

Seamless door-to-door mobility management

Shaya Vosough¹, Claudio Roncoli^{1,2}, Marco Rinaldi³, Manon Seppecher⁴

Abstract: This proposal outlines a Special Session titled “Seamless Door-to-Door Mobility Management”, at the 9th International IEEE Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS), to be held in Luxembourg, September 2025. This session seeks to showcase innovative research on designing and implementing management strategies that enhance urban transportation networks, serving as a platform to exchange ideas, compare methodologies, and foster collaborations that advance the concept of seamless mobility, such as the ones envisioned by several ongoing EU-funded initiatives.

I. AIM AND SCOPE

Transportation systems are essential for the movement of people and goods, and their (in)efficiency significantly impacts economic development and quality of life. To limit transport externalities, reducing private car usage and fostering door-to-door multimodal trips is essential. A critical part of a multimodal trip involves transfers between modes, whose performance, comfort, and ease are key in promoting shifting from car travel. Therefore, effective management strategies and advanced technologies are essential for creating a seamless door-to-door mobility experience that minimises experienced disutility of a multimodal trip. This Special Session on Seamless Door-to-Door Mobility Management focuses on strategies and technologies that enable efficient, user-friendly multimodal transportation systems aiming to reduce private car usage while maintaining or enhancing accessibility, exploring policy implications and governance structures necessary for implementing seamless door-to-door mobility frameworks, and showcasing innovations in traveler information systems, dynamic pricing, and behavioral nudging for modal shifts. This session bridges theoretical advancements with practical implementations, fostering collaboration among researchers, industry stakeholders, and policymakers to shape the future of intelligent transportation systems.

II. TOPICS OF INTEREST

We invite contributions on, but not limited to, the following topics:

- Multimodal travel planning, scheduling, and optimization
- Real-time traffic network supply and demand management in multimodal networks
- Behavioural modelling and user-centered design for seamless mobility
- Resilience in multimodal transportation networks aimed at supply/demand disruptions
- Data-driven insights for evaluating seamless mobility systems
- Case studies and pilot implementations of seamless mobility strategies

III. EXPECTED NUMBER OF PAPERS

Given the increasing relevance of seamless door-to-door mobility in addressing urban mobility challenges, we expect a strong response to this session. We aim to feature 4-5 high-quality papers for presentation, selected through a rigorous peer-review process, showcasing a blend of theoretical contributions, case studies, and practical implementations to provide a comprehensive perspective on the topic.

IV. DISSEMINATION PLAN

To ensure maximum visibility and impact of the Special Session, we will distribute a specific “Call for papers” through the MT-ITS website, professional platforms, e.g., LinkedIn, and academic mailing lists. We will send targeted invitations to researchers in the field, for instance, members of the Multimodal Traffic Management (MTM) Cluster of Horizon Europe projects.

¹ Department of Built Environment, School of Engineering, Aalto University, Finland

² Centre for Industrial Management/Traffic and Infrastructure, KU Leuven, Belgium

³ Department of Transport and Planning, Technical University of Delft, the Netherlands

⁴ University of Gustave Eiffel, University of Lyon, ENTPE, LICIT, F-69518 Lyon, France