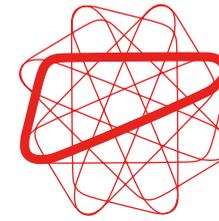


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METROLAB MAGAZINE

GROWTH

ON MANAGING URBAN GROWTH



METROLAB FORUM

International Dialogue on Metropolitan Planning

02.11.2020
17:00-18:00

EXHIBITION + DESIGN STUDIO

Exhibition *SuperWien Metropole. A New Capital for Europe*
Presentation Design Studio *MetroLab Growth*, TU Vienna

18:00-20:00

MOVIE NIGHT

David Harvey and the City, US 2019, 12:37 min, English OV
Ein Ort, der Gold Wert ist..., A 2019, 60:00 min, German OV with English Subtitles

03.11.2020
10:00-12:00

METROPOLITAN WALKSHOP *(postponed due to Covid-19)*

Seestadt Aspern Vienna, with Wien 3420 aspern development AG, IBA_Wien 2022 and aspern.mobil LAB

17:00-19:00

INTERNATIONAL LECTURES

SPATIAL DESIGN - FROM REGIONAL VISIONS TO DESIGN-BASED CROSS-BORDER PROCESSES
Markus Nollert, *urbanista.ch*, *Spatial Transformation Laboratories*, ETH Zürich

URBAN GROWTH, REGIONAL DESIGN AND FUTURE SCENARIOS IN THE NETHERLANDS
Kersten Nabielek, PBL Netherlands Environmental Assessment Agency

THE DISCIPLINARY APPROACH FOR A METROPOLITAN HIGH-QUALITY WAY OF LIFE. PROJECTS & TOOLS
Antonella Contin, Department of Architecture and Urban Studies (DASU), Politecnico di Milano

50 000 THOUSAND TIMES A HOME/DESIGN EACH HOME AS A PIXEL OF THE METROPOLIS
Jérôme Gôze, La Fabrique de Bordeaux Métropole (La Fab)

FORUM DISCUSSION

Marek Dinka, Regional Management Bratislava, *Michael Rosenberger*, City of Vienna, *Nela Kadic*, Vienna University of Technology, *Kurt Hofstetter*, International Building Exhibition Vienna 2022, *Yvonne Franz*, University of Vienna, *Jérôme Gôze*, La Fabrique de Bordeaux Métropole



Location: Die Schöne, Kuffnergasse 7, 1160 Vienna and online

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Editorial

Dear planners, researchers, city administrators, mayors, and metropolitan residents,

The phenomenon of uncontrolled urban growth tends to transform cities into fragmented agglomerations and complex hybrid landscapes, with low density patterns, monofunctional uses and lack of quality of life. Urban expansion, as a result of increasing population growth, is frequently accompanied by conflicts of use, demographic change and related social transformation processes. In the last decades, the built-up area within the *SuperWien Metropole*, stretching between Vienna, Bratislava and Wiener Neustadt, has grown enormously. Despite all political intentions and regional planning regulations, the consumption of land is still increasing. Like the City of Vienna, many surrounding municipalities in the metropolitan area are already having problems handling the increasing demand for living and working space. Therefore, addressing unequal social and spatial conditions in growing cities is often listed as a top priority in European policy papers such as the EU Territorial Agenda¹, the Urban Agenda for the EU² or the New Leipzig Charter³. They point to the high demand for coherent and just spatial development of cities, functional regions and peri-urban areas putting a special emphasis on sustainable use of land.

What is needed in this regard is a common approach as a metropolitan area that overcomes existing administrative delineations and includes new forms of governance and innovative planning

tools. In this context, a number of questions arise that we as urban planners, researchers, city administrators and civil society have to face: How can compact growth in the metropolitan area be ensured, considering all stakeholders involved in territorial development and strategic spatial planning at all levels? What can a coordinated place-based policy and inclusive design, aimed at territorial rebalancing look like, and what kind of planning tools are needed to successfully apply an integrated approach to metropolitan development? Moreover, what can we learn from international examples handling challenges related to urban growth and, finally, what shapes our shared vision of the future metropolis?

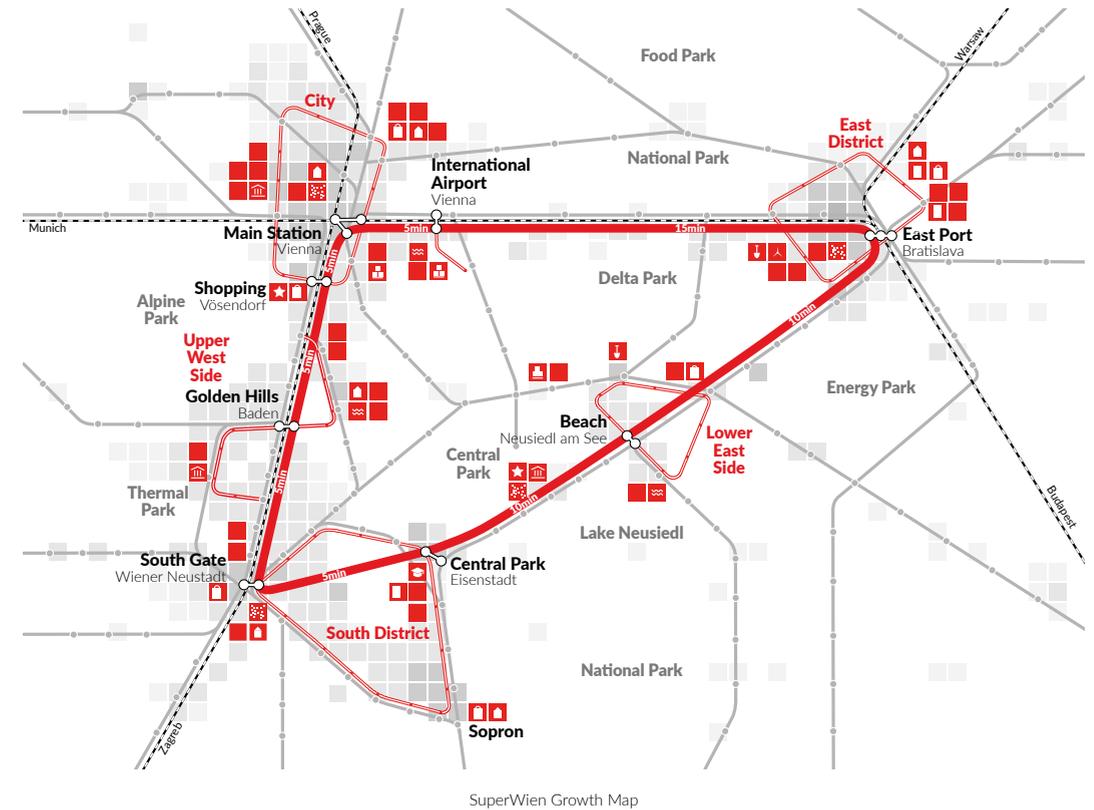
With these questions in mind the *MetroLab* developed a vision for the *SuperWien Metropole*⁴, anticipating six million future inhabitants of the extended metropolitan region around Vienna. By taking the utopian idea of a *SuperRing* as the starting point for development in the metropolitan area, the polycentric structure of the metropolis is reconfigured and supported by following the principle of compact growth and concentrated densification. Thereby, the potential and characteristics of individual places – from high density urban areas to lower, suburban and rural neighborhoods – are strengthened. This vision was the starting point to initiate an international dialogue on metropolitan planning and development. ►

