SPINE
Smart Public
transport Initiatives
for climate-Neutral
cities in Europe

Demand Analysis for New Mobility Services

About

This solution provides advanced demand analysis for new mobility services, helping cities understand how emerging modes interact with public transport and travel patterns. It consists of two complementary models:

a) Integrated demand analysis of micromobility in Las Palmas – using spatial and temporal GPS data to assess demand and predict usage patterns in coexistence with public transport.

b) Mini activity-based transport model in Barreiro – focusing on parking and cruising behaviour around the ferry terminal, analysing how activity timing and type influence mobility choice.

Key Features

- Micromobility demand analysis leveraging GPS data and public transport integration variables

- Activity-based modelling of parking and cruising behavior around ferry-related travel

- Scenario testing tools to support planning of new mobility services aligned with public transport

Who will use it:

Public transport authorities, city planners, and mobility providers designing and integrating new mobility services with existing public transport systems.
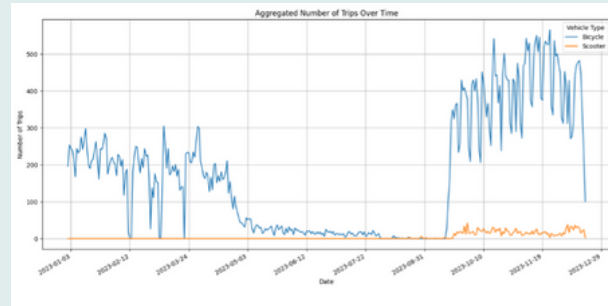

What could be the impact?

By combining large-scale GPS data analysis with activity-based transport modelling, this solution allows cities to anticipate demand and design mobility services that better complement public transport. In Las Palmas, the micromobility analysis helps identify first/last-mile potential, station density needs, and network integration opportunities. In Barreiro, the activity-based model supports strategies to reduce parking pressure, manage cruising behavior, and improve the ferry terminal's accessibility. Together, the models provide cities with data-driven insights to optimize land use, reduce congestion, and strengthen multimodal connectivity for more sustainable urban mobility systems.

Development & testing in SPINE:

Both models are being developed and piloted within SPINE: in Las Palmas, spatial-temporal analysis of micromobility GPS data is already conducted, focusing on integration with public transport. In Barreiro, the activity-based model is being structured and awaits data collection around ferry terminal dynamics.

Can it be transferred?

Transferability requires access to core mobility datasets (GPS traces, public transport ridership, parking data) and local modelling capacity. While model calibration depends on city-specific conditions, the overall approach is replicable. With moderate adaptation, the methods can be applied in other cities facing micromobility integration or terminal-area congestion challenges.
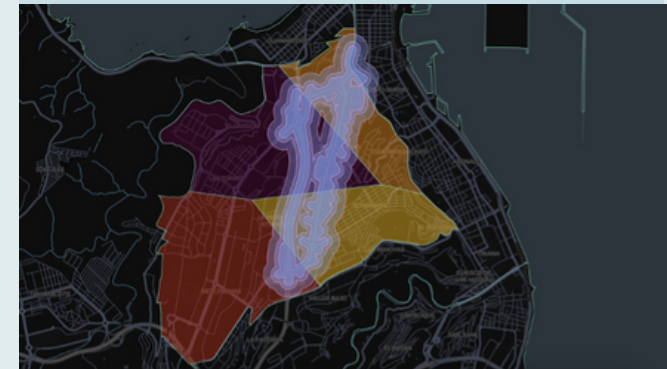
What's next:

The next steps involve completing calibration, running policy-relevant scenarios, and co-developing insights with local partners in Las Palmas and Barreiro. Beyond SPINE, both models can be expanded to other cities, integrated into decision-support tools, and adapted to analyse additional mobility services or multimodal hubs.