

**Safety of pedestrians and cyclists when interacting with self-driving vehicles  
A case study of the WEpods (PPT)**

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

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# Introduction



# Vulnerable road users

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



# WEpods



Camera  
Radar  
IBEO laser  
SICK laser

(WEpods.nl, 2016)



Project:  
WagenIngen UR

Attac  
inary

# 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

# Results Interviews & Focus group

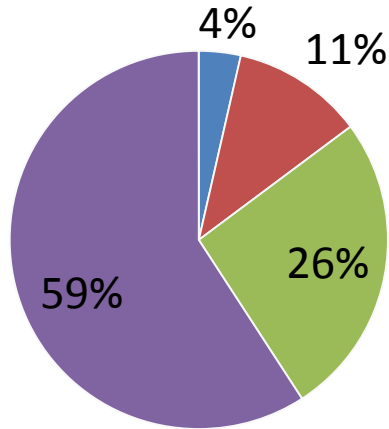
- Majority → eye contact is important
  - Low speed
- Steward present?
  - Majority → did not know
- Communication
  - Visual & auditory
- Expected WEpod to stop in all instances



# Results online survey (1)

## Knowledge WEpod

■ Excellent ■ Good ■ Fair ■ No



- Fewer concerns
- Crossing behaviour

- **Stated vs Revealed**

(depending on mode)

- Fewer concerns
- Shared space

But no difference:

- Unsignalised intersections
- Crossing behaviour

# Results online survey (2)

- Comparison vehicles

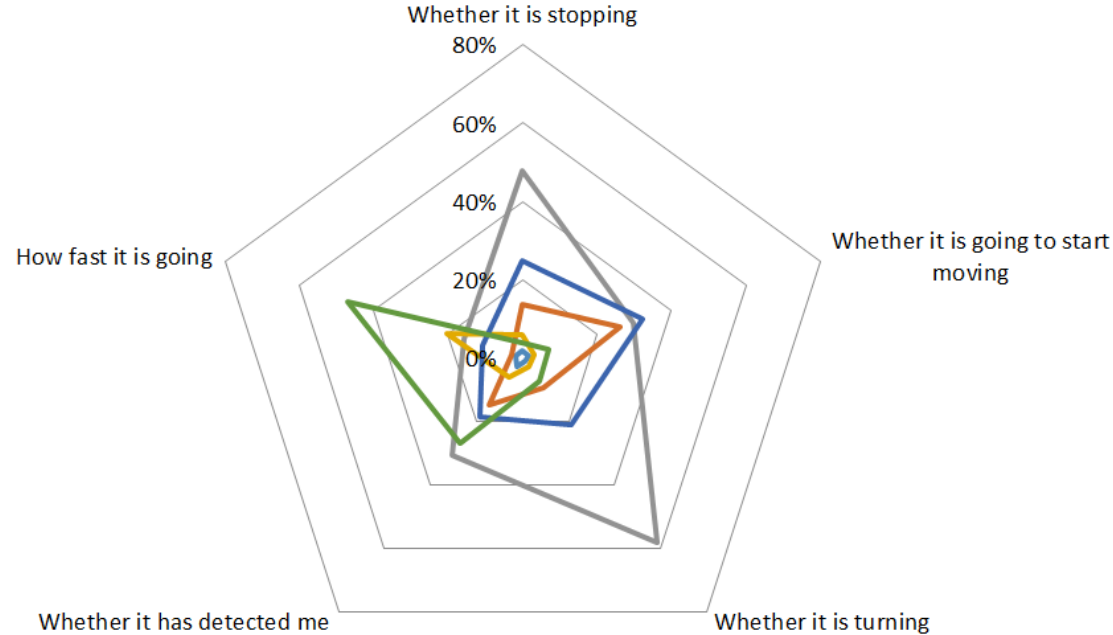
WEpod:

- perceived as safer in ‘shared space’

Depending on mode:

- ‘Safer’ crossing behaviour
- More concerns at Unsign. intersections

- Communication



— Auditory (words)

— Visual (lights)

— Auditory (tones/signals) and visual (lights)

— Auditory (tones/signals)

— Visual (words)

— None

# 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.



Spatial and Transport Impacts of Automated Driving

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