

# **Proxies for proxilience. The implications of the 15-minute city in 15 Romanian cities**

Autori: Foşalău Cristian-Manuel, Bănică Alexandru, Dinter Oliver-Valentin, Kourtiti Karima, Iaşu Corneliu

## **Abstract**

In a world that faces increasing challenges regarding urbanism, the concepts of proximity and resilience have emerged as pivotal elements in urban planning and development. Proxilience, a term that covers the synergy between these two ideas, highlights the importance of creating urban environments that not only bring essential services and amenities closer to residents but also enhance their capacity to withstand and adapt to challenges. The 15-minute city model (Moreno et al. 2021) serves as a foundational framework for proxilience, referring to neighborhoods where residents can access their daily needs—such as work, education, healthcare, and recreation—within a short walk or bike ride from their homes. This model promotes a sustainable and equitable urban lifestyle, fostering community engagement and reducing reliance on automobiles. Recently, the concept of resilient development has strongly focused on two different issues: vulnerability and adaptability. The mitigation of vulnerability and the strengthening of adaptability are both assumed to be possible through implementing certain principles related to proximity.

In the context of Romania, where urban areas are often marked by rapid growth and socio-economic disparities (Bănică & Muntele 2017), the exploration of proxilience becomes particularly relevant. This paper aims to investigate the interplay of proximity and resilience in 15 Romanian cities, assessing how the principles of the 15-minute city can be related to bridge the gaps of urban living conditions. By analyzing the spatial distribution of daily services and the adaptive capacities of these cities, we seek to uncover strategies that not only improve accessibility but also bolster the resilience of urban communities against various challenges, including environmental changes, economic fluctuations, and public health crises. Through this exploration, we aim to contribute to the ongoing discourse on sustainable urban development and the creation of livable, resilient cities that prioritize the well-being of their inhabitants.

Starting from Carlos Moreno's 15-minute neighbourhood concept, the aim of the paper is to evaluate the implications that proximity to different urban amenities has in resilience, intersecting in the proxilience concept. The hypothesis stating that increased accessibility can lead to lower vulnerabilities and higher resilience is therefore tested. We put forward this buzzword in the context of Romanian cities. This aim is achieved by: (i) measuring accessibility to services in the selected cities and weighting them according to the importance of human necessities; (ii) correlating accessibility with population density at a micro-scale; (iii) evaluating resilience indicators inside cities and their adjacent communes at a meso-scale; (iv) assessing the relationships between resilience indicators and proximity.

The Romanian post-socialist urban context has been marked by significant transformations in their functions, industrial landscapes, and demographic dynamics (Hirt 2008). Following the fall of the communist regime in 1989, many urban areas experienced a shift from state-controlled economies to market-oriented systems, leading to the privatization of industries and a gradual decline of traditional manufacturing sectors. The urban functions were gradually reconfigured - and this transition still continues today - following a notable rise in the tertiary sector. As cities tried to adapt to these new economic realities, they also faced challenges such as the ambition to mimic the western urban frameworks, difficulties in administering the chaotic legislation, delays in development, migration, unemployment and urban decay in formerly industrial zones. The rural depopulation led to an unnatural urbanization of Romania in the communist era, while the present-day prevalent phenomenon is represented by peri-urbanisation. Even if large cities benefit from diversified economies and influx of investments, small and medium-sized cities feel the difficulties of the post-socialist transition more severely. Vulnerabilities are reflected at different levels through these city profiles, and they were chosen in a way that most of them can be covered and discussed.

The study area comprises 15 cities in Romania that were chosen based on their performance in vulnerability indicators. The selection covers urban areas that are heterogeneous in terms of size, geographical location and site, economical activities and paths of development. Iași, Cluj-Napoca and Timișoara, for example, are some of the second tier cities in Romania that act as regional economic hubs and have large influence areas. They have a diversified economy and showed great resilience through the 2008 economic crisis and COVID pandemic. Oradea is one of the most dynamic cities in the country, with direct access from the western foreign investments and good administrative frameworks. The economies of Reșița and Călărași were highly dependent on the steel industrial platforms from the XX-th century, now being part of the periphery and finding difficulties in moving towards tertiary activities and a more resilient economy. This broad image permitted a full understanding of the different implications that accessibility may have on and in what contexts it can alleviate urban vulnerabilities.

The paper proposes a multi-scalar approach. Firstly, the accessibility is measured at a micro-scale, using the time-distances from population points to geolocalized basic urban amenities. We work with time as a dimension of the present-day poly-rhythmic city (Allam et al. 2022). In correspondence to the 15-minute neighbourhood concept and the promotion of active mobility, we take into consideration walking times to a variety of frequently accessed services. We create an accessibility index based on Maslow's hierarchy of human needs, for a more realistic approach to the weights each service category should receive, basic needs, psychological needs and self-fulfillment. The second scale, the wider one, represents indicators from official databases and data processed by authors, that are related to social and economic vulnerability of the people at a commune (LAU2) level.

The statistical correlation analyses reveal significant relationships, indicating valuable ways in which higher accessibility to essential services and amenities is associated with enhanced resilience in urban communities. Specifically, the scores of the accessibility index

demonstrated to a certain extent the levels of vulnerability to socio-economic challenges, environmental changes, and public health crises. This correlation suggests that improving access to resources such as healthcare, education, and self-actualisation facilities not only fosters greater community engagement but also provides the necessary tools to adapt and respond to challenges. Furthermore, the findings highlight the importance of integrating proxilience principles into urban planning, as enhancing accessibility can serve as a strategic approach to reinforce the overall resilience of communes and municipalities, particularly in the context of rapid urbanization and socio-economic disparities observed in Romania. This complex interplay of economic, social, and demographic factors underscores the necessity for a novelty approach such as the concept of proxilience through a multi-scalar approach, to urban planning that can effectively respond to the evolving needs of Romanian cities.

#### References:

Allam, Z., Nieuwenhuijsen, M., Chabaud, D., Moreno, C. (2022). The 15-minute city offers a new framework for sustainability, liveability and health. *The Lancet Planetary Health*, 6(3):e181-e183, [https://doi.org/10.1016/S2542-5196\(22\)00014-6](https://doi.org/10.1016/S2542-5196(22)00014-6).

Bănică, A., Muntele, I. (2017). Urban transitions and resilience of Eastern European Union cities. *EASTERN JOURNAL OF EUROPEAN STUDIES* Volume 8, Issue 2.

Hirt, S. (2008). Landscapes of postmodernity: changes in the built fabric of Belgrade and Sofia since the end of socialism. *Urban Geography*, 29, 8, pp. 785–810. DOI: 10.2747/0272-3638.29.8.785.

Kourtit, K., Nijkamp, P., Türk, U., & Wahlstrom, M. (2022). City love and place quality assessment of liveable and loveable neighbourhoods in Rotterdam. *Land Use Policy*, 119, 106109.

Moreno, C., Allam, Z., Chabaud, D., Gall, C., & Pratlong, F. (2021). Introducing the “15-Minute City”: Sustainability, resilience and place identity in future post-pandemic cities. *Smart Cities*, 4, 93–111. <https://doi.org/10.3390/smartcities4010006>.