¹“EU Territorial Agenda 2030. A future for all places”, Informal meeting of Ministers responsible for Spatial Planning and Territorial Development and/or Territorial Cohesion 1 December 2020, Germany.

²Urban Agenda for the EU “Sustainable Use of Land and Nature-Based Solutions Partnership.” ACTION PLAN October 2018.

³New Leipzig Charter. The transformative power of cities for the common good; Adopted at the Informal Ministerial Meeting on Urban Matters on 30.11.2020.

⁴Stefan Mayr & Cédric Ramière (Editors) (2018): *SuperWien Metropole. A New Capital for Europe*. Bolzano and Vienna: Folio Publisher. ISBN 978-3-85256-777-8



ABOUT GROWTH

Following the second *MetroLab Forum* on the question, *How to manage urban growth?*, which took place in October 2020, the second issue of the *MetroLab Magazine* is dedicated to the above mentioned questions. As an opener for this magazine the two researchers Yvonne Franz and Johannes Suitner, in conversation with *MetroLab*, address, among others, the potential of co-creative, artistic and provocative approaches to develop innovative urban strategies and place-based solutions for a growing city. Also, they elaborate on the main challenges to the integrated development of the metropolitan area. Furthermore, the question of what urban designs for the future city region could look like is addressed by architecture students in the frame of the Design Studio *MetroLab Growth* in Germany and Switzerland; Kersten Nabelek in cooperation with the *Urban Design Institute* of the *Vienna University of Technology* and under the direction of Nela Kadic (*Vienna University of Technology*), Stefan Mayr and Cédric Ramière (*MetroLab*). The proposed concepts aim to integrate

concrete design solutions at the local level into a large-scale vision of Vienna's urban region and not only propose built structures, but also contain reflections on transport, the linking of different spatial units, the creation of social infrastructure and production logistics. The results make clear that innovation in the field of metropolitan planning always touches both the "hardware" and the "software" of our living spaces.

This second issue of the *MetroLab Magazine* also presents international approaches dealing with urban growth in different metropolitan areas (see guest articles in this issue). Markus Nollert reflects on the role of different forms of (spatial) design in cross-border processes by focusing on projects in Germany and Switzerland; Kersten Nabelek demonstrates the added value of exploratory scenarios as a tool for sustainable urban regions using the example of the Netherlands. Following this, Jerome Gôze writes about how the project *Living and Thriving – 50,000 Naturally Accessible*

Homes counters the increasing urban sprawl in Bordeaux Métropole. To conclude, Antonella Contin introduces the metropolitan approach to complexity. Whether and to what extent the various approaches and their innovative elements presented can be transferred to the Viennese context of cross-border development was discussed in a concluding panel with local experts. The main

findings on how to manage urban growth, based on the expert interviews, international approaches and the panel discussion, are summarized in the concluding chapter of this magazine. ■

«CO-CREATION MEANS MEETING AT EYE LEVEL»

Interview with Yvonne Franz

MetroLab: In the *MetroLab* publication *SuperWien Metropole. A new Capital for Europe* we first refer to the history of Vienna, which played a central role in the European network of cities, especially until the First World War. Since its integration into the European Union, Vienna has increasingly been seen as a mediator between East and West. What role do you ascribe to today's metropolis and what characterizes it?

Yvonne Franz: For me, on the one hand, there are hard criteria that define a metropolis, such as its size, area, number of inhabitants, functional connections and the transport network. On the other hand, there is a symbolic level, such as identity, that is, everything that one constructs for oneself, which is difficult to measure. Vienna often calls itself a metropolis, but I would say it is a big city. Vienna has elements of the metropolis, but they stem more from the past and are carried along. Much of this cosmopolitanism and melting pot, for example, comes from the migration history of this city. I could well imagine that Vienna was once more metropolitan in its influences and permeabilities,

«Vienna often calls itself a metropolis, but I would say it is a big city. Vienna has elements of the metropolis, but they stem more from the past and are carried along.»

dynamics and inequalities. The city still lives very much from this identity today, however, it sometimes struggles with it. For me, migration in the sense of diversity, whether it is cultural or socio-demographic identity or symbolism, is what characterizes a metropolis and also its attractiveness as a place to work.

In your opinion, what are the key challenges Vienna faces as an urban region?

In this context, I like to use the term "growing pains" for a growing city like Vienna. On the one hand, it is a matter of ensuring sufficient infrastructure and open spaces in the existing city; on the other hand, the enormous population growth, in quantitative terms, is primarily taking place in the urban development areas, i.e. often on former greenfield or industrial brownfield sites. "Growing pains" refers to this intertwining, the merging of what is already there and what is yet to come.

