

Lviv Social Resilient City:

Urban Density Lab Ukraine 2022

Design Program - Master of Architecture Sept. 2022 - Feb. 2023

• TU Wien • Lviv Polytechnic University • Lviv City Council Office
of Architecture and Urban Planning



Academic partnership between Vienna University of Technology
and Lviv Polytechnic National University www.vienna-lviv.info

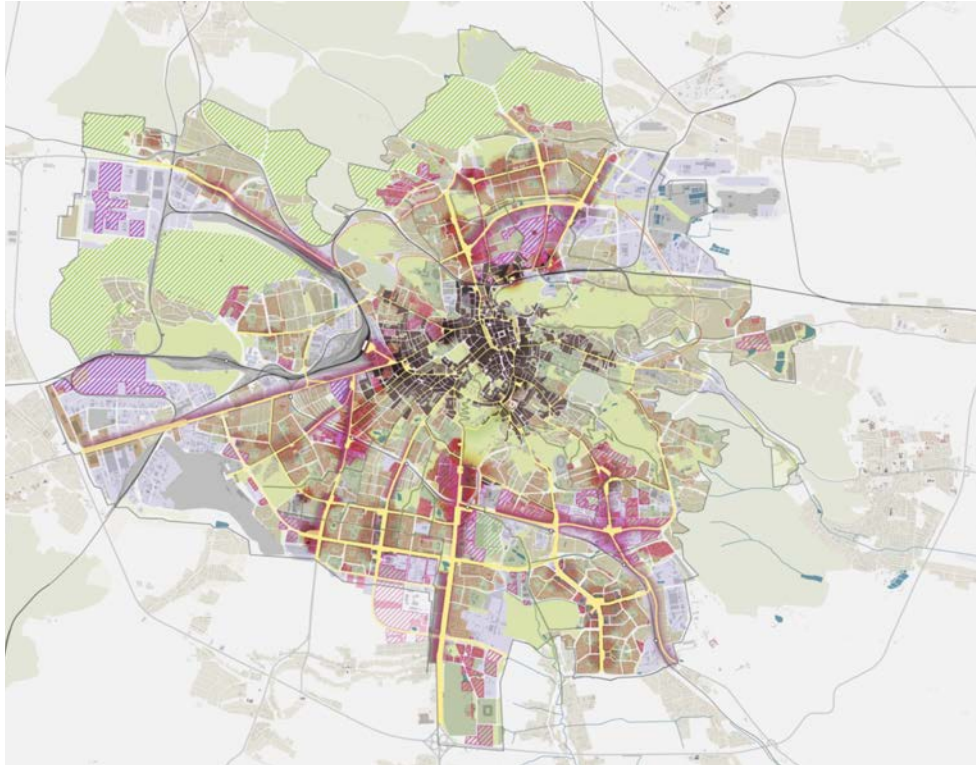
Report

1 Background

The urban landscape of Ukraine has been radically changed by Russia's war of aggression, which has been ongoing since 24 February 2022. While the war rages in the frontline regions in the east and south of the country, the cities in the hinterland are challenged to cushion the immediate effects of this war.

The city of Lviv in Western Ukraine (730,000 inhabitants before the war) is one of these cities and plays a very important role as a so-called „back-up city“. Since the beginning of the war, Lviv has become a destination for countless displaced people and currently has around 900,000 inhabitants (estimate). The challenges are enormous: the city must develop resilient structures in the short, medium and long term to meet the most urgent needs of its population. The design deals with the concrete urban challenges of Lviv as a socially resilient city.

Fig. 02 Lviv with urban transformation priorities (2021) Source: Lviv City Council Office of Arch. & Urban Planning



