



CEDR Transnational Road Research Programme Call 2012



Appropriate Speed
saves All People



Baselining road worker
safety on European roads





VTI: Swedish National Road and Transport
Research Institute: Coordinator



UNIFI: University of Florence



AIT: Austrian Institute of Technology



BRRC: Belgian Road Research Centre



CDV: Transport Research Centre

- Gather knowledge on effective speed management measures through road works zones.
- Develop harmonised best practice guidelines for work zone speed control for Europe
- Increase safety for road workers and road users



A car crashes into a Madison Water Utility work zone on Buckeye Rd. in 2011

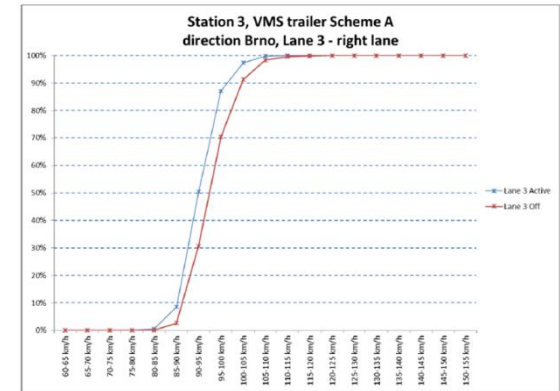


- A review of existing literature
- Collection and analysis of data from different countries
- Gathering national expertise and practitioners in stakeholder consultations
- Practical trials – showcases in the Czech Republic and Belgium
- Simulator study in Italy
- **Recommendations summarized in the ASAP guide**

Motorway D1 between Prague and Brno

Speed management measures tested

- Information trailer (VMS) LED (max effect -2.5 km/h)
- Advance warning trailer LED (max effect -1.3 km/h)
- Actual speed display (no speed data)
- Temporary speed camera sign
“SPEED MEASUREMENT” (max effect -4.2 km/h)
- Presence of POLICE (max effect -1,9 km/h)



3. Impact of speed activated VMS trailer installed in the work zone on free flow speed distributions at right lane



a.



b.



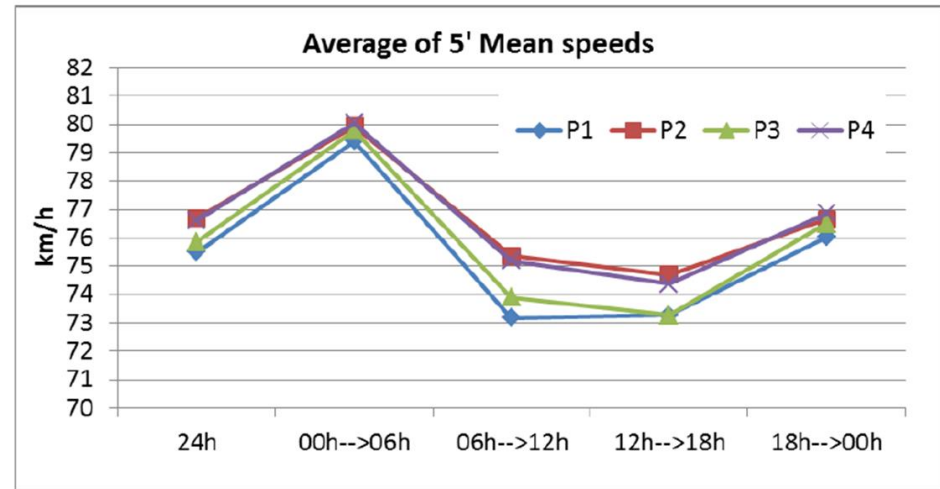
c.



d.

Speed monitoring campaign: E42/A15 Daussoulx-Sambreville (20 km)

- Static signs, fixed & mobile VMS in the advanced warning area
- 2 periods (P1 and P3) with a Semi-mobile Speed camera (visible)



Average of 5 minutes free flow mean speeds across the 4 monitoring periods (P1 & P3 with speed enforcement; P2 & P4 without enforcement) – Comparison of 24h and 6h time periods at one monitoring site

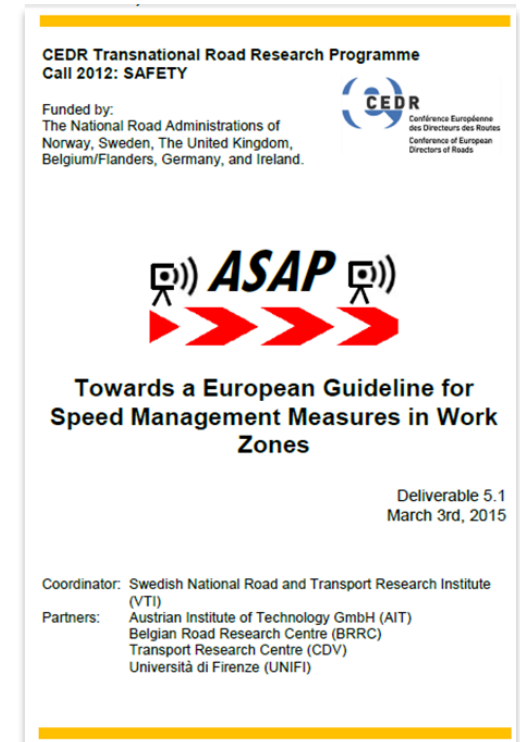
Speed monitoring campaign: E34/A21 Zoersel-Oelegem (10km)

