People's daily life involves participating in economic, social, cultural or political activities. However, some people are excluded from participating due to individual, local or global factors. When the process in question is caused by the lack of adequate accessibility, it can be referred to as a transport exclusion.

The **goals** of our research revolve around the problems related to transport exclusion and an attempt to solve them scientifically. One of them is the development of a spatial database on public transport infrastructure. In addition, our intention is to develop a methodology for digitizing and processing printed public transport timetables into the General Transit Feed Specification (GTFS) format. The timetables processed in this way will make it possible to achieve the next goal of our project, i.e. to calculate the accessibility to the seats of the authorities of individual administrative levels as well as to the population and jobs, and to determine their spatial arrangement and variability over time, and then to estimate the scale of transport exclusion in the adopted research area. The aim of the study is also to develop a typology of transport exclusion and to develop methods of calculating the trajectory of changes in this process in time and space.

During the **study**, we will construct a spatial database on the infrastructure of non-urban public transport (rail and road) in the area of Central Pomerania (former VI PKS district) and Świętokrzyskie voivodeship (former V PKS district) covering at least six time points between 1950 and 2024. It will allow us to know the spatial distribution of places with both types of infrastructure, one or neither of them, and the variability of these relationships over time. We will also check how the configuration of rail and bus networks has changed over time and whether there was substitutability between them. Based on the digitized timetables, we will thoroughly analyze the variability of the frequency of public transport on a daily, weekly or yearly scale and how it changed spatially in the time interval we adopted. In our study, we also want to learn about the spatial distribution and its variability over time of the accessibility of the population to the seats of authorities of units of various levels of administrative division, as well as to the population and jobs. On the basis of selected socio-economic characteristics and the calculated accessibility, we will try to estimate the scale of transport exclusion and answer the question whether it is really a new phenomenon, or has it existed much longer and only recently broke into the scientific consciousness? And if it has a much longer history, how has its character changed over the study period? We are also interested in how the transport exclusion changed over time - was it complete or partial (concerning specific periods of a day, week, month or year) or intermediate between these types? In other words, we are asking if there is a temporal, spatial, or maybe space-time polarization, and in what combinations and what is its strength? We strive to answer what are the temporal and spatial dynamics of types of transport exclusion and whether they were evolutionary or revolutionary processes. We are interested in whether there are any connections between the formation of transport exclusion processes and selected key moments in Polish and world history.

The main **reason** for undertaking this study was primarily the desire to fill in the existing research gaps, both nationally and internationally. No studies treat the networks of non-urban passenger rail and bus transport as one system and most are cross-sectional or limited to two time points over a 15 year time span. We also undertook our research due to the huge research gap in understanding the shaping of the bus network, especially in terms of dynamics. We also noticed a lack of research on changes in accessibility at various timescales, especially for rural areas, so we want to look at what happened here also many years earlier. We would also like to check whether transport exclusion is actually a modern or historically established phenomenon. The most important reason for undertaking this study was also the desire to combine the use of classic source materials (book timetables) with modern research techniques based on GIS tools, machine learning, programming in python and programmatic conversion of files to the GTFS format typical for currently available electronic timetables.

The **results** of the implementation of our project will fill the existing research gaps by performing an integrated and systematic measurement of transport accessibility and exclusion over time. In our study, we also propose new techniques for studying the spatial and temporal polarization of these processes and the trajectories of their changes over a long period of time, allowing for the generation of completely new knowledge. Thanks to the adopted more than 70-year time frame, the result of the study will be a picture of the co-evolution of individual transport networks of interest to us, as well as transport accessibility and exclusion. This, as we expect, will allow us to have innovative insights into the processes of transport exclusion and their changes over time under the influence of regional and global events. Our insights will form the basis of research and policy making on public transport services, planning and equality issues in rural and peripheral areas.