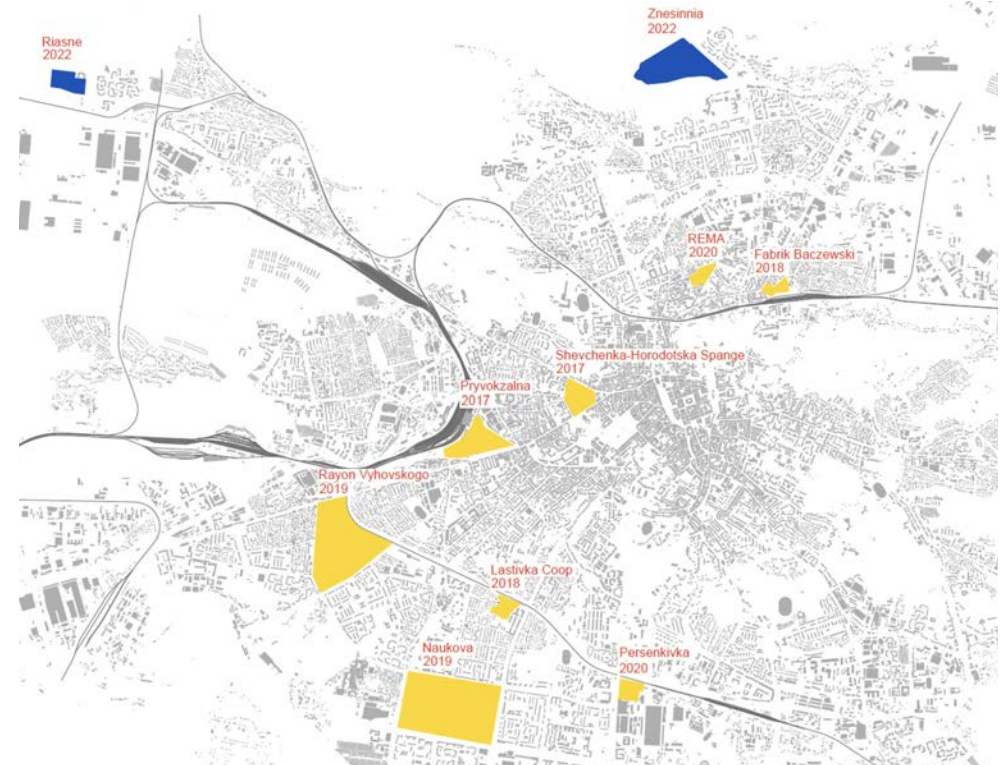
The Lviv Chief Architect Anton Kolomeitsev has proposed the following 2 priority sites for the processing of this design, which results from an immediate need due to the war situation and will therefore enter a concrete planning phase in the short or medium term.

The participants of the design could choose one of the two locations to develop an urgent urban planning project: Rehabilitation Quarter Zboishcha and Ryasne Neighbourhood: „Rehabilitation“ and „Productive City“.

The so called „Urban Density Lab“ was organised within the framework of the academic partnership between the Vienna University of Technology and Lviv Polytechnic National University (www.vienna-lviv.info).

41 Architecture students and 5 tutors worked together with the staff of Lviv City Council Office of Architecture and Urban Planning.

Fig. 03 Lviv Urban Figure with Ryasne and Zboishcha and context of Density Labs 2017-2020