In central, well-connected development areas, for example in the Nordbahnhofviertel or Sonnwendviertel, these growing pains are not felt too much because the existing structure is very robust and can cope with the new development. ▶

UNDERSTANDING

GROWTH

Regarding urban development areas in Transdanubia, or in the south of Vienna, the crucial questions are: How do we connect these neighborhoods? How do we get high-quality public transport there? Is the educational campus that is planned there enough, or do we need to link it to the existing social infrastructure? What does it mean for housing areas or allotments if an urban development area with 1,000 residential units is suddenly built in the direct neighborhood?

Even if population figures are currently tending to stagnate, they are still at a high level and pose a challenge. This involves everything from land policy to questions of financing and the social fragmentation and differentiation of the residential population with all its demands.

In order to make the growing urban region an integrated development area, we propose the idea of a SuperRing, along which a regional superfast train runs, and which defines focus areas of spatial densification with its stops (between Vienna Central Station, Bratislava, Eisenstadt and Wr. Neustadt). To what extent should the current and future residents of these areas be included in the growth policy of the agglomeration area, and what is the significance of participatory approaches in contemporary housing production?

Vienna has the distinctive feature of being dominated by social housing and plays a leading role here, both nationally and internationally. As a city that works closely with developers in urban development areas and stipulates that participation processes must be included in the development process, Vienna finds it much easier than other cities that have to deal with individual developers and cannot demand this through the gentle pressure of social housing. That makes Vienna very special. The blind spot here, however,

«I would strongly advocate that every participation process [...] should be open to anyone at any time and should pay particular attention to the social groups that are not seen or heard at first glance.»

is that you plan for people who already live in Vienna. Those who are not considered at all and often cannot participate in these participation and development processes are the newcomers, from apprentices and students to people with refugee experience. From this perspective, it would be really interesting to ask ourselves how we could create more inclusion. If one is aware that participation is not a one-time-only action, a lot has already been gained.

I would strongly advocate that every participation process, whether it is a neighborhood initiative or a formalized planning process, should be open to anyone at any time and should pay particular attention to the social groups that are not seen or heard at first glance. Vienna has a lot of opportunities for participation and encourages it, but this also makes the system very sluggish. In comparison, for example, to the Netherlands, where "active citizenship" and "co-responsibility" are emphasized, in Vienna one often finds "institutionalized" individual initiative, which often has to fulfill mechanisms that are too rigid to actually allow co-creation.

As MetroLab, we use not only participatory but also co-creative elements to develop urban strategies and place-based solutions. Thus, we leave behind the classical set of formal planning tools. How do you assess the openness for co-creation in Vienna and what do you generally understand by it?

«On the one hand, participation has legal formal legitimacy and is bound by sets of rules. On the other hand, the everyday reality is that we don't address all people when we apply this set of rules.»

For me, co-creation means meeting at eye level, regardless of whether we are talking about the city administration, city politics or citizens. And that is the big difference to a participation process in which it is clearly delineated up to which street the residents and owners are involved. It's more about people who actually use the space and have an interest in it. Those are the different levels and I think it's important to separate that neatly. On the one hand, participation has legal formal legitimacy and is bound by sets of rules. On the other hand, the everyday reality is that we don't address all people when we apply this set of rules. That is why there are new formats that can be understood as co-creative.

You have also conducted research on urban living labs. What is their potential? And where do such approaches reach their limits? How can you convert these often temporary activities into long-term use?

Living Labs are an interesting tool that allow for a lot but also have their limitations. When the format was taken up by urban research about 10 years ago, it became fashionable to call something a "lab". Lab also means, and now we are at "enabling and experimenting", that failures, i.e. non-results, are also acceptable. In a formalized citizen participation process, that would be hard to argue with. In addition, Urban Living Labs also offer the possibility to cooperate beyond encrusted (institutional) structures, so that actors come together who otherwise tend to meet rather rarely.

Currently, it is often argued that Living Labs should be used as an incremental component in urban development processes, which means that they would have to be continuously financed for different issues and at different locations, and thus a constant exchange of knowledge could take place. ■

Yvonne Franz, Post-Doc Assistant Professor at the Department of Geography and Regional Research at the University of Vienna, is an expert in Urban Living Labs. She tells us in an interview what she sees as their importance for the future development of the metropolis and what it takes for citizens and politicians to meet at eye-level in co-creative processes.

«DIFFICULTIES CAN BE TURNED INTO OPPORTUNITIES IF THEY ARE OVERCOME WITH A GOOD NARRATIVE»

Interview with Johannes Suitner

MetroLab: *MetroLab* approaches the metropolitan concept on a wide variety of thematic and spatial levels, thereby emphasizing the multi-layered nature of the term. Recently, the term "metropolis" has also enjoyed great popularity in political strategy papers such as the new coalition agreement for Vienna (Nov. 2020), where it is associated with topics such as health, culture, research and innovation. What is the very essence of the term for you?

«[...] it is important that all kinds of people can find themselves in such a narrative and aren't submerged in the idea of a metropolitan region that relegates them to the status of interchangeable cogs in a dystopian, mechanized production machine.»

Johannes Suitner: In economic geography, the metropolis is, after all, a certain kind of location, a very well-connected and networked agglomeration with a disproportionately large number of high-level (decision-making) functions. But for me it is also a deeply political concept, a symbol of power, prosperity and certain hopes for the future. In the government agreement, of course, it's about the latter. It invokes a narrative that is linked to Vienna's prosperity and global reputation. I'm always interested in both - the metropolis as a measurable quantity and narrative. In practice, it is important that all kinds of people can find themselves in such a narrative and aren't submerged in the idea of a metropolitan region that relegates them to the status of interchangeable cogs in a dystopian, mechanized production machine.

How are these characteristics related to the Vienna metropolitan region? Is the metropolitan region spatially and also intuitively perceived as a coherent, integrated entity, as we outline it in the book *SuperWien Metropole. A New Capital for Europe*?

De facto, the Vienna city region is a European metropolitan region. The settlement area does not start and end at the city boundary but is highly integrated. The cultural and political significance of the region extends far beyond the borders of Austria. But it is

«There is a lack of a common vision, a narrative of the future, which can also guide action for integrated city-regional development»

true that there is a lack of perception, particularly at the local level.

