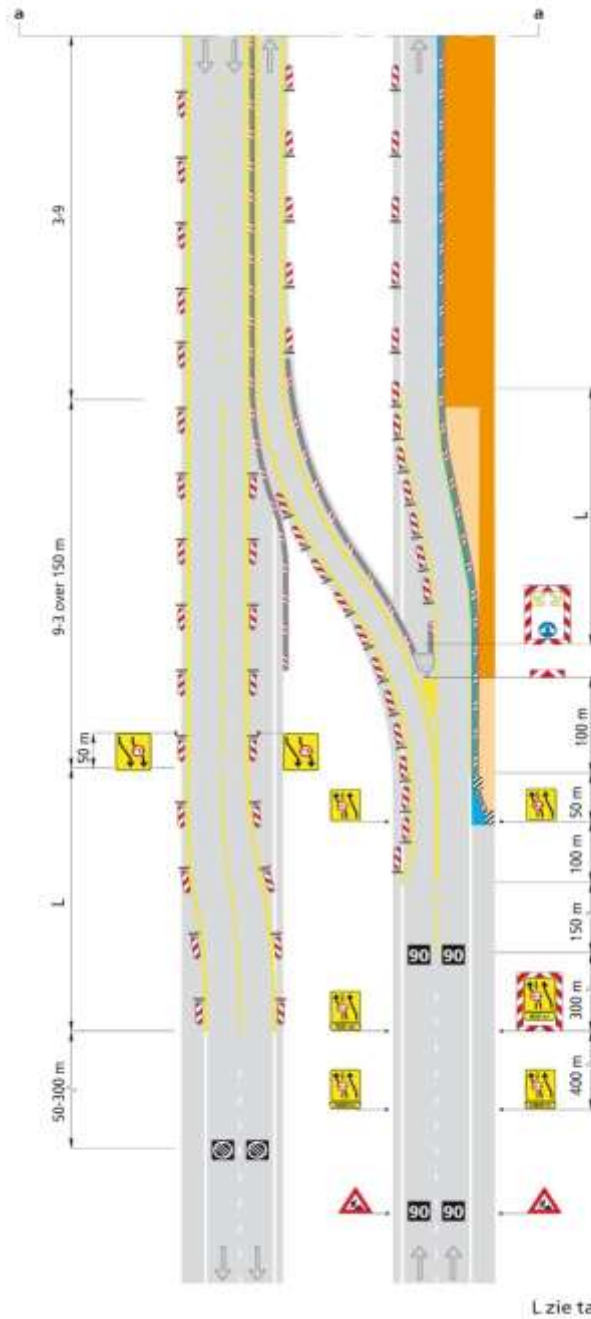
Get It On The Road, Get It In the Car.

How did we end up here?

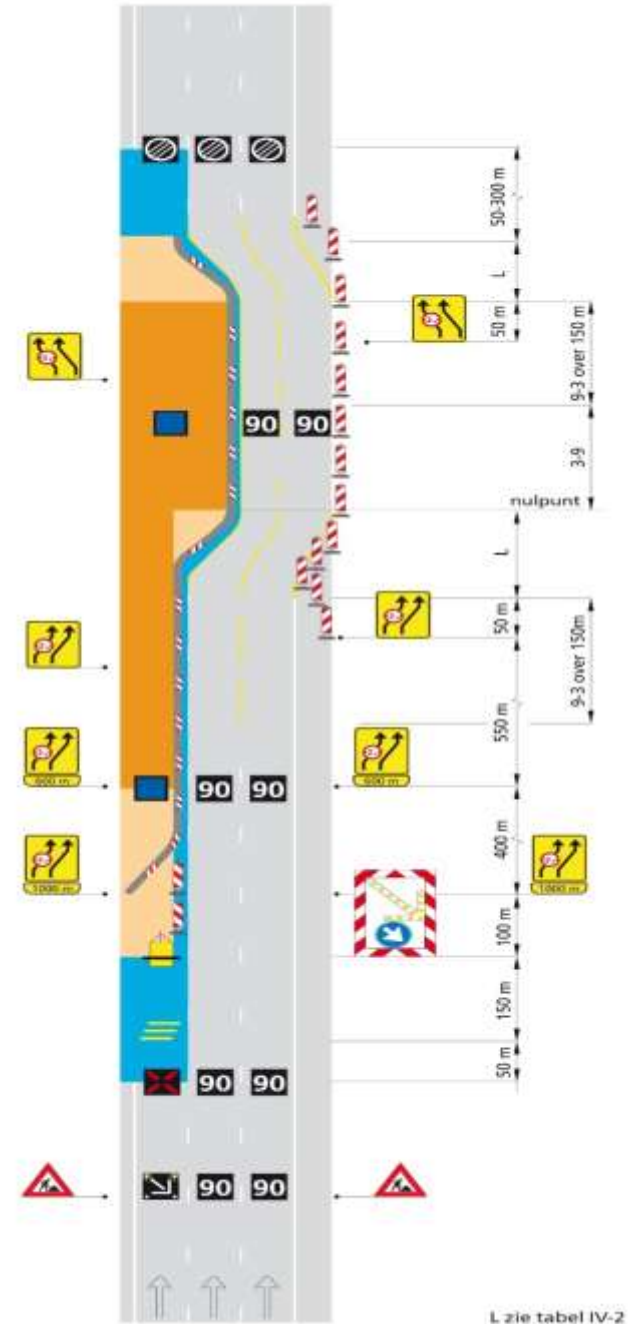
- Amsterdam Group – ‘Message Set and Triggering Conditions for Road Works Warning Service’
 - Mobile short term
 - Stationary short term
 - Stationay long term
- The challenge: how to communicate these situations using available message sets?