2 The locations of the 2022 Urban Density Lab

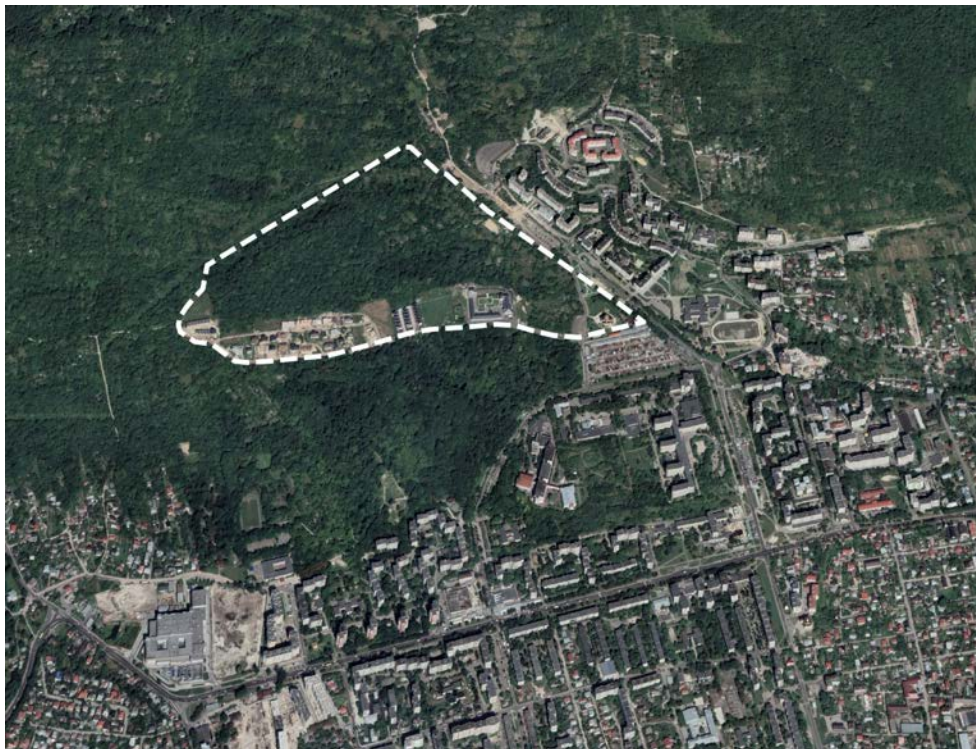
Rehabilitation Quarter Zboishcha

Urban planning concepts were to be developed for an area of about 18 ha on Orlyka Street, which lies to the north of the two large clinics of the Shevchenko Rayon (*Clinica Communal Emergency* and *Communal Childrens Clinic*) and belongs to the city administration.

The guiding function of this neighbourhood was to be a rehabilitation centre for war invalids in a spatial-functional context with the two clinics. Further requirements were training centres for health personnel as well as housing and educational facilities for their families.

In addition, sufficient green spaces in the neighbourhood itself and connections with the Silent Park were particularly relevant to the design. The urban development of this area currently has the highest priority in the urban planning strategy of Lviv.

Fig. 04 Zboishcha neighborhood & surrounding Source: Lviv City Council Office of Urban Planning / Google Earth



Ryasne Neighbourhood: „Social Housing“ and „Productive City“

Ryasne is a peripheral district in the west of Lviv and, in addition to suburban residential typologies, mainly comprises commercial use. The Lviv municipality owns an area of about 9 ha here, which is to be developed in the future with a focus on people with war experience. The project thus includes mixed forms of working and living as a target formulation. The term „social housing“ addresses different types of housing (individual, communal, assisted, sheltered, etc.); the term „productive city“ links these forms of housing with different types of space for so-called „innovative milieus“ (creative industries, technology, services, start-ups, cultural production, IT industry, crafts, etc.).

Fig. 05 Ryasne neighborhood & surrounding I Source: Lviv City Council Office of Urban Planning / Google Earth



