

# Conceptual model to explain the impact of public policy measures on behavioral intention to use shared automated public vehicles

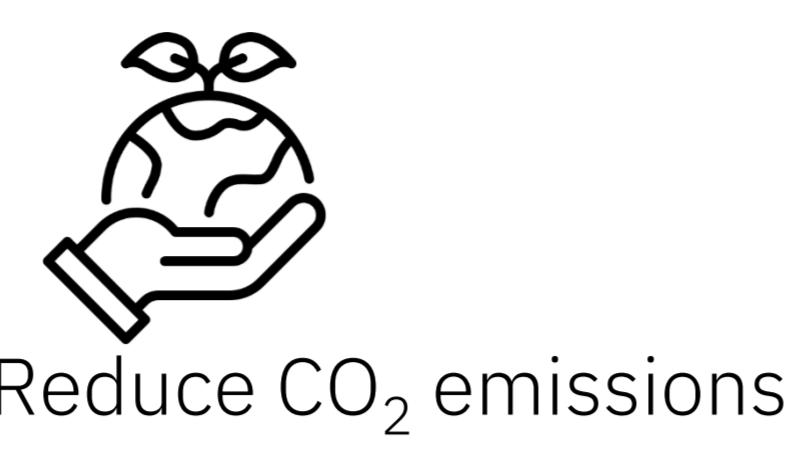
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Troisième conférence de l'AFET  
19 – 20 Novembre 2025, Lyon

