

Mapping the X-Minute City: Visualizing how different types of residents interact with their “15-Minute Cities”

Natalie O’Dell ^{a*}, Florian Ledermann ^b

^a Technische Universität Wien & AIT Austrian Institute of Technology – natalie.rose.odell@gmail.com

^b Technische Universität Wien – florian.ledermann@tuwien.ac.at

* Corresponding author

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Abstract:

In recent years the 15-Minute City has emerged as an urban planning model that has seen widespread attention as it presents a promising approach to improve urban life and plan for environmental resilience. The concept promotes the idea that citizens should be able to access their daily necessities within a 15-minute walk or bike ride, and has been embraced by different cities as they try to plan for the future (Moreno, 2016). However, as this topic gains increasing traction in the planning sphere and beyond, different approaches to the concept are being undertaken with other temporal metrics being proposed which has led some to settle on the term ‘x-minute city’ instead (Logan et al., 2022). Alongside shifting temporality in defining a 15-Minute City, comes the question of the adaptability of the 15-Minute City in ways that consider diverse types of urban residents who are not always taken into account in planning and cartographic analysis. This research will critically explore the diverse limitations of different types of urban residents in the context of the 15-Minute City with a focus on producing an innovative cartographic representation of these diversities within urban space.

The research will focus on the city of Vienna - a city with a high density of different businesses and services necessary for daily life in its neighborhoods. Vienna is in some ways already a 15-Minute City, however this research will tackle the question of if Vienna is a 15-Minute City for all its residents in all its neighborhoods and examine how these different components can be represented in cartographic visualizations. In support of answering this question, the overarching goal of the research is an exploration of the limitations of different types of urban residents in Vienna within the context of the 15-Minute City through an interactive cartographic visualization. This goal is supported by two main objectives. The first seeks to craft new definitions and accessibility metrics for the 15-Minute City that consider different types of urban residents. The second objective will focus on creating cartographic visualizations of the 15-Minute City that consider the diverse needs and abilities of different urban residents through data collected through qualitative findings.

In order to address the aforementioned objectives, the project will take on a qualitative approach to collecting data on the 15-Minute City in the form of distilling resident needs and limitations in terms of accessibility through literature review and expert interviews and applying information to quantifiable metrics, geospatial analysis, and cartographic visualization. This approach will aim to develop a new methodology for qualitative empirical findings within the realm of cartographic visualization research (Lee et al., 2019). This methodology aims to bring a more human angle to data collection in urban spaces and how data can be harnessed in urban cartographic visualizations.

The intended output of this project is an interactive cartographic representation of a selected case study neighborhood in Vienna that visualizes the different needs and limitations of different urban resident groups alongside scalable urban accessibility metrics within context and new definitions of what a 15-Minute City is.

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