Walking in Mobility as a Service (MaaS): Exploring the Appraisal of Walking in MaaS in the Paris Region

Laura Mariana Reyes Madrigal, Ph.D. Candidate
Jacob Puchinger
Isabelle Nicolai
Isabelle Nicolai
Virginie Bouteille

A. INTRODUCTION

What is Mobility as a Service (MaaS)?

MaaS is a one-stop-shop digital platform (smartphone, web) that seeks to reduce pollution and congestion provoked by the excessive use of the private car through a simplified access to different transport services and modes (e.g., public transport, cycling, car-sharing, and ride-sharing).

B. RESEARCH BACKGROUND

Motivation

- In a context of climate, food, and health crises, a shift towards more sustainable mobility practices and sustainable business models is required (Fig. 1).
- Walking is not a transport service like others and it tends to be overlooked by MaaS operators on the road for innovation.
- Around 40% of trips made by people living in the Île de France region are done by foot.

Research Problem

The integration and innovation around pedestrian mobility in MaaS solutions remain underdeveloped and undervalued by the ecosystem of MaaS actors and influenced by the different governance configurations in the ecosystem.

Research Questions

- How is walking currently integrated into MaaS solutions in the Paris capital region?
- What are the factors influencing the current level of integration?
- What strategies could be implemented for the appraisal of walking in MaaS?

Hypotheses

- Improved integration of walking in MaaS can act as an inclusion tool to give individuals equitable access to opportunities in urban, peri-urban, and rural areas.
- Active modes have the potential to induce modal shift to reduce short and medium-length trips made in polluting and bulky individual vehicles.
- Encouraging walking would have positive impacts on health and the environment.

The Role of Active Modes in Sustainable Mobility Transitions

- Active modes require human energy like walking, cycling, skating, and skiing, and manual wheelchair (Litman, 2003).
- Potential to connect the last mile of journeys and help reach public health and environmental goals (Maritza et al., 2020).
- Potential of bringing economic, environmental, and health benefits to the mobility ecosystem by enabling access to more city features and services (Fig. 2).
- Active modes are affordable mobility options (Dogru and Cook, 2020).

C. RESEARCH METHODOLOGY

Comparative Case study

- Comparative of the integration status of walking into MaaS available in Île de France.
- Identification of the trip’s features per MaaS application.
- Implementation of sustainable mobility policy objectives.

D. CASE STUDY

Walking itinerary features by app

- General functionalities
  - Basic functionalities
    - Integration map
    - Options of transport interactions
    - Travel cost
    - Travel time
    - Travel distance
    - Mode carbon
    - Mode energy
    - Mode cost
    - Mode travel time
    - Mode travel distance
    - Mode carbon
    - Mode energy
    - Mode cost
    - Mode travel time
    - Mode travel distance
- Specific functionalities
  - Scheduling trips
  - Routes
  - Weather
  - Social media
  - Rules and regulations
- Walking itinerary features
  - Directions
  - Instantaneous navigation
  - Walking time
  - Walking distance
  - Walking cost

E. CONCLUSION AND RESEARCH PERSPECTIVES

- Walking is integrated at a basic level in studied MaaS solutions in the French capital region, and there is a gap when considering different types of users and travel reasons.
- Room for improving user experience (UX) quality by providing users with more and better (higher level of customization) information on the type and quality of their journeys and the infrachute (higher level of detail) in publicly led MaaS.
- Crowdsourcing tools could help to collect and co-construct a more detailed database of the characteristics of chosen itineraries.