

Względność i efektywność zmiany dostępności potencjałowej a koszty budowy nowoczesnych systemów infrastruktury transportowej (RECiPA)

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(projekt OPUS)

The project objectives can be divided into cognitive, methodological and application-related ones. The main cognitive objective of RECiPA is to complete a theoretical (settlement structure model) and empirical (selected European countries) analysis of the relativity of change in accessibility depending on the settlement structure, stage-based development of the transport network, and the travel length (forms of distance decay). The methodological objective is to propose a methodology for researching (a) the effectiveness of change in accessibility in terms of the input/effect ratio, i.e. relationship between the construction cost and change in nationwide potential accessibility, also relative to the structure of the settlement network and the staging of the development of a modern transport network; (b) the relativity of change in the overall nationwide level and regional disparities between potential accessibility – a change understood primarily in the context of the travel length depending on the structure of the settlement network and the staging of the development of a modern transport network. The key role will be played by the model of a state based on the central place theory, which can be used for a multi-variant analysis of the influence of the differentiation of the settlement network and the staging/phasing of infrastructure development, on change in accessibility and the cost of such change. The methodological and application-related objective will be to prepare a range of variants for analysing the phenomenon of the effect of the settlement network and staged infrastructure development on change in the national level and regional differentiation of potential accessibility, using the example of selected European countries with various advancement of the investment process, with the choice of Spain, France, Germany, Romania and Poland. The empirical analysis will be completed in the cartographic form (ArcGIS software) based on simulations made, with the OGAM application. The project will present options for refining the analysis methodology, mainly by studying changes based on sufficiently long time series (monitoring changes in potential accessibility) and recommendations for transport policy-making in terms of its efficiency (input/effect ratio).

Publikacje

Artykuły od 2013 roku

- Rosik Piotr, Mazur Marcin, Komornicki Tomasz, Goliszek Sławomir, *Stepniak Marcin*, Duma Patryk, *Jakubowski Andrzej*, *Pomianowski Wojciech*: [National and regional potential accessibility convergence by decay and decades in Germany, France, Spain, Poland and Romania in the years of 1960–2020.](#) - Journal of Transport Geography 2025, 123 104106 - s. 19.
- Rosik Piotr, Mazur Marcin, *Stepniak Marcin*, Komornicki Tomasz, Goliszek Sławomir, Duma Patryk, *Churski Paweł*: [What drives potential accessibility decomposition? Temporal and spatial variability of the impact of infrastructure and population components in France, Spain, and Poland in the years 1960–2020.](#) - Journal of Transport and Land Use 2025, 18, 1 - s. 27.
- Komornicki Tomasz, Goliszek Sławomir: [New Transport Infrastructure and Regional Development of Central and Eastern Europe.](#) - Sustainability 2023, 15, 6 - s. 5263.
- Rosik Piotr, Komornicki Tomasz, Duma Patryk, Goliszek Sławomir: [The effect of border closure on road potential](#)

[accessibility in the regions of the EU-27. The case of the COVID-19 pandemic.](#) - Transport Policy 2022, 126 - s. 188-198.

- Rosik Piotr, Komornicki Tomasz, Goliszek Sławomir, Pomianowski Wojciech, Stepniak Marcin: [Multimodal evaluation of changes in national potential passenger and freight accessibility during the EU-driven big push to transport infrastructure.](#) - Sustainability 2022, 14 - s. 10044.
- Rosik Piotr, Goliszek Sławomir, Komornicki Tomasz, Duma Patryk: [Forecast of the impact of electric car battery performance and infrastructural and demographic changes on cumulative accessibility for the five most populous cities in Poland.](#) - Energies 2021, 14, 24 - 12 s.