There is a lack of a common vision, a narrative of the future, which can also guide action for integrated city-regional development. It is a bit surprising that this is not the case in the Vienna city region, where the institutional basis for the development of such visions has actually existed for more than 30 years. In the past, however, the public discourse has unfortunately more often been about the demarcation between Vienna and Lower Austria, between

the city and the country, than about the unifying factor. After the pandemic and with regard to the climate crisis, however, there is, in my opinion, a special need and also a special opportunity to develop a common vision, a narrative, and to draw a picture of a metropolitan region that is fit for the future. This is also necessary. A well-integrated urban region alone is of no use if it is not anchored in people's minds as a self-image.

The primary goal of the *SuperWien Metropole* is to create a functionally mixed and sustainable urban network that connects the various centers - high-density urban areas, suburban areas and also the natural areas - and thus enables coordinated development. What do you see as the biggest challenges in the integrated development of the metropolitan region?

In my view, the distribution of costs and benefits of integrated development is essential. It has always been a political killer argument when one side feels that it is paying the price. That's why we have to create scenarios that show who will potentially benefit from certain future developments and who might suffer as a result, and think about compensatory mechanisms in advance. In the end, everyone benefits more. This applies to the development of a climate-friendly, regional bioeconomy as well as to the exploitation of the tourism potential of the natural area surrounding the core cities of Vienna and Bratislava or the expansion of logistics clusters in the Vienna region. This must not be a competition between mayors or provincial governors.

In your work, you have looked closely at the potential of innovative city-regional competitions. Can you refer to best practice examples that promote such a balance in city-regional added value?

What is clear is that an instrument such as a planning value equalization or a budget equalization procedure, in which financial compensation is made, does not exist for the metropolis. But what I found interesting about the example of *Grand Paris* [see *MetroLab Magazine Metro*] is that the municipalities are very consciously throwing money into a pot for a joint competition in the region and thus getting away from the idea that each municipality only operates within its own sphere of influence. ►

«A competition for the metropolitan region generates much more attention and is more likely to get the ball rolling than if, for example, the small municipality were to call a competition on its own.»

Instead, something is being developed collectively as a metropolitan region. A competition for the metropolitan region generates much more attention and is more likely to get the ball rolling than if, for example, the small municipality were to call a competition on its own.

What do you think would need to happen for greater attention to be paid to innovative approaches to metropolitan development? And how do you rate the chance of such approaches being included in Vienna's political agenda?

This always requires political commitment and a window of opportunity. In *Grand Paris*, for example, the initiative did not only come from the mayors of the region, but from the French president, who has made a lot of money available for the development of France's metropolises. I believe that nothing plays more into the hands of the development of the Vienna metropolitan region than the climate crisis, because projects for the integration of the urban region, which my colleagues in spatial planning have been demanding since the 1990s, can now finally be implemented under the pressure of the crisis without anyone losing face politically.

Behavioral economists argue that people show a strong preference for regional products in their behavioral change (especially in times of crisis). Not only regional products, but also the feeling for the region and the perception of its soft locational factors are becoming increasingly important. How do you see this trend towards regionalization or de-globalization and its impact on the development of metropolitan regions?

«[...] we have to admit that something like a circular economy and a regional bioeconomy are needed for ecological and social reasons.»

I am very ambivalent about this. Criticism of globalization is often very backward-looking and promotes a new nationalism that threatens to wipe away many of the social achievements of past decades. At the same time, we have to admit that something like a circular economy and a regional bioeconomy are needed for ecological and social reasons. These could become a new narrative for the metropolitan region.

In your past research on artistic-creative interventions that explicitly address metropolitan development, you described the *MetroLab* projects *TirolCITY* and *SuperWien Metropole. A new Capital for Europe* as unconventional sources of inspiration for city-regional development perspectives. What does it take to integrate such provocative approaches and atypical visions into conventional metropolitan planning?

«In every idea, no matter how abstruse, there is a spark of truth, a piece of metropolitan reality, so to speak, that can be implemented. The task of the planners is then to shape the path from the artistic idea to the formalized vision of the future.»

The artistic formats provide an enchanting vision of what a metropolis could look like in the future. I consider such approaches to be essential. In every idea, no matter how abstruse, there is a spark of truth, a piece of metropolitan reality, so to speak, that can be implemented. The task of the planners is then to shape the path from the artistic idea to the formalized vision of the future. But to do that, the decision-making power would have to be taken out of their hands a bit. I have the feeling that in the past, more experimentation was done by forming

planning communities across federal state borders. However, these then became more of a bureaucratic apparatus and political body. I would like to see another attempt to replace one of the old bodies in order to establish a platform for the metropolitan region that is given some room for manoeuvre and money - and not just for art projects. ■

Johannes Suitner, University Assistant at the Urban and Regional Research Department of TU Vienna (previously Senior Expert for Urban Development and Urban Innovation at Urban Innovation Vienna), positions himself at the intersection of urban research, urban policy and urban practice. Through the lens of urban growth, he takes a look at contemporary challenges in planning urban regions and in conversation with *MetroLab* explains how metropolis is currently being made.

WORKING ON CONCRETE DESIGN SOLUTIONS

Nela Kadic

The design studio *MetroLab Growth* was a collaboration between *MetroLab* and *Städtebau TU Wien* in October and November 2020. During a three-week workshop, architecture students from the *Vienna University of Technology* defined strategies for growth of the "Zwischenstadt" on the border between Liesing in Vienna and Vösendorf in Lower Austria.

In form of mapping analysis at different scales, students developed concepts for growth, including aspects of mobility, agriculture and recreation. The methodology was to design in parallel at different scales, namely the metropolitan and urban scale. The analysis of the phenomena of the overall region allowed existing correlations and flows to be understood in order to define a strategy that could be implemented at the specific location of the urban fringe. The interventions at the local scale reacted to the context and immediate surroundings.

