

Scholarship within the framework of cooperation between the Vienna University of Technology and Lviv Polytechnic National University.

**Research topic : «Densification of the built-up terrains of historically established city»**

**Author:** Solomiia Konyk

**Duration:** 01.03.2020 to 31.03.2020

# REPORT

## INTRODUCTION

In recent decades, Ukraine has undergone large socio-political transformations, which have also been reflected in the urbanization processes. The war in the East of Ukraine caused equally important internal and external migration of the population. There was also a change of business locations from the eastern regions to the central (capital) and western (Lviv as a regional center).

Currently, the average housing provision in Ukraine is more than 2 times less than in developed European countries and amounts to 23.6 m<sup>2</sup> per person, which is achieved mainly due to the decrease of the population of the country and the growth of the share of single-family houses in the general structure of the housing stock.

Understanding the problems arising from the intensification of building construction, I consider it necessary to implement a project that will affect the regulation of the urban development process in Ukraine.

In the period from 2014 to 2025 is the provision of 120,000 housing units [1]. According to STEP 2025 In the built-up parts of the city, «Vienna aims to improve the availability of open spaces, social facilities and mobility offerings in targeted fashion and will have to create new space for housing, trade and recreation by converting brownfields and gaps between buildings, refurbishing attics and adding storeys». In this case it was defined the following percentage distribution of the territories to improve: 55% new structures erected on areas identified for potential development; 27 % further development of existing buildings; 10% modified use of existing buildings; 8% areas hitherto not considered for development. [2] It is important to determine and to analyze the main features of densification of each type of the terrains.

According to MERCER data (*Mercer evaluates local living conditions in more than 450 cities surveyed worldwide. Living conditions are analysed according to 39 factors, grouped in 10 categories*) Vienna is the most comfortable city for life [3]

Based on this fact, it is interesting to analyze the characteristics of urban environment, urban developments and use the conclusions to make a recommendations for urban development in local context.

## **AIM OF THE RESEARCH**

Investigate the characteristics of the building intensification impact on the urban environment quality of historically formed cities to propose a methodology for monitoring and regulating of the urban intensification process to provide comfort sustainable future for all.

## **TASKS**

1. To explore theoretical bases of urban environment researches in Vienna to compare it with Ukrainian context.
2. Identify the main features of the urban intensification process based on exploration of new urban developments in Vienna.

## **RESEARCH METHODS**

**Theoretical methods** (review and analysis of theoretical architectural sources, internet resources, the method of primary sources, comparative and generalizing analysis);

**Empirical methods:** observations (field examinations and photo fixation); measurements; comparison; conclusions urban planning analysis.

My research methods is a combination of approaches to obtain quantitative and qualitative data of urban density.

## **RESEACH PLAN**

1. To explore theoretical bases of urban environment relying on archival historical maps, conceptual and realized projects, urban development strategies I managed to attend: TU Vienna Library, Architekturzentrum Wien. It was useful for me to work with the materials (*some of them*):

1. Historical maps of Vienna development.
2. August S., Architecture Vienna: 700 Buildings Paperback – 8 Aug. 2008,
3. August S., Vienna - New Architecture 1975 - 2005 August Sarnitz, 2003
4. Biswas, R.K., Metropolis now!, Wien/New York 2000

5. Baldauf, A., *Entertainment Cities*, Wien/New York 2008
6. Förster W. / Menking W. (eds.) *The Vienna Model 2, Housing for the City of the 21st Century*, 2018
7. Förster W. / Menking W. (eds.) *The Vienna Model, Housing for the 21st Century City*, 2016
8. Eröffnung der Ausstellung „»Wien. Die Perle des Reiches Planen für Hitler“ am 18. März 2015 im Architekturzentrum Wien.
9. *Grand Urban Rules* Paperback – April 30, 2014 by Alex Lehnerer
10. Schröder J., Carta M., Ferretti M., Lino B., *Territories: Rural-urban Strategies* 2016, Berlin 2017
11. Kristien R., *Urban Living: Strategies for the Future*, Jovis, 2015
12. Kovacevic I., Vasourkova Y., *Urbanity, Twenty Years Later: Projects for Central European Capitals*, Urban Jeriha, 2010

*(Other materials was taken into operation from online recourses).*

2. Conversation with Prof. Andreas Hofer, who informed us with the Vienna Development strategy STEP 2025. , that was useful to understand vision and priorities. Also, it allowed me to determinate the local objects of the urban development for further more detailed research.
3. To determine the main quantitative characteristics of urban density; to calculate urban density indicators to understand the objective side of the research. (for example FAR, GIS, OSR, N indexes).