Figuur 720a



Figuur 670



Process

- Task force Long-Term Road Works Warning: KO September '15
- October '15: meeting road authorities and consultants
 - LT-RWW layouts, data requirements, potential message sets
- January '16: OEM workshop (15 participants)
 - Assessment of DENM, IVI and MAP, complementarity, roadmap
- March '16: Revision of “Message Set and Triggering Conditions for RWW service”
- Feb '17: CODECS/AG workshop
 - Report of interviews

Message Set and Triggering Conditions for Road Works Warning Service

Version: 2.0	Date: 2016 - 04 - 08
Release Status: Released	Document Type: White Paper
Status: Functional Completed / Completed	

Abstract:

This document describes the message specification and the according triggering conditions for the service Road Works Warning (RWW) for the following use cases:

- Mobile short-term road works
- Stationary short-term road works
- Stationary long-term road works – to be included in 2nd release of the document

The specification was agreed between the front runners of C-ITS deployment participating in the Amsterdam Group and is the common denominator for implementing the Road Works Warning Service based on the use of DEN messages, but it can not specify all message details for all possible road works scenarios and layouts in all the different jurisdictions.

Changes since last version:

First version to be published, details can be found in the "Document History".

Outstanding Issues:

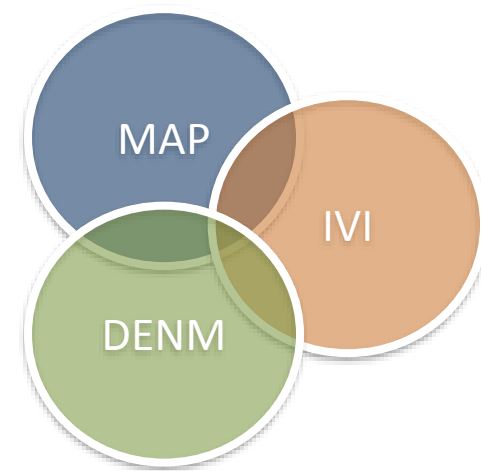
Due to the large number of possible layouts for long-term road works and the extensive description needed for the more complex scenarios, long-term road works will be included in the next release (Version 3.0) of the document "Message Set and Triggering Conditions for Road Works Warning Service".