## Context and introduction



Increase road safety



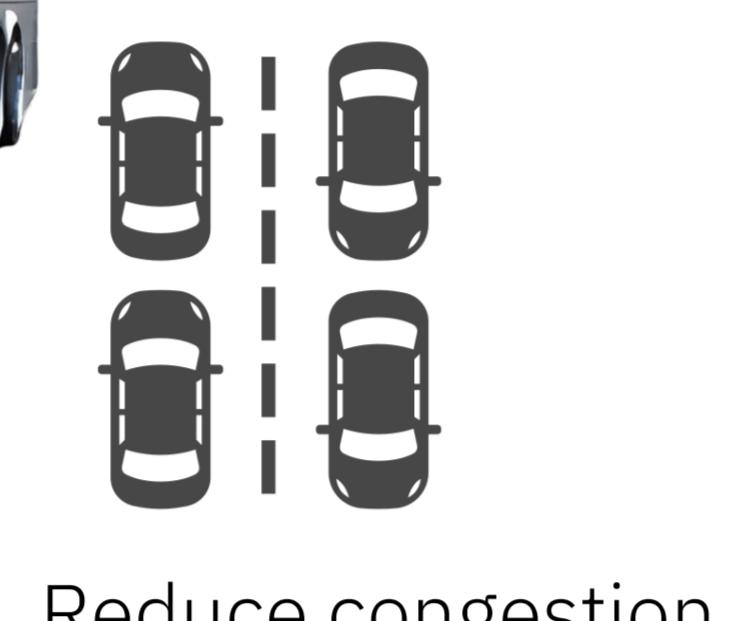
Reduce CO<sub>2</sub> emissions



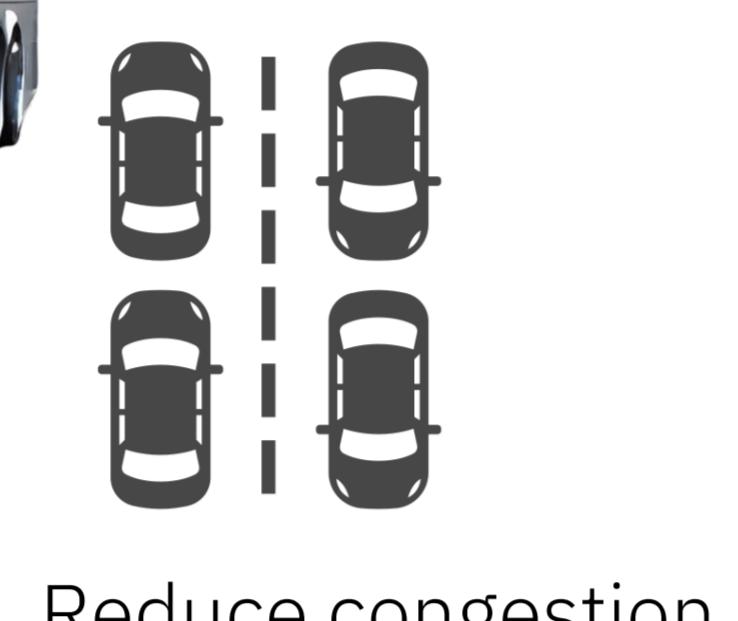
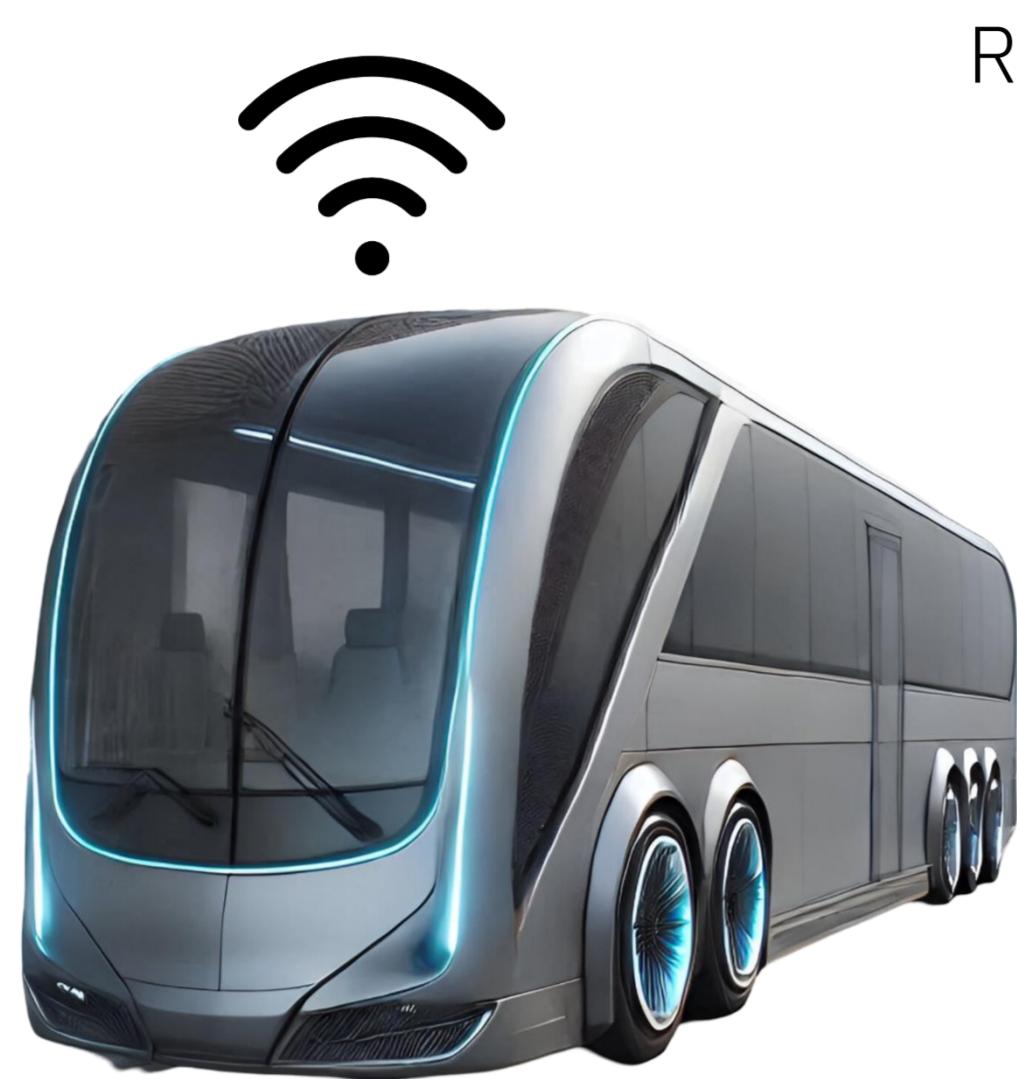
Increase accessibility for people with reduced mobility