3 Didactic approach

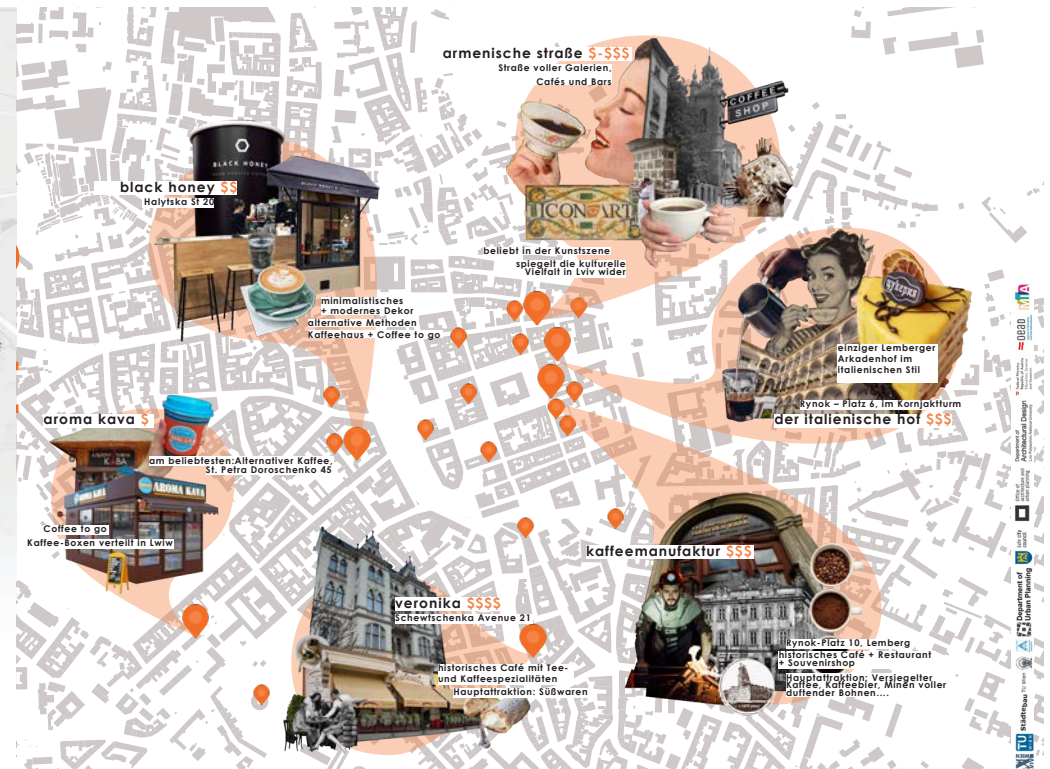
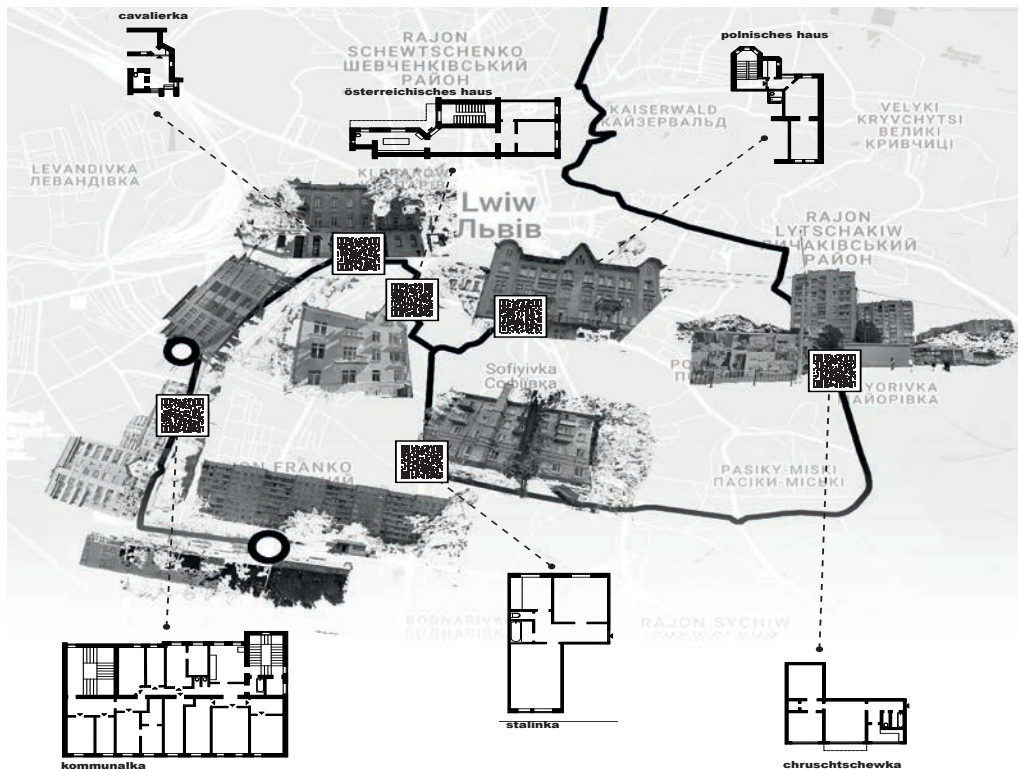
The Lviv Social Resilient City Urban Density Lab was part of an academic semester program in the winter term of 2022-23 at both partner universities. It was composed of:

- a condensed **preparatory phase** in Vienna and Lviv in September and October 2022
- an **Urban Density Lab** from October 17th to 21st organised as a „International hybrid-workshop on Urban Design“ (Vienna & Lviv)
- a following **conceptual phase**; ending-up with a hybrid event called „Concept Presentation“ on November 16th - 17th (Vienna & Lviv)
- an **urban design process**; ending-up with another hybrid event called „Mid-Term Review“ on December 14th - 15th, 2022 (Vienna & Lviv)
- a **final elaboration phase** from December 2022 to January 2023; ending-up with a Final Presentation on January 31st (Vienna & Lviv)

- a **following echange on questionnaire** related to the finale projects of both universities (Vienna & Lviv by zoom and owncloud)
- a **final event in Krakow / Poland for final dicussion**, feedback on the projects results and „proof of practice“. This so called „Krakow Open Lab“ took place from february 28th till march 2nd 2023.