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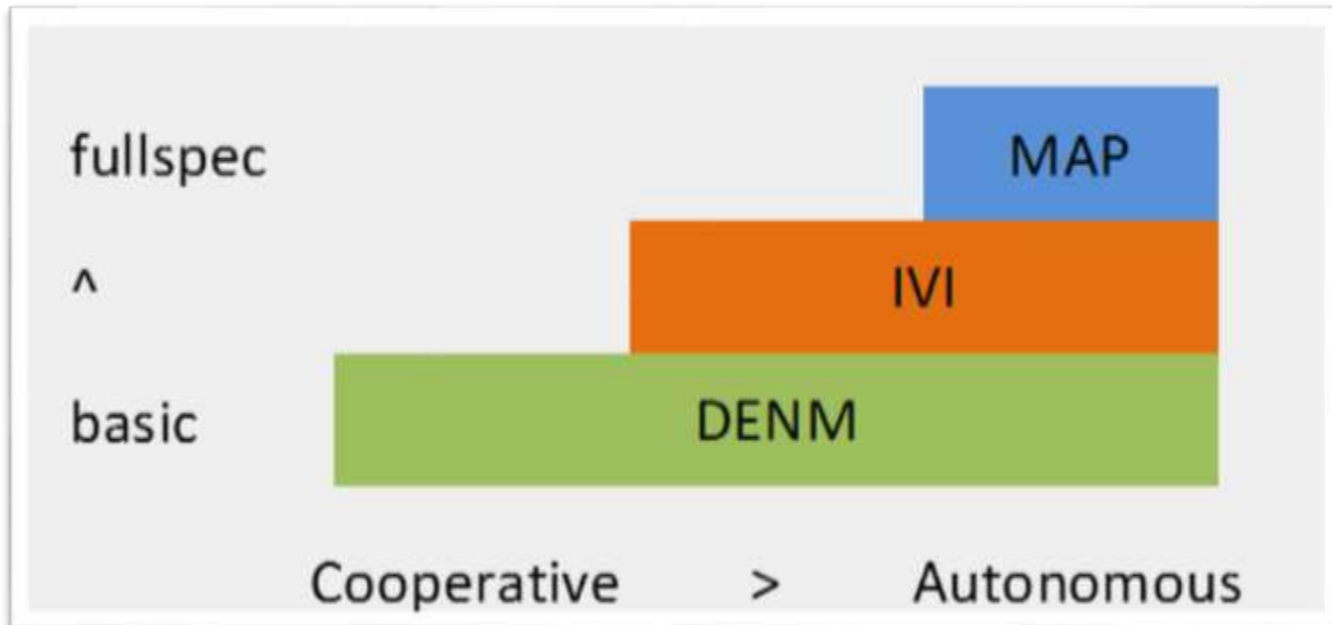
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Assessment conclusions

- All can be 'tricked', but have a different primary purpose:
 - DENM
 - Short message, cause based, primarily for warning.
 - IVI
 - Signage information, incl. lane configurations. Descriptive.
 - MAP
 - Road topology information. Detailed data.



How to formally organize the complementarity?



Interviews

- Lan Lin (DENM editor)
- Jasja Tijink (IVI editor)
- David Kelley (MAP editor)
- Yvonne Dierickx-Platschorre (Rijkswaterstaat / C-ITS Corridor)

Common Views:

- Root cause: 3 different SDOs working side-by-side! How to harmonize across SDOs?
- Linkage much needed and planned/desired work item (ETSI)
- Solution needed for duplicated or contradicting content
 - Stick to the primary purpose of the message sets more strictly?
 - Which message shall be leading (from sender and receiver perspective)? Or avoid any ambiguity at all?
 - 'Override' content if overlaying message is available?
- Issue on content & signage codes: explicit (sign #) or implicit (meaning)?
- Beyond the scope of LT or RWW alone. All use case with potentially multiple msgs.

Desired outcome

- So far we worked on the message sets independently and profiling focused on (technical) use of DEs.
- There is a need for more integral approach to messaging with attention to functional and operational application of the standards.
- This might include:
 - Review complementarity and supplementarity of message content
 - Hierarchical structure for messages to avoid conflicts and ambiguity
 - Yet, ensuring system robustness if e.g. only one message can be used
 - Cross-referencing of message sets, e.g. DENM, IVI and MAP
 - Anticipating to different levels of maturity (day1-day2-CAV)
 - Gap analysis: any information that cannot be captured

Possible approaches

- Dedicated expert workshop on complementarity of messages sets.
 - TODAY!!
- Work item for ISO TC204 WG18 / CEN TC278 WG16
 - Proposed during ISO TC204 WG18, Paris, 25 April 2017
- Collaborate with deployment projects (e.g. C-Roads)
 - Experience from field application
 - Immediate benefit to operation
 - Involvement of relevant stakeholders
- Involvement of OEMs is important
 - Liaison with C2C-CC (WG APP-INF)?

Expected outcomes for today

- Main principles “information architecture”
- Overlaps: duplicated content and approach to deal with conflicts
- Gaps: needed information that cannot be captured
- Work items and next steps
- *Revision of “Message Set and Triggering Conditions for RWW service” to include IVI, MAP and information architecture.*

10.00 Welcome and setting in the scene

Torsten Geißler, Sandro Berndt,
Bundesanstalt fuer Straßenwesen BAST

Introduction to the challenge including preliminary discussion

Jaap Vreeswijk, *MAPtm*

10.30 Long-Term Road Works Warning – Understanding the primary purpose of message sets (e.g. DENM, IVI and MAP)

Peter Meckel, *ASFiNAG*, Josef Kaltwasser
Alexander Paier, *Kapsch*
David Kelley, Andreas Schmid, *Swarco*

11.30 I2V message architecture – Defining principles for a common message architecture

Structured discussion, guided by MAPtm

12.45 Lunch & Networking

Thank you for listening!

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