The concept of the research project **Urban transport and mobility in Poland in times of crisis compared to the European experience** it arose from the identification of the need to deepen and complement knowledge about the transformations of cities during sudden, unforeseen events.

In recent years, emergencies have significantly impacted the operation of transportation and the mobility of city users, including residents, tourists, and commuters to work and school. This was evident during the spread of the Covid-19 pandemic, when government regulations greatly affected the daily lives of the population, restricting their activities and movements, such as sharing space and means of transport. Two years after the outbreak of the pandemic, the war in Ukraine began, which also brought about changes in city functioning, urban transport, and population mobility, opposite to those observed two years or a year earlier. This was particularly true for Polish cities. Poland was the primary destination and host for waves of war migrants from Ukraine who were affected by the humanitarian crisis. It is projected that 37.5 percent of the refugees who arrived in Poland in 2022 will remain, representing more than 2.5 million new residents. In contrast, between 2024 and 2034, the process of Ukrainians returning to their country will begin. Whenever emergencies occur, the functioning of the urban system is disrupted, and the practices implemented in response are often ineffective. As a result of the wave of several million migrants into Polish, as well as European cities, the functioning of urban transport and the mobility of residents and newly settled people has changed in a short period of time. This example illustrates how dynamically cities are affected by sudden events—such as the 2019/2020 Covid-19 pandemic and the 2022 migration crisis—and how their functional and spatial structure, in terms of transport and mobility, is significantly and unexpectedly transformed in a short span of time.

It is important to emphasize that a resilient urban transport system to external shocks has a strategic impact on ensuring public safety during crises and mitigating the associated risks. However, both researchers and municipalities are confronted with the problem: how to prepare for something we do not know?

The UAM-GIS model will verify the changes taking place in the city as a result of a sudden event, and the algorithm integrated into the model will suggest solutions or scenarios depending on the area of transport and mobility (individual car transport, micromobility, public transport divided into tram/trolleybus, rail, bus) and the infrastructure elements likely to be affected (offices, schools, hospitals, clinics, and other critical infrastructure elements).

The experience of Polish cities as the basis for building the model will be complemented by the results of observations of European cities (in cooperation with project partners): Vienna (Austria), Prague (Czech Republic), Paris (France), Valetta (Malta), Berlin (Germany), London (UK), and Budapest (Hungary). The selected cities are characterized by a high level of urban transport development and rank high in rankings of sustainable and liveable cities. Additionally, their different locations (in terms of socio-economic and spatial conditions) influence their varied experiences of responding to emergencies, which will allow the model to be appropriately validated. Conclusions drawn from the observation of European cities will contribute to the understanding of how a resilient urban transport system should be shaped.

The project will provide answers to the following research questions:

- How much did the mobility of urban users change during emergency incidents and in the aftermath during the first 24, 48, and 72 hours, as well as 7 and 10 days after the incident occurred?
- What practices, and under what circumstances, were used to minimise the impact of emergencies and their effects on the operation of transport in the city? Who applied them? Which of these have been successful and why?
- What factors create urban resilience in terms of transport and mobility? In which cities (with which characteristics) and why?
- What practices should local authorities implement to build the resilience of the urban transport system to emergencies?