Fig. 06 Lviv Housing Typologies; Task: Discover Lviv Alexandra Konstantinova, Zinat Tashpulatova, Sophia Lenikus, Christoph Erkinger

Fig. 07 Lviv Coffy-Shop Typologies; Task: Discover Lviv Sofya Lukyanchenko, Laura Sipple, Hanna Müller



Preparatory phase

Task 01 Who_is_who

Personal introduction of the participants for teambuilding process with 5 questions to answer graphically:

- **Self-portrait and personal background**
For a creative teamwork my colleagues should know about me
- **short description of my work**
a representative project of my choice, e.g. from the last academic year, with which I identify myself
- **„Social Resilience“ means for a city**
my individual attitude to this topic ...
- **„Urban Density“ means for a city**
my individual attitude to this topic ...
- **Lemberg/Lviv could be / is a city that**
my expectation of / my idea of the location of the design process.

Task 02 Lviv Urban Analysis

Analysis of the urban structure and the morphology of Lviv by maps, key-buildings and public spaces.

Task 03 Urban Social Resilience - Good Practice Projects

Poster Research / Graphic Analysis. This graphic analysis is a method for expressing one's opinion and the lessons learned about the topics of „Rehabilitation Spaces“ (Zboichcha Neighborhood) and „Productive City“ (Ryasne Neighborhood) by analyzing international project experiences.

Task 04 „Discover Lviv“

Create a virtual excursion to or through Lviv! Choose one or more „must see“ sites / buildings / objects / places / public spaces / or topics in or about the city of Lviv that interest you very much.

Fig. 08-15 Task: who_is_who different student works and pictures TU Wien



International hybrid-workshop Urban Density Lab

October 17th to 21st 2022

The Lab focuses on the didactic entry into the concept phase. Activities such as site *interpretation*, *potential analysis* and *goal formulation* were used during the lab. The following didactic steps were applied:

- **Good practice analysis**

Practical examples from international neighborhood developments focussing healing processes (Zboishcha) and „Productive City“ (Ryasne) were discussed and analyzed.

- **Mapping the sites**

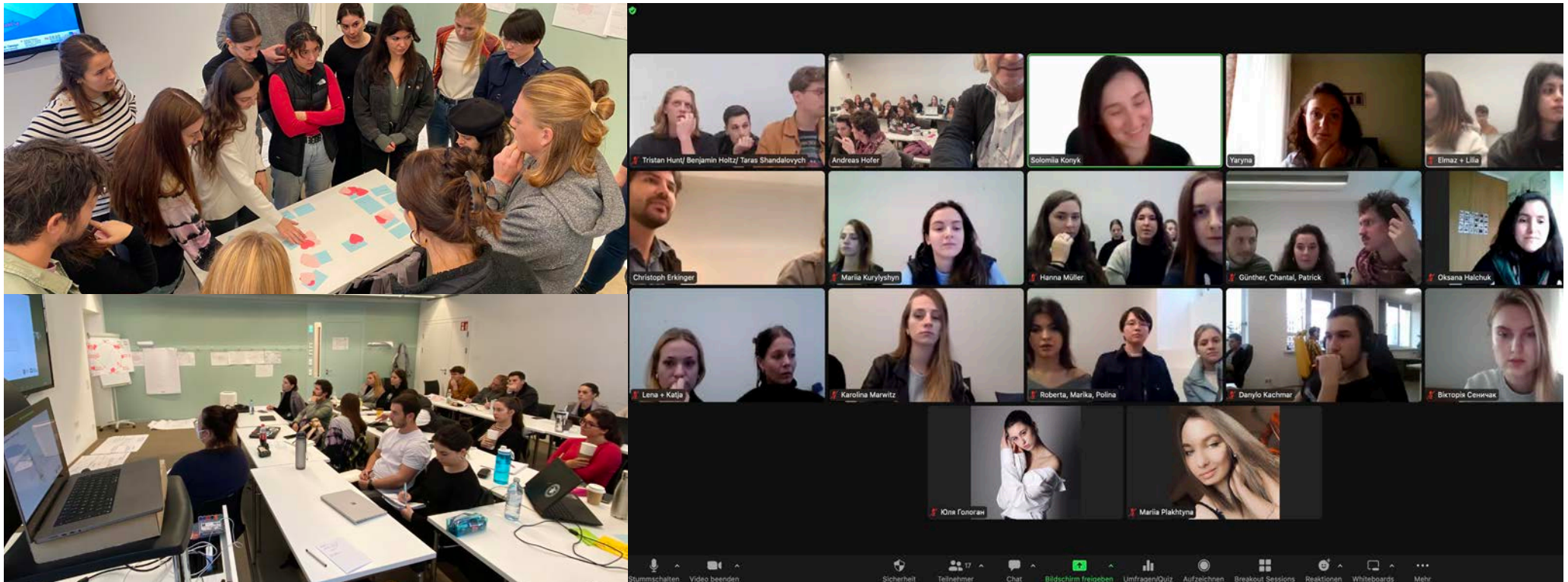
Both sites, Ryasne and Zboishcha were to be analyzed in terms of physical, environmental and topographical issues and presented in form of individual maps.