Increase accessibility for people with reduced mobility



Reduce congestion

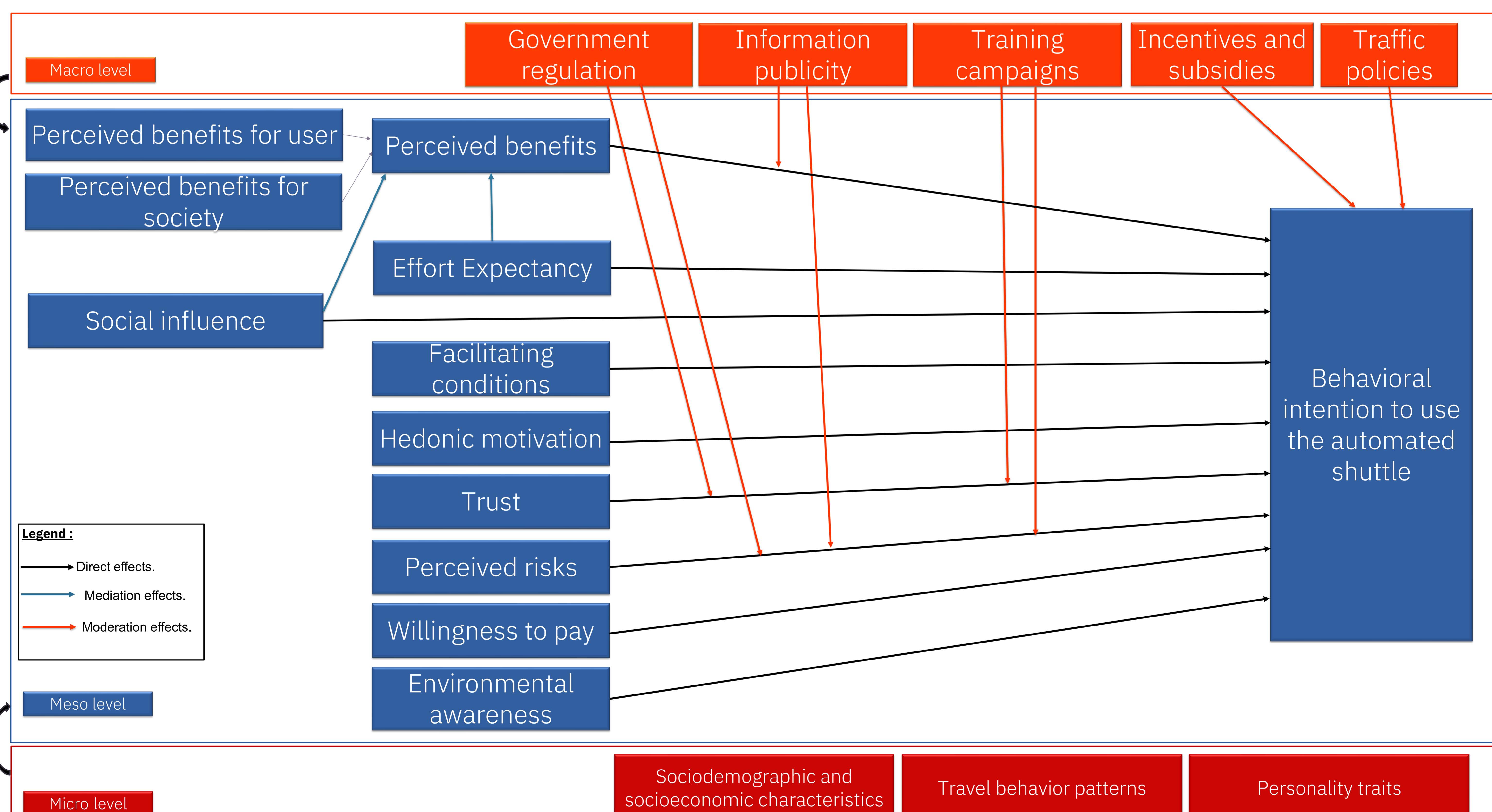


- Social acceptance remains a key challenge of the widespread implementation of automated vehicles (Raj et al., 2020).
- Acceptance is considered as behavioral intention to use the automated public shuttle (Davis, 1989).
- Existing studies and automated vehicles acceptance models focused mainly on user-related factors, service-related characteristics, and knowledge and experience with automated vehicles (Goldbach et al., 2022; Herrenkind et al., 2019).
- However, the adoption of complex innovations such as AV depends on micro and macro-level factors (Lim et al., 2024).
- Limited research has explored the impact of public policy measures on behavioral intention to use the automated shuttle, and focused mainly on their direct effects (Zhou et al., 2024; Jiang et al., 2023).

## How to design the impact of public policy measures on behavioral intention to use the automated public shuttle ?

### Conceptual model

- To develop the conceptual model, we followed a three-step approach: 1) assessment of 12 theoretical frameworks of technology and AV acceptance, 2) research hypotheses development, and 3) designing the conceptual model.
- Building upon the theoretical frameworks of Unified Theory of Acceptance and Use of Technology 3 (UTAUT3, Venkatesh et al., 2003) and the multi-level model of automated vehicle acceptance (MAVA, Nordhoff et al., 2019), we developed a multi-level model to explain behavioral intention to use the automated public shuttle.



### Limitations and perspectives

- Remains **theoretical** and requires **further empirical validation** to test the hypothesized relationships.
- **Non-parsimonious** as it contains a large number of variables.
- We will apply **Partial Least Squares – Structural Equation Modeling (PLS-SEM)** to **test the hypothesized relationships** with **stated preference survey data** collected from the **three pilot sites** of the EU Horizon ULTIMO project.