What is growth regarding the landscape, mobility or climate change? What is a resilient typology for growth? What kind of infrastructure supports this regional densification? The result of the workshop were six ambitious projects, addressing the task in a unique, yet comparable manner. Each proposal dealt with its own interpretation of the regional infrastructural flows, especially to enable better public transport systems and transportation of goods, integrating the agricultural sector, and showing concurrent scenarios for densifying with new mixed-use typologies.

One project was a framework for new multifunctional types, which stacked new built structures upon existing monofunctional ones. Another approach was to enable cooperative growth at different central-locations levels, applicable from the metropolitan to the architectural scale. All of the proposals enabled car-free areas, that varied in size, by upgrading Vienna's public transport system and integrating it into the metropolitan region. What the projects also had in common was the intended neglect of the administrative border of Vienna and Lower Austria, as the cooperation between administrations plays a key role in planning in such locations.

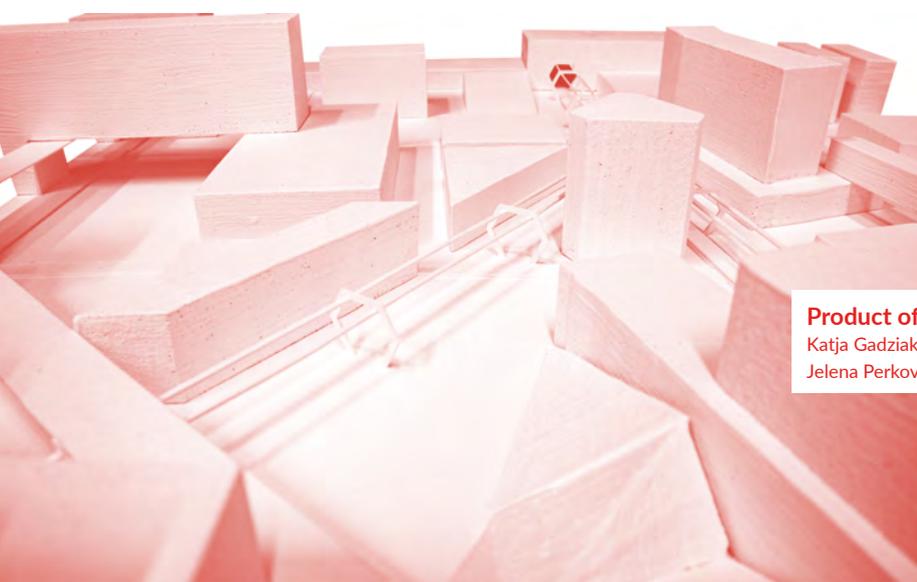
Even though the workshop lasted only three weeks, the ambitious results deserve to be shown to a broader public and should be integrated into the discussion on coping with growth, both at the metropolitan and urban scale. ■

Nela Kadic is Senior Lecturer at the Institute of Urban Design and Landscape Architecture at the Vienna University of Technology. Her research and teaching focuses on urbanism in Central and Southeastern Europe. She is the founder of BLOK, an office for architecture and urban design.