- **Urban Visions**

A motivating, positively formulated ideal image of a desirable stage lying in the future is to be presented in graphic form. It should act as an inspiration in the medium and long term.

This three tools should lead into the next step which the formulation of Goals for the future development of both areas.

Fig. 16-18 Workshop at TU Wien and online with Lviv Polytechnic (zoom)



Lecture by Anton Kolomietsev:

TU Wien, October 27th, 2022

“Practice of Integrated Urban Development in Lviv: After February 24th, 2022”

In the context of Design Programme „Lviv Social Resilient City Urban Density Lab Ukraine 2022“ the Chief Architect of Lviv, Anton Kolomietsev gave a lecture on goals and requirements of urban development BEFORE & and SINCE 24 February 2022 at TU Wien.

Among other contents, he explained the goals of the current Urban Development Plan of Lviv, such as the reduction of land consumption through internal development, the newly issued urban development guidelines for target areas of urban development, and individual specific projects and their expected impacts.

Furthermore, Anton Kolomietsev explained the changed priorities in terms of Urban Development in Lviv due to the war since 24 February 2022: the reception of tens of thousands of displaced people in Lviv coming from other Ukrainian cities and the associated challenges for supply, infrastructure and housing. Finally, he once again specified the target formulations for the future development at the Zboishcha and Ryasne site.

Fig. 19-23 Lecture by Chief Architect Anton Kolomietsev at TU Wien, Oct 22n^d, 2022



**Concept Presentation Nov 16, TU Wien (live)
Nov 17, online by zoom with Lviv Polytechnic University**

During this presentation, the first conceptual approach for the creation of a future development scenario for both sites, Zboishcha and Ryasne were presented.

Each working team presented their own approach:

- a catchy working title and logo for the project
- interpretation of the site analysis and conclusions
- the formulation of goals for the future development
- conceptual drawing of the future of the chosen neighbourhood; including programs and urban qualities.

Each working team received feedback about their concepts from the tutors and from a specially invited external expert.

This presentation took place first internally with the TU Vienna group live and the next day in digital exchange mode via zoom with the teams of the Lviv Polytechnic University.

Invited external guest reviewer: DI Christian Gigler

Fig. 24-29 Concept Presentation at TU Wien, Nov 16th, 2022



Selected Results

Fig. 30-33 Concept drawings of the projects: Green Link, Green Shelter Ryasne, Healing Space, Glitch Lviv (all TU Wien)



The creation of two Working Models for Zboishcha and Ryasne

Nov 16th - 23rd, 2022

An important tool in the process of the Urban Density Lab is the working-model. It is a tool to develop a concept into a project, by expressing specific spatial and functional qualities.

Although there are already numerous methods of digital 3D-design, the physical working model cannot be replaced in the design process.

A physical working-model addresses its statement particularly to the designer itself. Therefore the working-model answers questions and raises often immediately new ones. Working models - in difference to the presentation models - do not have necessarily a high detail loyalty, but above all they transform the main ideas of the concept into physical appearance.

Working-models are manufactured as physical objects and they send their visual messages about spatial qualities clearly to the viewers. The working models of Ryasne and Zboishcha are joining constantly the upcoming working process within the Density Lab. Working-models are definitely NOT a competition to the digital models, they are an interacting tool.

Fig. 34-41 Working models at the stage of preliminary urban design (all TU Wien)



The „urban design concepts“ are now being developed into a project by the working teams. This is again done in continuous cooperation with the supervisors through corecture meetings at a rhythm of once or twice a week.

The further development of the project includes the most concrete formulation of urban planning and other measures that will be necessary to achieve the project goals.

In this project phase, particular importance is attached to the elaboration of development scenarios by means of different variants of working models. The development steps are coordinated and synchronized between the teams of the TU Vienna and the Lviv Polytechnic via zoom.

At the time when a few possible development scenarios are defined, a discussion in a larger group in the form of a so called „*Mid-term Review*“ is necessary. The project goals formulated within the group can be critically questioned and reviewed, arguments can be weighed and compared.

