

Understanding the Impacts of Connected Autonomous Vehicles on Pedestrians with Visual Impairment

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Question?

Gaps:

- Limited research on visually impaired and blind people
- Communication techniques with blind pedestrians and AV/CAVs

Goal:

- Comprehensive survey with collaboration of CNIB
- Data collection
- Descriptive results
- Modelling approaches
- Policy recommendations

Anecdotal Opinions

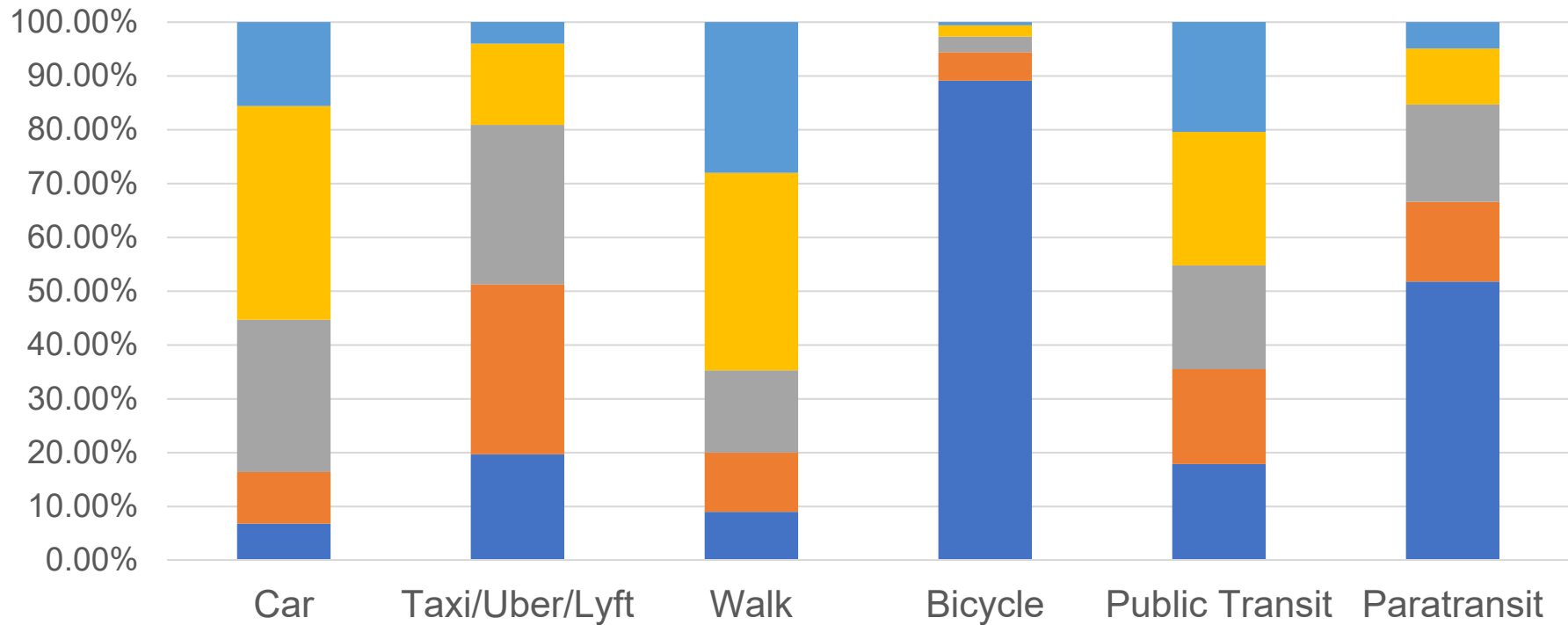
- **Negative**

- “Digital technology as deployed on a smart phone crashes often.”
- “Human error and computer error may well be on a par, and I try not to depend upon either .”
- “They are too quiet.”