The example of new developments research process in Lviv, Ukraine, you can read in papers [4]: 1) Черкес Б. С., Петришин Г. П., Коник С. І. (2018). Інтенсифікація забудови історично сформованого міста (на прикладі Львова) . *Вісник Національного університету "Львівська політехніка". Серія: Архітектура*. Львів, № 893. – С. 129–138. 2) Bohdan Cherkes, Halyna Petryshyn, Anton Kolomyeytsev, Konyk S.I., (2018). Intensification of building territory of a historical formed city at the example of Lviv. *Architectural studies 2018, Academic Journals and Conferences*, Vol. 4, No. 1, Lviv, p.1-10 3) Коник С. І. Вплив процесу ущільнення забудови на візуальний образ Львова .*Сучасні проблеми архітектури та містобудування : науково-технічний збірник*. Львів, № 54, С. 257–267. 4) Cherkes Bohdan, Petryshyn Halyna, Konyk Solomija, (2018). Urbanizational trends and impulses in the housing consruction of Ukraine . *World multidisciplinary civil engineering-architecture-urban planning : symposium : abstract collection book*. Prague (Czech Republic), 18–22 June 2018, P. 750.

4. Field examinations. To research how the differences in approaches to the urban policy work in real urban enviroment.

It was a number of excursions to the new housing developments: Sonnwendgasse, Sonnewendviertel and Helmut Zilk Park, (2016); Viertel Zwei,(2018), Holzwohnbau(2015), Eurogate (2014); Aspern; AST –Wohnbau (2011), Nordwestbahnhof (2018)

An excursions to the sites of future housing developments:

Biotope city, NordBahnhof, Wohnhochhaus, Triple.

5. Social dialog. Dialog as an qualitative approach to investigate urban environment. The Dialog is an instrument of understanding, confidence building, exchanges with information. It is equally important to gather subjective data out of sociological surveys to understand the local context. It is very important to understand people's values, needs, requirements to comfort urban environment and urban quality indicators.

*(It is pity that It was a lack of time before the COVID-19 have started to get results out of social communication to make the objective conclusions).*

## CONCLUSIONS

It was a great source of experience I will do my best to use previous experience to show new results in my research and practice directions. Thank you OeAD for the opportunity to work on my research work in Vienna, namely in Institut für Städtebau, Landschaftsarchitektur und Entwerfen Fakultät für Architektur, TU Wien with prof. Andreas Hofer. I hope to have an opportunity to continue my research in Vienna next time and to spend more time in communication with inhabitants, students, colleagues, architects to understand local urban planning context.

In close period (in June) I will present my PhD research work «*Densification of the built-up terrains of historically established city*» in Lviv Polytechnic National University, Department of Urban planning. The materials based on gathered data of new urban developments in Vienna and a comparative analysis of Vienna and Lviv new residential developments will be included in the third section of the research work.

## **DURATION IN VIENNA**

My colleagues and I came to Vienna on March 2, on Monday, so we had all opportunities to start our internship. We visited all the necessary institutions listed in OeAD. Then we had productive meeting with prof. Andreas Hofer who coordinated us with opportunities in our research fields.

Unfortunately, on March 16, 2020, we had to urgently come back to Lviv, according to the situation with COVID-19, the pandemic started to raise, and Ukraine closed all the borders. According to this situation, I have to continue my research online, in Lviv using online literature, google maps, interactive platforms.

### **Sources :**

1. Internet recourse: <https://www.wien.gv.at/english>
2. Urban Development Plan Vienna STEP 2025, which was adopted by the Vienna City Council on 25 June 2014. Internet recourse: [www.step.wien.at](http://www.step.wien.at)
3. Internet recourse: <https://www.mercer.com/>
4. Google scholar profile: <https://scholar.google.com.ua/citations?hl=uk&user=2jntr-QAAAAJ>