Städtebau TU Wien

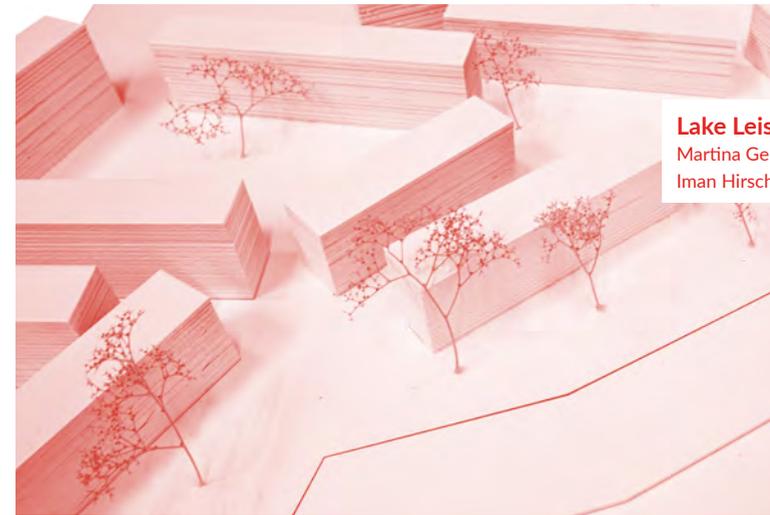
DESIGN STUDIO

METROLAB GROWTH



Product of Transition

Katja Gadziak, Pamela Maldonado & Jelena Perkovic



Lake Leisure Living

Martina Gentile & Iman Hirschman



A Local Network

Alessandro Zanin, Nikos Kouklakis & Rick Rütten



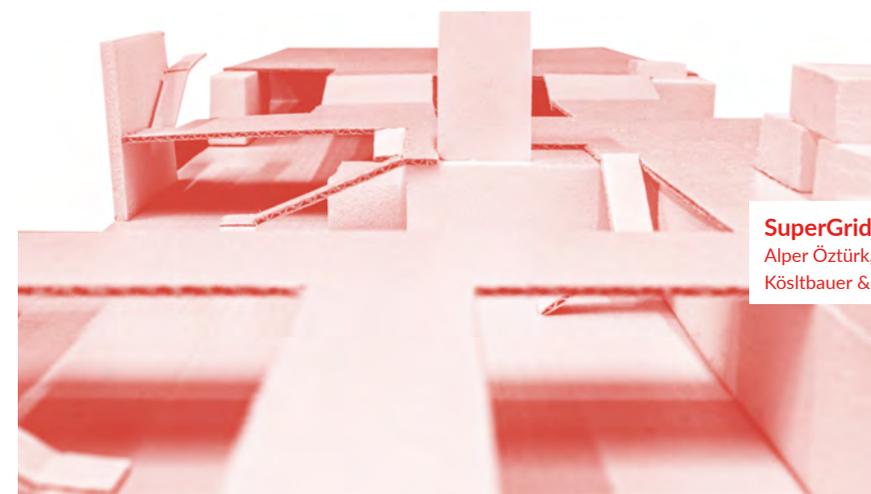
Sustainable Stacking on the SuperRing

Stefan Mayrhofer, Lea Storz & Markus Zorn



Urban Green

Giorgia Bonet & Máté Milán Kresz



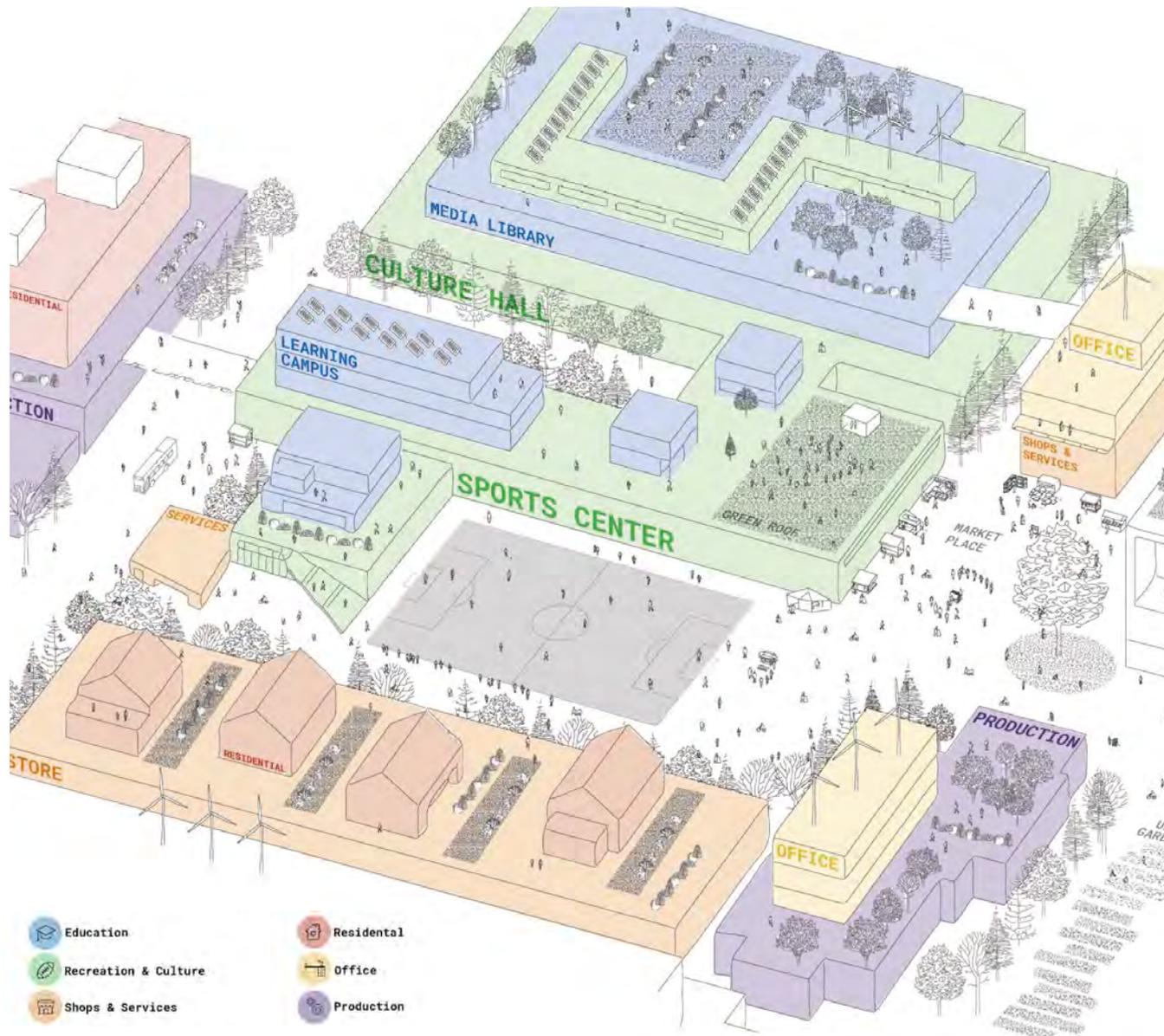
SuperGrid

Alper Öztürk, Clemens Ferdinand Köstlbauer & Dominik Hütter

Design Studio
MetroLab Growth
Städtebau TU Wien
WS 2020/21, 5 ECTS
Teachers: Nela Kadic,
Stefan Mayr, Cédric Ramière



Watch the livestream of the final presentations of the students design proposals to get inspired.