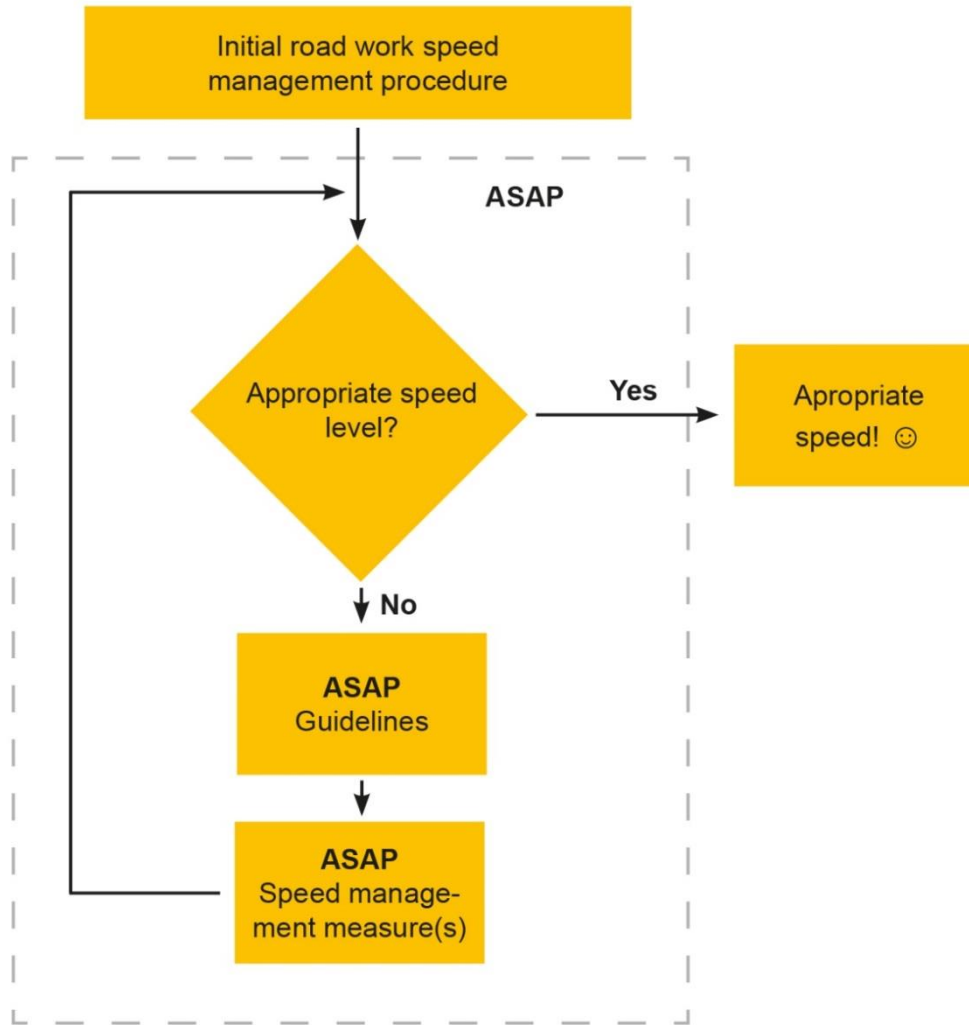
- Static signs, mobile VMS in the advanced warning area,
- Speed display, temporary gantry, transversal rumble strip, warning VMS in the transition area

The ASAP guide



- For choosing the best methods to achieve appropriate speed in WS.
- Before using ASAP guide:
 - considerations of capacity/construction needs
 - identification of appropriate speed levels
- ASAP procedure - speed management method(s).
 - in the planning phase, before establishing work zone,
 - important tool during implementation, if current measures in use are not efficient enough.





23 speed management measures clustered according to:

Road type:

- motorway and dual carriageway
- single carriageway;

Work type:

- long-term road work (> 3 days)
- short-term static road work (\leq 3 days)
- intermittent or moving road work;

Location of measure in road work:

- advanced warning area
- transition area
- work zone area

Measure name
Driver speed monitoring displays
Description
Main advantages
•
Main recommendations
•
Application fields
•
Expected impact
•
On-site deployment/operational issues
•
Cost components
•





Transport Research Laboratory
www.trl.co.uk



Karlsruhe Institute of Technology
www.ise.kit.edu



Belgian Road Research Centre
www.brrc.be



Trinity College Dublin
www.tcd.ie



Slovenian National Building and Civil Engineering Institute
www.zag.si



**Vision &
leadership**

**Zero road worker
injury accidents**

Strategy

**Knowledge-based
risk reduction**

**Strategy
development**

Action

BRoWSEr

Data

Understanding

Information

Success of a EuRoWCas database and realisation of the benefits requires action at a EU level