Fig. 42-48 Impressions of feedback-sessions during the design process at TU Wien



The „Mid-Term Review“ is generally organized as an open event, where external guest reviewers are invited to give valuable feedback to the students on their project proposals. This is at a time when this feedback can and should still influence the further development of the projects!

The „Mid-Term Review“ of the Density Lab 2022 was also conducted twice: on Dec 14th live at the TU Vienna with the external guest critics. One day later the Mid-Term Review was repeated online by zoom together with the teams of Lviv Polytechnic University and with the colleagues from the Lviv City Council Office of Urban Planning. Guest reviewers: Julian Chaplinsky, Christian Gigler, Anasztazia Hujvan and Andre Krammer.

The „Mid-Term Review“ at TU Wien was developed according to the „Market Square method“. This is a non-hierarchical interactive tool for presentation and feedback sessions based on mutual group-conversations.

The use of the market square method in an interim critique offers the great advantage of a time-efficient discussion platform. The result is a wide range of opinions on the project proposals, which provide the project authors with valuable suggestions for the final development phase.

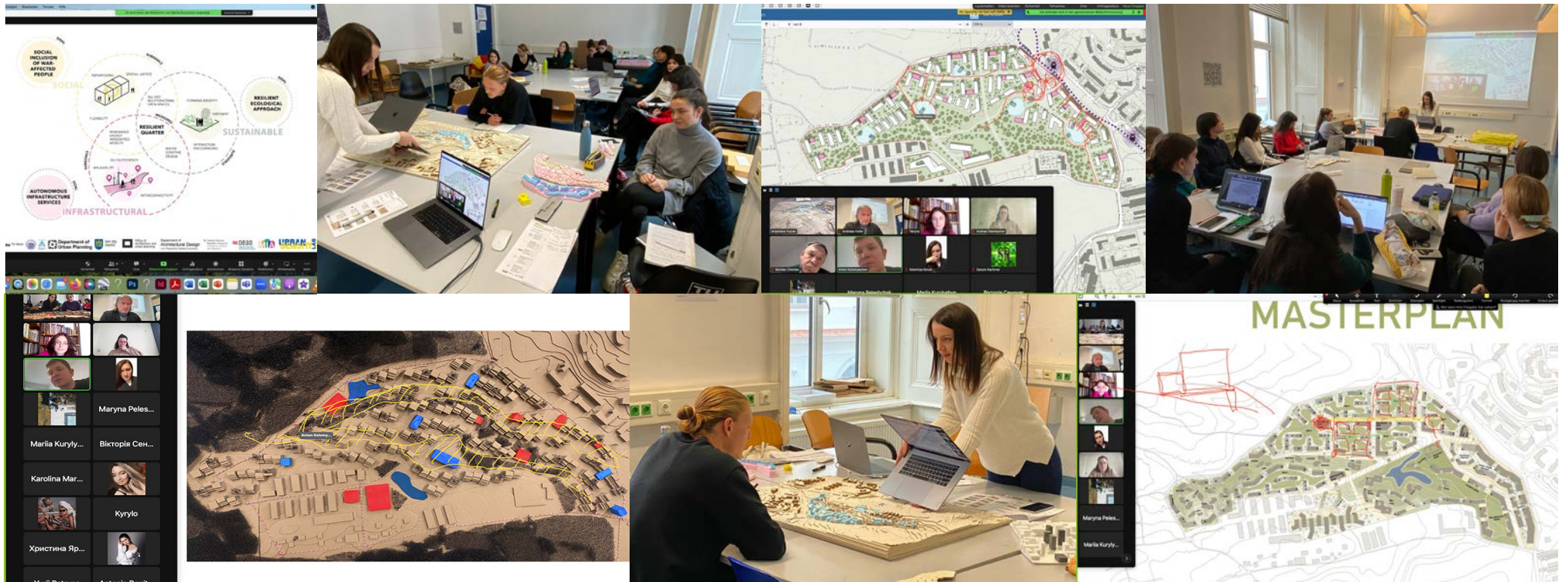
Fig. 49-54 Mid-term review and feedback by guest-reviewers (at TU Wien)



Guest reviewers online:

Anton Kolomieitsev, Maryna Peleschak, Oleksandr Fenchuk

Fig. 55-61 Impressions and screenshots during the second Mid-term Review online of Lviv Polytechnic and TU Wien



Final Presentation of Lviv Social Resilient City 2022

January 31st, 2023, TU Wien

The final presentation on Tue January 31st 2023 includes the comprehensive presentation of the respective projects at the end of the elaboration phase (plans, models and verbal presentation) and is the final result of the entire semester work.