SUSTAINABLE STACKING ON THE SUPERRING

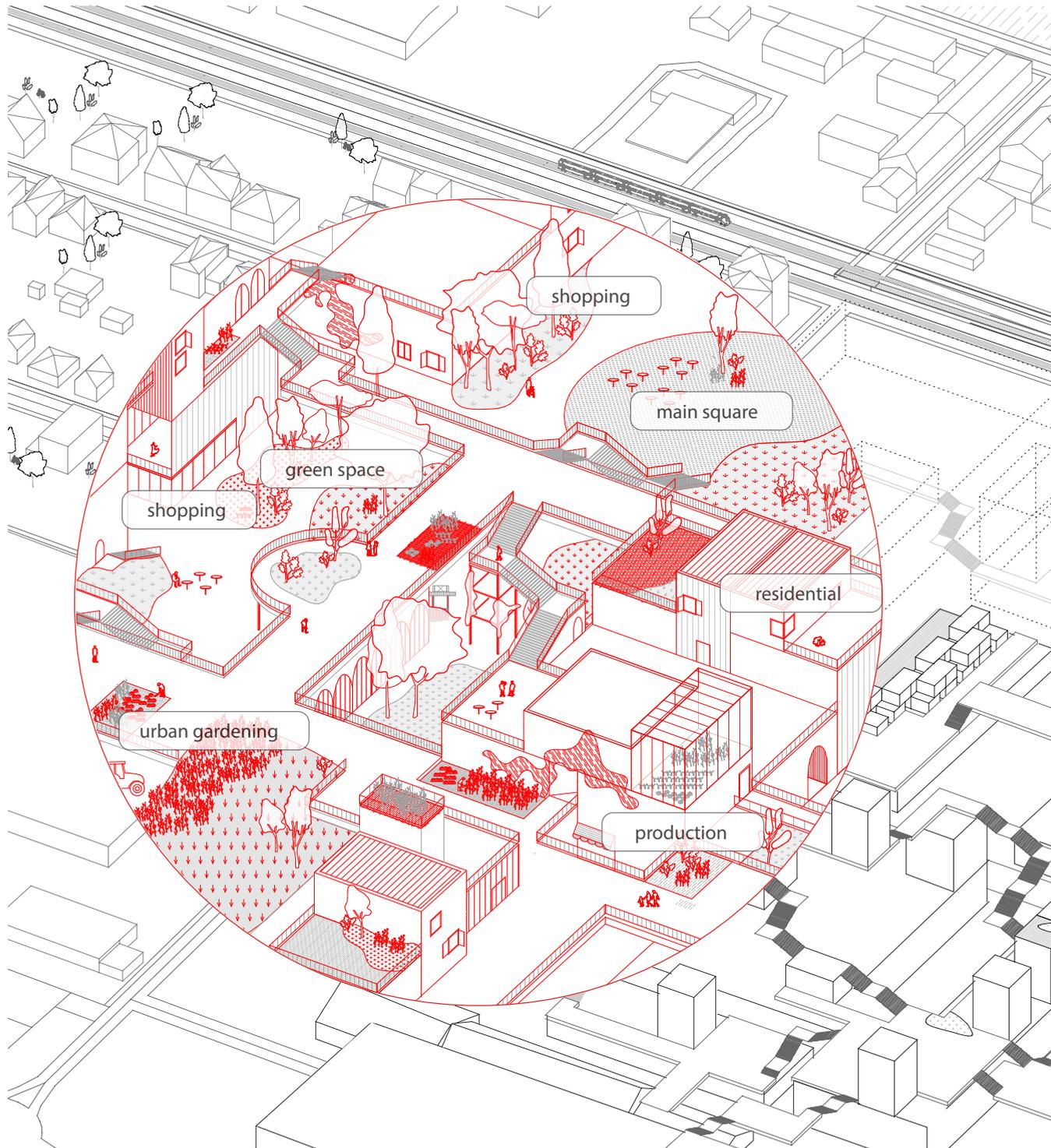
Stefan Mayrhofer, Lea Storz & Markus Zorn

Our vision for growth consists of three main aspects. Existing parking lots will be transformed into Green Public Spaces (a parking garage on the east side of the area will substitute for removed parking space). The whole market-area will be converted into a car-free, pedestrian & cycling zone. Additional green areas will be provided on rooftops, which can be used for urban gardening and local food production.

To ensure accessible and sustainable mobility, the underground line U6 will be extended to the new market-area mobility-hub. A new form of transportation, the "Hyperloop" will connect Wien, Wiener Neustadt and Bratislava.

Buildings around the market will be accessible by bridges and walkable rooftops. Such bridges can also be used to break urban barriers and link different parts of Vösendorf. Lastly, growth will result from new building typologies which will be built upon existing structures. A framework was developed to determine location, size and accessibility for certain building functions. This typology framework can also serve to support citizen participation in the process of urban transformation.