In support of this, BRoWSEr provides:

- Evidence that it can work, including pilot data
- Roadmap and toolkit for how it can be done
- Demonstration of the benefits

- Three months, seven countries
- To assess the feasibility of road worker incident data collection



Outcome:

Data collection practicable through different approaches and using different data sources and that there is an appetite for collecting data

- Data specification and guidance for implementation produced
- Specification is a publically available design for the data required, not a software product
- The overall concept is such that, if this technical specification is followed, the software or operating system used to host a EuRoWCas database does not matter, as the data imported into, stored within and exported from the database will be to a common standard.
- Guidance focuses on the decisions and actions needed by any NRA or contractor in order to implement a database and data collection procedures

Count the number of road worker accidents

- Quantify road worker accidents
- Provide a baseline at national or subnational level
- Measure the scale of the challenge to road worker safety

Compare road worker accidents

- Benchmark internally (between suppliers / contractors)
- Benchmark nationally (within a country or regionally)
- Benchmark internationally (between similar sized countries),
- Monitor performance over time / impact of policy changes.

Understand the causes and consequences of road worker accidents

- Provide evidence to inform standards and policy development (at European / national level)
- Generate a source of data for determining the effectiveness of approaches / principles.

Develop countermeasures to reduce the risk of road worker accidents

- Provide evidence for effectiveness of approaches and principles
- Supporting case building for safety investment decisions.
- Providing a larger data source for European research on road worker safety.

- To achieve the potential benefits, current data collection needs to be improved
- As part of the guidance, a ‘maturity scoring framework’ has been developed
- Provides a framework for NRAs to assess the current level of road worker accident (and near miss) data collection
- Data collection scored (0-5) on each of five elements: Extent, Frequency, Quality, Application, Compatibility (with EuRoWCas)

	<i>Element</i>	<i>Level 0</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	<i>Level 4</i>	<i>Level 5</i>
E	Extent	No data collected for accidents, casualties or fatalities	Limited data may be available but are not collected by/for NRA	Limited data are collected by/for NRA	Low-level data are collected by/for NRA	Mid-level data are collected by/for NRA	High-level data are collected by/for NRA
F	Frequency	No data routinely collected	Data collected only when required	Data collected regularly (e.g. for trials) but not routinely	Data collected routinely once per year	Data collected routinely more than once per year	Data collected routinely/continuously throughout the year
Q	Quality	No data collected	Data collected and not checked (no quality control)	Data collected and checked by NRA	Data collected, self-validated by collector and checked by NRA	Data collected, externally validated and checked by NRA	Data collected, externally validated, and checked by NRA; feedback provided to collector to improve quality of data collection
A	Application	No application of data collected (or no data collected)	Data used to report (e.g. headline statistics) only	Data used to report and to benchmark performance	Data used to report, benchmark and to monitor improved safety performance	Data used to report, benchmark, monitor and confirm issues identified externally	Data used to report, benchmark, monitor, identify issues from data and so drive improvements
C	Compatibility	No data collected in compatible format.	Limited data in the compatible format imported from another dataset.	Limited data collected in the compatible format.	Low-level data completed in the compatible format.	Mid-level data completed in the compatible format.	High-level data completed in the compatible format.

- NRAs identify indicative assessment against each element of the framework for their own countries' road worker accident data collection
- NRAs identify how they could 'progress up' the Maturity Scoring Framework
- Use EuRoWCas guidance to implement processes and procedures

- ASAP and BRoWSEr – workshop about improving road worker safety
- The same program will run at each of the three workshops.
 - October 8th 2015 at TRL in Wokingham, UK
 - October 29th 2015 at BRRC in Brussels, Belgium.
 - November 10th 2015 at CDV in Brno, Czech Rep.
- Welcome to register at:
<http://www.vti.se/en/asap-and-browser--two-cedr-projects-about-road-worker-safety/registration/>

09:00 – 10:00	Registration and coffee
10:00 – 10:15	Introduction; Paul Mitchell, Chair of the CEDR programme executive board.
10:15 - 10:30	Welcome from host director
10:30 – 11:00	Key note speech from Director of National Road Authority
11:00 – 11:40	Presentation of ASAP; Anna Vadeby VTI, coordinator of ASAP
11:40 – 11:50	Break
11:50 – 12:30	Presentation of BRoWSEr; Jill Weekley TRL, coordinator of BROWSER
12:30 – 13:30	Lunch
13:30 - 14:30	Implementation of ASAP – learning from practical trials; Presentation and discussion led by ASAP partners
14:30 – 15:30	Implementation of BRoWSEr – practical experiences; Presentation and discussion led by BRoWSEr partners
15:30 – 16:00	Conclusions; Paul Mitchell, Chair of the CEDR programme executive board
16:00	End of workshop

Acknowledgements

- CEDR Transnational Road Research Programme Call 2012: SAFETY
- Funded by the National Road Administrations of Norway, Sweden, The United Kingdom, Belgium/Flanders, Germany, and Ireland



<http://asap.fehrl.org/>
<http://browser.zag.si/>

