Spatial and Transport Impacts of Automated Driving

WEpods

Safety of Pedestrians and Cyclists when Interacting with Self-Driving Vehicles: A Case Study of the WEpods

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Introduction

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Vulnerable road users

- Interactions
- Motorized vehicles as threat
- Will always be around..

WEpods

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Main research question

How is road safety perceived by vulnerable road users, such as pedestrians and cyclists, in their interaction with the WEpods during their test phase?

Methods

- Face-to-face interview
  (N= 22)
- Focus group
  (One group of 8)
- Online survey
  (N= 196)

  - Perceived safety
  - Traditional vs Automated
  - Familiarity?
  - Interactions?
  - Communication

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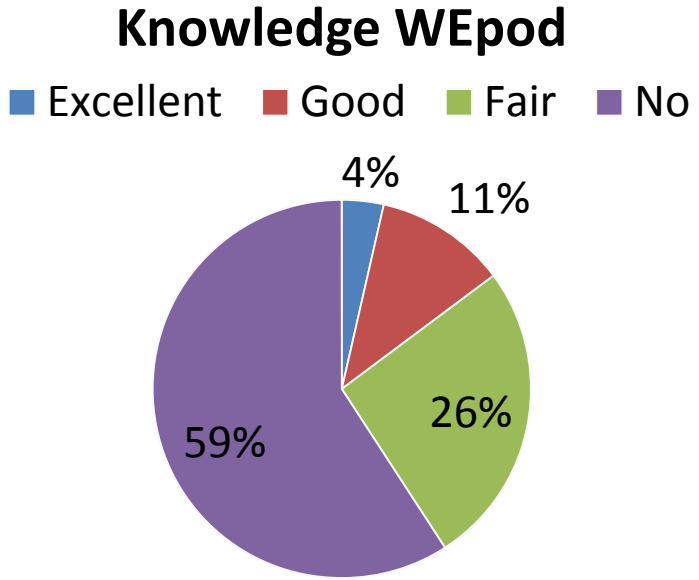
Results Interviews & Focus group

- Majority → eye contact is important
  - Low speed
- Steward present?
  - Majority → did not know
- Communication
  - Visual & audiotory
- Expected WEpod to stop in all instances

Results online survey (1)



- Fewer concerns
- Crossing behaviour

- Stated vs Revealed
  (depending on mode)
  - Fewer concerns
  - Shared space

  But no difference:
  - Unsignalised intersections
  - Crossing behaviour

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Results online survey (2)

- Comparison vehicles

  WEpod:

  – perceived as safer in ‘shared space’

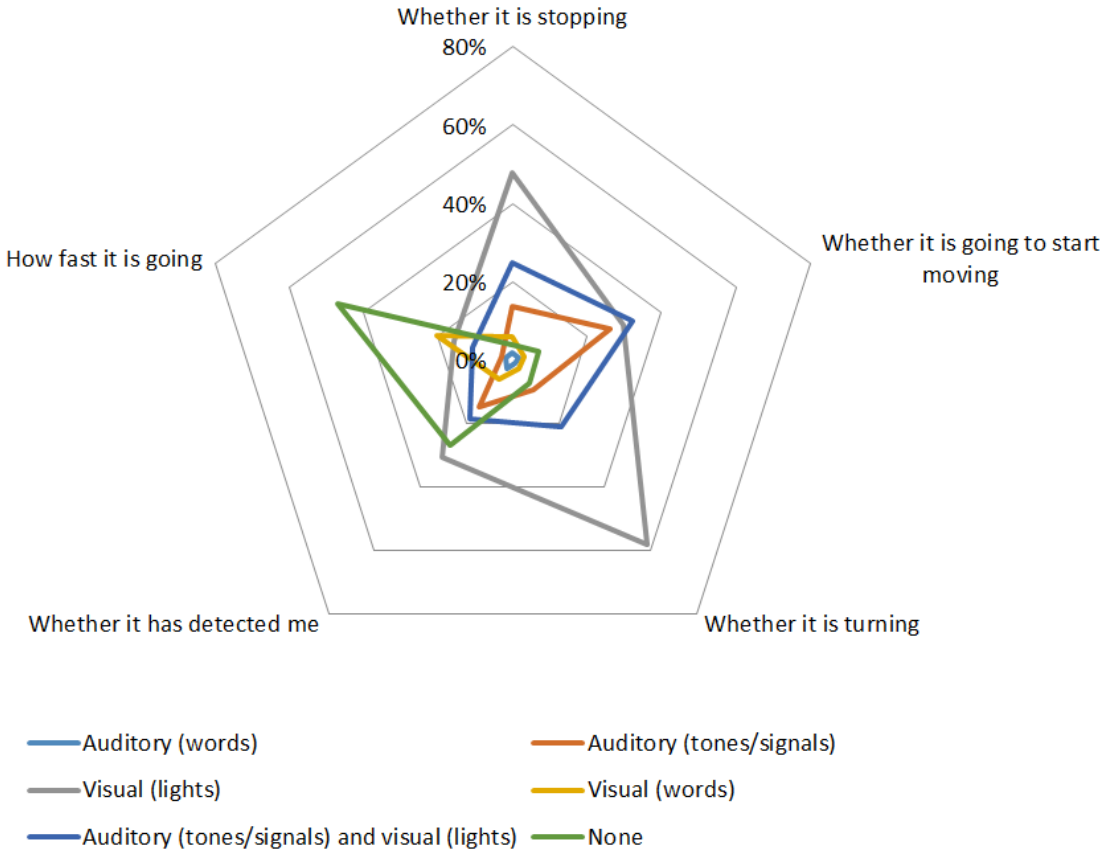
  Depending on mode:

  – ‘Safer’ crossing behaviour

  – More concerns at

    Unsign. intersections

- Communication



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Conclusion

- Knowledge of the WEpods increases the perceived safety.
- Experience leads to more perceived safety.
- Mixed results when comparing with traditional vehicles.
- Information whether: stopping & turning

Future research

- Long term effects of AV on VRUs?
- Empirical studies
- Let me know!

Tack för din tid.

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