Integration of societal considerations into emerging technologies and traffic safety culture

Insights from expert interviews conducted within the Roads4All project

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Safety challenges are not purely technological – they are systemic

Emerging mobility technologies are transforming traffic environments – but also increasing complexity.

- CCAM, ADAS, automation and micromobility are reshaping mobility systems
- Mixed traffic environments are becoming more complex
- Cities remain largely car-centred
- New technologies create:
  - new interaction patterns
  - behavioural uncertainty
  - new risks for VRUs

VRUs should not be treated as edge cases, but as a starting point for system design

VRUs (e.g. pedestrians, cyclists, women, older people, disabled people, children, etc.) consistently emerge as the most affected group.

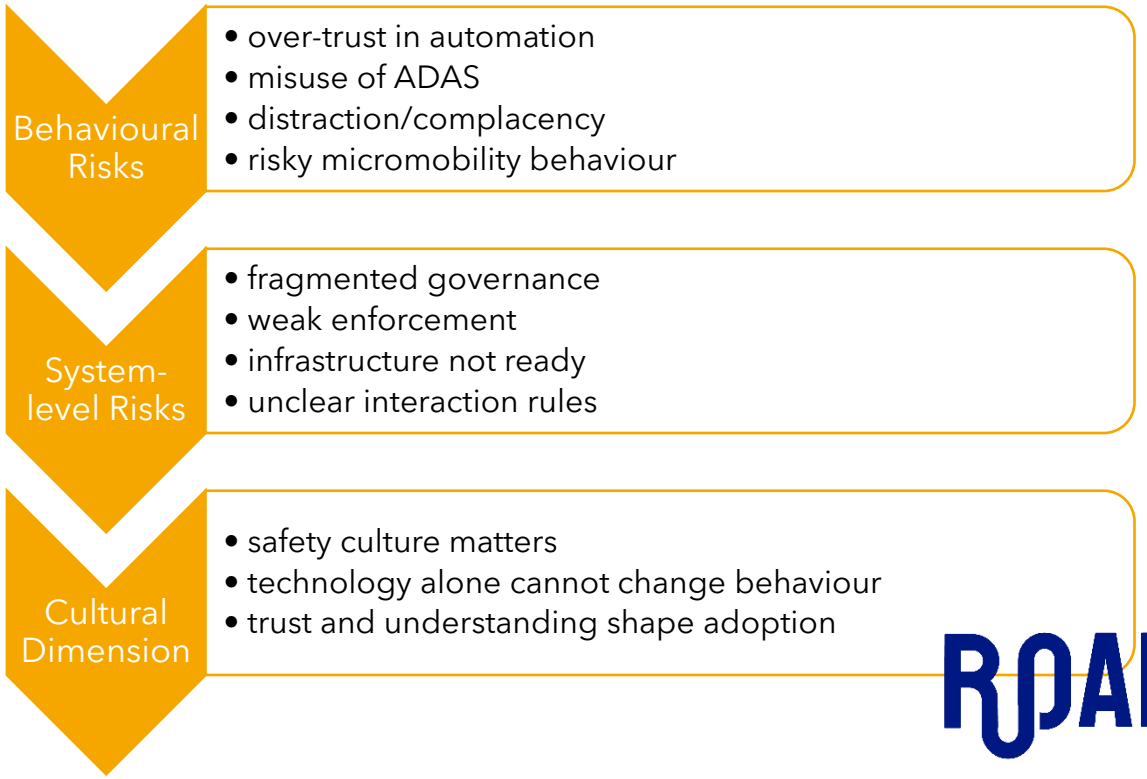
Important SSH angle:

Not only physical but also social vulnerability

- digital literacy barriers
- accessibility barriers
- language barriers
- gendered safety perceptions

Risk is system-dependent, not mode-specific.

Key risks identified by experts:



Technology alone cannot deliver safer mobility without behavioural alignment, inclusive design, and governance coherence.

Translating SSH insights into practice:

SSH Insight	Practical Implication
Over-trust in automation	Better system communication & user training
VRU vulnerability	Safety-by-design & prioritised VRU detection
Behaviour shapes safety outcomes	Human-centred AI & behavioural evaluation
Mixed traffic complexity	Infrastructure redesign & clearer interaction rules
Exclusion risks	Inclusive & accessible mobility systems
Weak enforcement	Governance & monitoring mechanisms

Key recommendations

Experts converged on 4 main recommendations:

1. Systemic integration

Technology, infrastructure, governance, and behaviour must evolve together

2. Inclusive mobility design

Avoid reproducing inequalities

3. Education & enforcement

Both are necessary for lasting behavioural change

4. Better safety indicators

Beyond crashes:

- behavioural metrics
- near-miss data
- perception-of-safety indicators

Human-centred mobility requires the integration of SSH perspectives from design to deployment.

The future of CCAM is not only a technological challenge – it is also a societal one.

Thank you for your attention!

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