- **Positive**

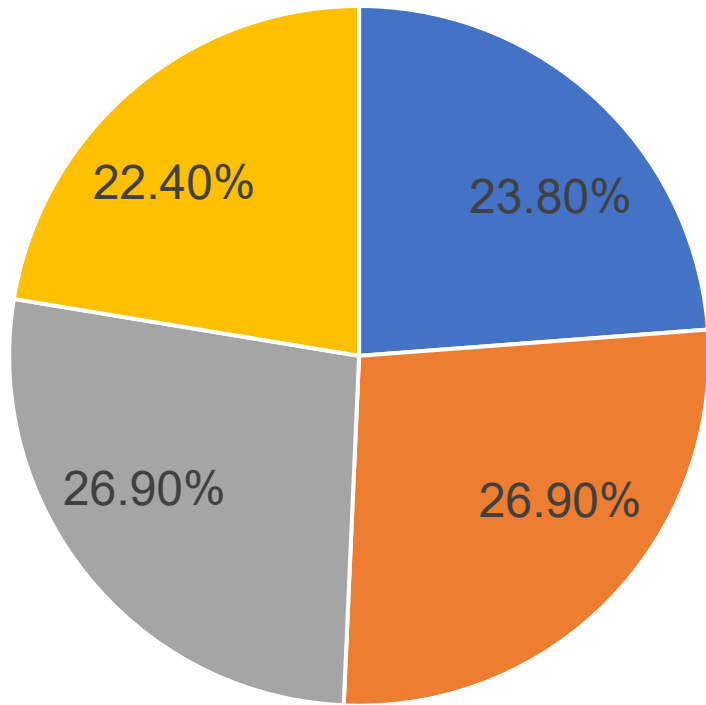
- “I look forward to operating self driving vehicle.”
- “I don't have any concerns.”
- “I have no doubt in AI, but I personally like the idea of having control over a vehicle, so being visually impaired can be frustrating in this regard because if the car was to be driving at someone, I couldn't stop it even though I would be sitting in the car itself.”

Mode Choice Behavior



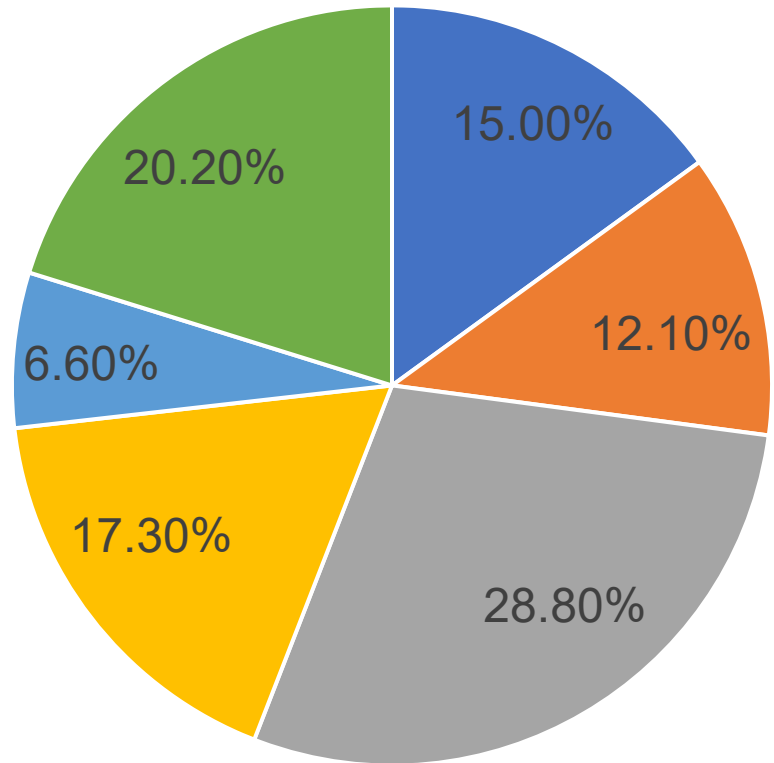
- Never
- Rarely (once monthly or less)
- Sometimes (2 to 5 times per month)
- Frequently (2 to 5 times per week)
- All the time (every day)

How much participants prefer to be the user of CAVs



- Not preferred at all
- Somewhat preferred
- Highly preferred

How much participants trust CAVs



- Not at all
- Barely
- Somewhat
- A lot

Key Points

- Noise from traffic
- Technologies and applications
- Electric vehicles
- Standards and legislations

Policy Recommendations

- Paratransit
- Navigation Apps (i.e. Seeing AI)
- Acoustic Vehicle Alert System (AVAS) (EU new rule)

Thank you!

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