Influence of tariff and non-tariff incentives in multimodal shared mobility decisions

Mu-CAR - Multimodal Car-pooling in a global and public ITS

Inter-graduate school project (TRANSBIO / EIPHI) – Université Marie et Louis Pasteur

Post-doctoral position in energy economics – 12 months

CRESE, Université Marie et Louis Pasteur

Réseau EDEN.i and REEL.i chair, Université Marie et Louis Pasteur

Context

This postdoctoral position is part of the Mu-CAR project (*Multimodal Car-pooling in a global and public ITS)* funded by the Bourgogne Franche-Comté Region. The project is based on a multidisciplinary approach that combines researchers in computer science and economics. It aims to propose IT solutions (algorithms, deep learning, artificial intelligence, *etc.*) for efficient matching between supply and demand, based on geolocated and real-time data, in the context of a carpooling service to facilitate the modal shift to public transport networks, for users who are far from it (typically in rural areas). The approach will be based on the deployment of a digital application for users in the field, in which different settings can be implemented to test the influence of various tariff (*e.g.* carbon price) and non-tariff drivers (*e.g.* nudges) on the users' appropriation of this shared and carbon-free mobility service.

By helping to understand the intrinsic and extrinsic motivations of users, and the influence of different determinants (price-based or not) on their decisions, the project aims to enlighten public decision-makers on the good practices to be implemented to increase the use of public transport. The objective is to ensure the transfer of results for industry and local authorities, in order to provide solutions to energy poverty and the fragmentation of territories, through a public transport offer that integrates the individual vehicle and multimodal carpooling.

The selected candidate will have to integrate into the multidisciplinary and participatory context of this project, by interacting with researchers from several laboratories and disciplines, as well as actors from the socio-economic world.

Missions

The postdoctoral fellow will have to develop a theoretical model with the objective of analyzing the influence of pricing determinants (such as the remuneration of participants in the carpooling service according to the emission abatement achieved at a reference carbon price) and non-pricing determinants (such as nudges signals) on carpooling decisions. This will be built on the basis of existing work, which has already been carried out as part of the Mu-CAR project in order to develop a calculation method for the volumes of CO_2 emission reductions generated by multimodal carpooling, as well as the associated abatement costs.

A protocol will then have to be defined to determine modalities for mobilizing the theoretical model in experiments implemented in the laboratory. In addition, the postdoctoral fellow will have to invest in the valorization of the work in order to help deploy the application in the field with a view to carrying out an empirical study based on field experience. He will also produce synthetic indicators, in order to facilitate their understanding by decision-makers. The candidate will also have to be able to propose several scenarios that would be deployed in the interface, according to different variants to test the influence of variables such as: the sharing of value between the provider and the requester of the service, the share of the benefit associated with the reduction of CO_2 emissions allocated to users, non-monetary motivations (altruism, awareness of climate issues, *etc.*), the degree of amenities provided by various configurations of transport networks, nudges, *etc.*

Finally, the postdoctoral fellow will have to contribute to the valorization of results and to the writing of one or more scientific articles. He will also contribute to scientific dissemination activities within the Réseau EDEN.i and REEL.i chair, in particular through the writing of Research Briefs and Policy Briefs.

Profile

The candidate must hold a PhD in Economics and demonstrate strong skills in microeconomics, behavioral economics, and experimentation. Solid knowledge is expected regarding the economic policy mechanisms used in the fields of environment, climate, transport, and energy. A personal interest in carbon offset markets is appreciated.

The candidate must be autonomous, have organizational skills and be able to work in conjunction with interlocutors from the various partner research groups.

Contract duration: 12 months from February 2026 on

Location: CRESE, 30 Avenue de l'Observatoire, 25030, Besançon / UFR STGI, 10 Rue du Général Roussel, 90000, Belfort

Remuneration: Gross salary between € 2840 and € 3017 per month, depending on experience

Application: CV / cover letter / published articles, working papers and other documents reporting on the scientific achievements made by the candidate. File to be submitted to the following address: reseau-eden.i@univ-fcomte.fr

Closing date for applications: January 15, 2026