MobilityBank: Building a Global Collective for Open, FAIR, and Ethical Human Mobility Data

Tartu, Tuesday 16 June 2026

Organiser: *Milad Malekzadeh (University of Helsinki)*

Topic(s) and focus

This workshop focuses on MobilityBank, a global, open, and privacy-preserving initiative for sharing, standardizing, and analysing human mobility data. It aims to advance the collective vision of an interoperable and ethically governed data infrastructure that supports reproducible research across disciplines.
Building on recent efforts such as the OpenGPS initiative[1], the workshop will bring together experts from geography, transport studies, computer science, and the social sciences to discuss how mobility data can be shared responsibly and used more effectively for scientific and societal benefit.

The focus areas include:

- Designing interoperable standards and metadata schemas for mobility data.
- Implementing FAIR principles (Findable, Accessible, Interoperable, Reusable).
- Applying privacy-preserving and federated data-sharing models.
- Establishing governance frameworks and incentives for international data sharing.
- Envisioning a global *MobilityBank Collective* to sustain open collaboration.

Objective(s)

1. Technical alignment – Advance discussion on standardized data formats, metadata structures, and APIs that can enable cross-study analysis and reproducibility in human mobility research.
2. Ethical and legal grounding – Identify best practices for privacy preservation, consent, and responsible sharing of sensitive mobility data, while also addressing key legal requirements that underpin any large-scale data infrastructure.
3. Community building – Launch the *MobilityBank Collective*, a network of researchers, institutions, and practitioners committed to open, FAIR, and ethical mobility data.
4. Vision development – Co-create a roadmap for an international MobilityBank infrastructure and its governance model.

[1] Malekzadeh, M., Ha, H. J., Sila-Nowicka, K., Brum-Bastos, V., Lee, J., Demšar, U., & Long, J. A. (2025). How can we make GPS tracking studies more open, reproducible, and collaborative? A vision for the OpenGPS platform. *Data in Brief*, 111603. https://doi.org/10.1016/j.dib.2025.111603

Planned outcome(s)

The workshop will produce:

- A community white paper outlining technical standards, governance recommendations, and future collaboration priorities.
- A shared roadmap for implementing and sustaining the MobilityBank platform and community.
- Consensus guidelines for data and metadata standardization aligned with FAIR principles.
- A network of contributors (the MobilityBank Collective) with a mailing list and coordination plan.
- A potential special issue or open report (e.g., *International Journal of Geographical Information Science*) consolidating the outputs and visions.

Workshop format

Half-day (3:30 h)

Part I – Setting the Stage (45 min): Short keynote-style talks introducing open mobility data initiatives, FAIR and ethical frameworks, and examples of platform architectures.

Part II – World Café (2 segments of 50 min + 10 min break): Rotating group discussions across four themes:

1. Data standards and interoperability
2. Privacy, consent, and ethical data governance
3. Incentives and institutional frameworks for data sharing
4. Designing the MobilityBank Collective and long-term sustainability

Part III – Collective Synthesis (45 min): Plenary discussion to synthesize insights, agree on core principles, and draft the outline of the roadmap

Target audience

The workshop welcomes a broad interdisciplinary audience, including:

- Researchers and practitioners working with GPS, trajectory, or mobility datasets in geography, transport, and health.
- Data scientists and software developers interested in open geospatial infrastructures.
- Policymakers, funders, and ethics committee members concerned with data governance.
- Students and early-career researchers seeking to engage with open and reproducible mobility science.

Prerequisites: Basic understanding of geospatial data or mobility analysis is helpful but not mandatory. The workshop will be inclusive and accessible to all experience levels.