The 9 project teams (5 at the Zboishcha site and 4 at the Ryasne site) presented their entire project (analysis, goal formulation concept, urban design, concretization and sub-projects) to a final discussion. Special attention will be paid to the generally given thematic priorities on the part of the Lviv City Council Office of Architecture & Urban Planning (Zboishcha: Rehabilitation and Ryasne: Productive City). In addition to the 22 students and their supervisors, 3 external guest reviewers were again invited.

The format of the „Market Square method“ was again be used for the final presentation. However, the focus will be on answering the following questions on the part of the respective project teams:

- How does the theme of „Rehabilitation“ / „Productive City“ formulated in the general objective of the site manifest itself in the project?
- What specific goals were additionally formulated in the concept phase and how were these implemented in our design?
- Which groups of users are particularly addressed in the project and which specific qualities are offered for them?
- On which main points has this project focused in its formulation since the interim critique?
- What makes the urban design sustainable? site-specific? future-proof? unique? distinctive?

Fig. 62-69 Impressions of the final presentation at TU Wien January 31st, 2023



The Market Square discussions was followed by comments from the guest critics, a final statement from the supervisors, and a final discussion session.

Annotation:

For the final presentation together with the Lviv Polytechnic University and the colleagues of the Lviv City Council Office of Architecture & Urban Planning and the exchange of the findings of this term paper, a different format was chosen this time. A joint feedback workshop in Krakow at the end of February 2023.

Krakow was chosen as the location for the joint 2-day workshop because it was easily accessible from both university locations in Vienna and Lviv. This workshop was no longer a mandatory part of the

semester program of both universities. 10 students and 2 lecturers of the TU Vienna, 7 students and 2 lecturers of the Lviv Polytechnic University and 2 colleagues of the Lviv City Council Office of Architecture & Urban Planning participated at this workshop called: „Krakow Open Lab“

Please see the separate report in a separate program item.

Fig. 70-76 Selected presentation models of Ryasne (above) and Zboishcha (all TU Wien)



Participants

Vienna University of Technology Students

Polina Dobynda, Marika Ehara, Christoph Erkinger, Patrick Haingartner, Benjamin Holtz, Tristan Hunt, Alexandra Konstantinova, Mariia Kurylyshyn, Sophia Lenikus, Sofiya Lukyanchenko, Roberta-Andreea Manea, Karolina Marwitz, Hanna Müller, Elmaz Nasrulaieva, Anna-Lena Pfeuffer, Chantal Maria Sahler, Taras Shandalovych, Katja Sippl, Laura-Marie Sippl, Zinat Tashpulatova, Liliya Velikova, Günther Wimmer

Lecturers

Univ. Lektor Dipl.-Ing. Andrea Überbacher, Ass.Prof. Dipl.-Ing. Dr.techn. Dr.h.c. Andreas Hofer

Guest Reviewers: Arch. Julian Chaplinsky, Dipl.-Ing. Christian Gigler, Dipl.-Ing. Anasztazia Hujvan, Mag.Arch. Andre Krammer, Ass.Prof. Dipl.-Ing. Dr.techn. Norbert Trolf

Lviv Polytechnic National University Students

Antoniiia Banitska, Vladyslav Boichuk, Mykhailo Bortniak, Oksana Halchuk, Ivanna Hladii, Yuliia Holohan, Danylo Kachmar, Anton Kobziev, Anna Korol, Daria Kotvitska, Anton Kryvoruka, Andrii Lashchyk, Yurii Petryna, Ivan Pyatov, Mariia Plakhtyna, Anastasiia Rekuta, Viktoriia Senychak, Kyrylo Starov, Khrystyna Yaroshchuk

Lecturers

Dean Prof. Bohdan Cherkes, Prof. Halyna Petryshyn, Dr. Solomiia Konyk, Dr. Yaryna Onufriv

Lviv City Council Office of Architecture & Urban Planning

Chief Architect Anton Kolomieitsev, Arch. Oleksandr Fenchuk, Arch. Maryna Peleshchak, Arch. Olena Tribusian.

Fig. 70 Collage of the project „REHUB“: Marika Ehara, Polina Dobynda, Roberta-Andreea Manea



Imprint

Report on the Lviv Social Resilient City: Urban Density Lab Ukraine 2022

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URBAN
DENSITY LAB 2022



Städtebau TU Wien



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 Urban Planning



Lviv city
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