

## **ABSTRACT FOR GENERAL PUBLIC**

The share of the population living in cities is constantly growing. Additionally, we can observe the phenomenon of urban sprawl, being an uncontrolled mass shifting of people to live in suburban areas where housing construction is intensified. In the long run, this may cause not only degradation of the natural environment and the cities themselves, but also problems related to congestion (increased vehicle traffic). Due to the ongoing process of urban sprawl, the demand for mobility services is growing. Besides, the sharing economy (sharing resources, including means of transport) and micromobility (being meeting the needs of movement with the use of light vehicles, man-driven or with a small motor, usually electric), are currently strongly developing. Light vehicles are, among others scooter, e-scooter, segway. In turn, sharing economy solutions include both solutions for moving people or goods (e.g. crowd logistics, Mobility-as-a-Service).

A proposed research project relates to the development of sharing economy and micromobility solutions in urban areas and suburban zones located in the area of operation of urban public transport, a crucial element of the city logistics system.

The main objective of the project is as follows: Presenting the potential impact of sharing economy and micromobility solutions on the operating of the city logistics system in terms of shaping the flows of people and goods (cargoes) in the administrative areas of cities and suburban areas that are a part of the area of the urban transport system.

The research questions related to the main research goal are as follows:

RQ1. How will the offer of public and private mobility service providers change in the future?

RQ2. How will this offer affect population movements in cities and suburban areas?

RQ3. How will this offer affect the movement of goods in cities and suburban areas?

RQ4. How will these changes affect the functioning of the city's logistics system?

RQ5. How can those changes be forecasted, planned, implemented, amended, measured and controlled?

The outcome of the project will be a set of models and scenarios for future flows of people and goods because of the development of sharing economy solutions and micromobility. The research tasks will be made for several Polish cities and then generalized to be useful for other cities with similar characteristics.

The significance of the proposal lies in the implementation of a holistic approach to the flows of passengers and goods within the cities and suburban areas, embedding this in the context of the city logistics system.

The results of the project will help different stakeholders to develop their own business, verify it or improve their mobility situation. A stakeholder is any public or private entity, or an individual or group of people that use the city or suburban area to any extent or are interested in those in any other way. Stakeholders will include among others: local authorities, logistics service providers (public transport companies, city residents, individuals living in suburban areas, small entrepreneurs having their businesses within cities, representatives other entrepreneurs, other city users. Respondents group for expert-related research will include representatives of the city (and/or voivodeship) authorities and Polish and foreign researchers. Surveys and interviews will be done with different stakeholders groups.

Many solutions in the field of the sharing economy and micromobility are already operating on the Polish market and in Central and Eastern Europe. Unfortunately, however, in the past many of them did not survive the first year of operation. The results of the project will also allow (e.g. through interviews and consultations with experts) to formulate the features that should be included in the market offer in order to meet the needs of potential users.

Modeling and simulation the flows of people and cargoes within cities and urban areas can provide knowledge about possible scenarios for the development of the mentioned solutions and their impact on financial and environmental costs. Mobility gender gap (smaller use of mobility market offer by women) will also be addressed in the project.