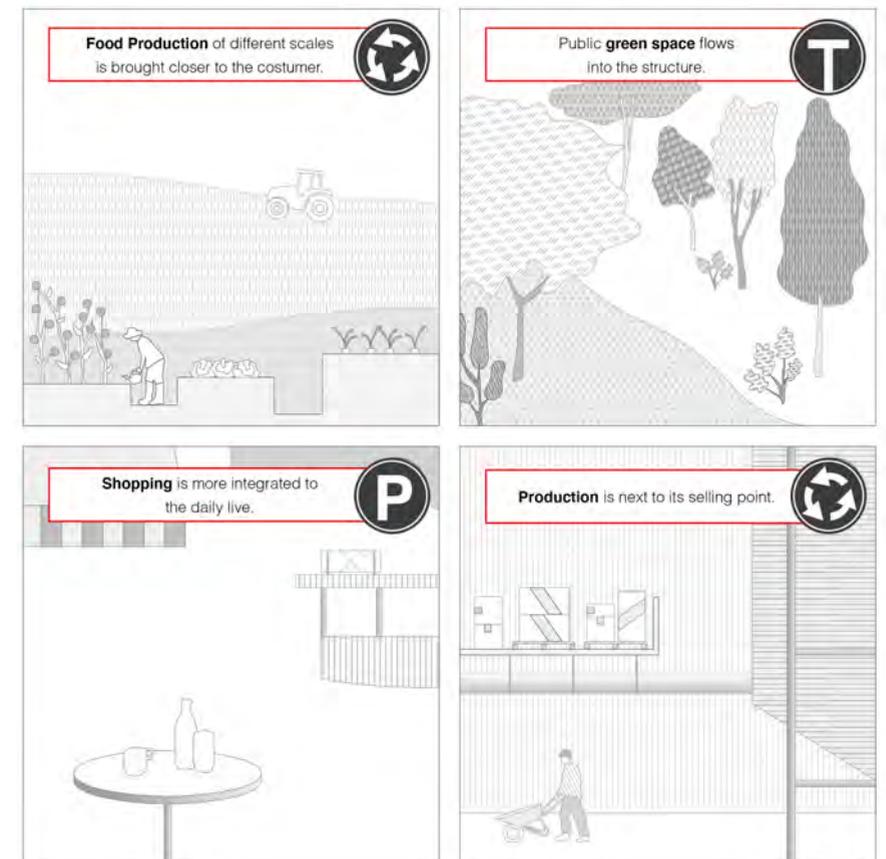


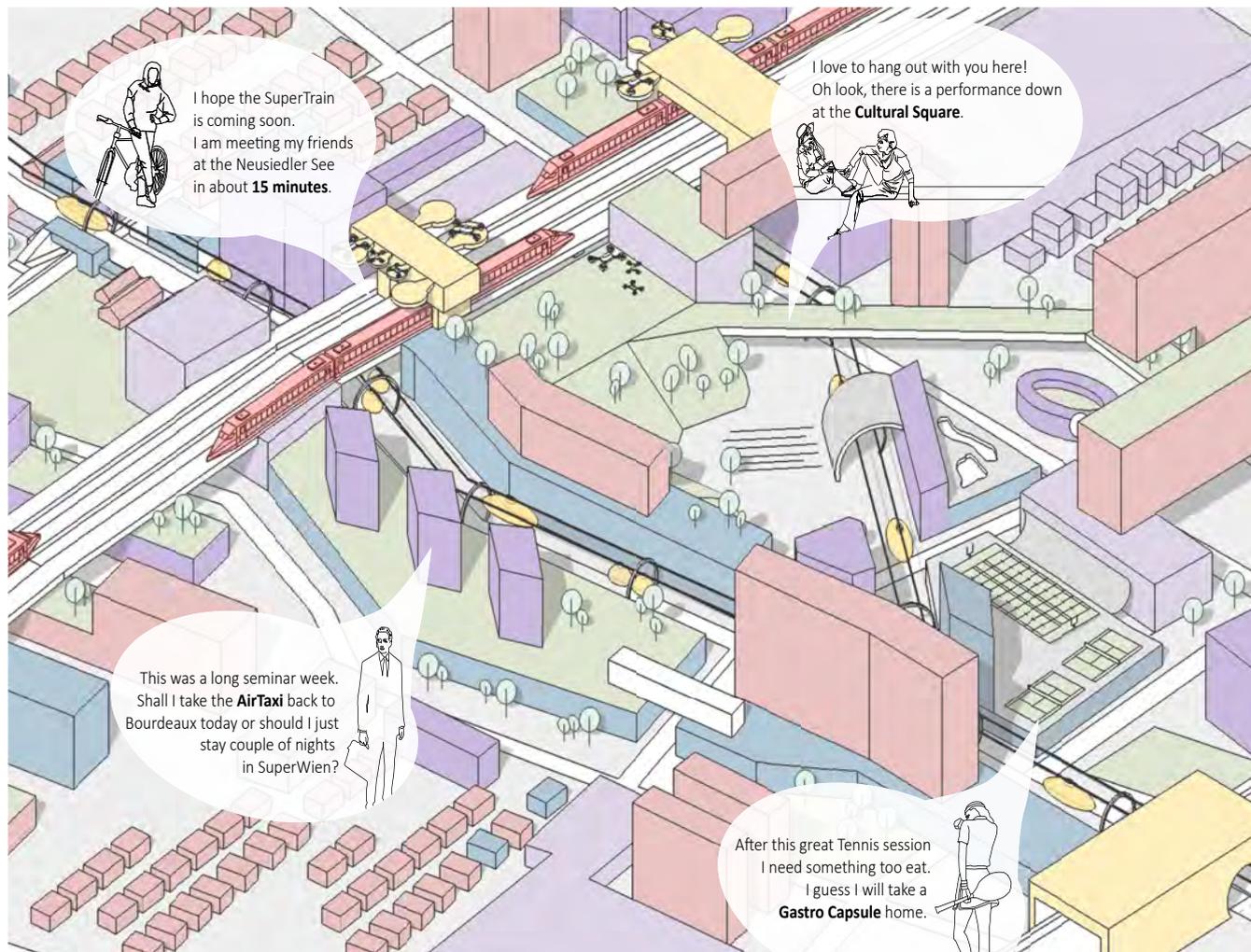
PRODUCT OF TRANSITION

Katja Gadziak, Pamela Maldonado & Jelena Perkovic

We have identified different central-location levels and how they potentially relate to each other while keeping their own identity, in order to set a system for cooperative growth, applicable from the metropolitan to the architectural scale.

This system should help distribute the oversaturation of equivalent living and working conditions throughout the *SuperRing*. Growth is understood in terms of quality.





SUPERGRID

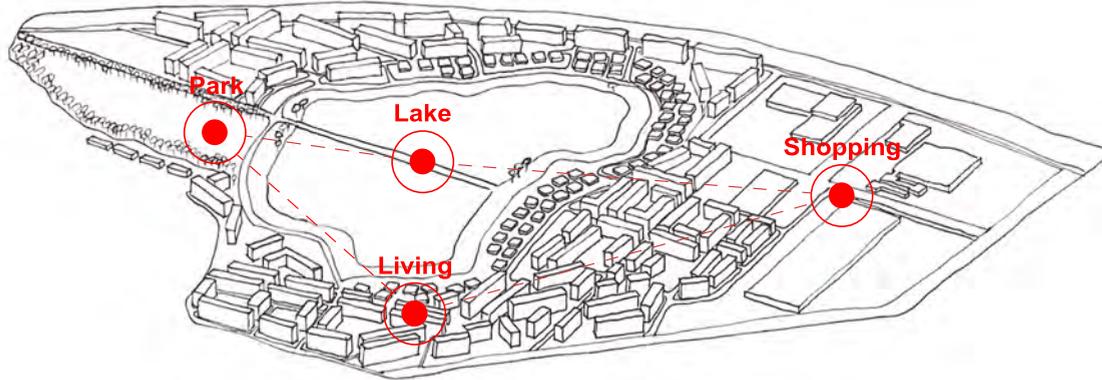
Alper Öztürk, Clemens Ferdinand Köstlbauer & Dominik Hütter

We took the concept of the *SuperWien* metropolitan area together with the *SuperRing* and added some new axes to connect the surrounding villages and nearby cities to it. Our goal is to make the *SuperRing* more accessible for everyone living in and around the metropolitan area. Also, these connecting axes should make it possible to distribute industrial, handcrafted and agricultural goods without trucks. The different layers of mobility meet each other at the *SuperRing*, where a big mobile hub creates a mixture of uses. It is a new kind of urbanity with highly concentrated nodes. It has a lot of potential for urban growth and it increases the quality of life.

The aim of the mobility layers is to reduce the individual transport which occupies a lot of space while moving and stationary. In the case of our fringe between Vösendorf and Siebenhirten we have a unique crossing of the A23 highway and the *SuperRing*. Since we are at the gates of the dense Viennese urban area we decided to cut the highway transport at our mobile hub and establish a good connection to the *SuperRing* so that cars cannot go further. The old highway route will be transformed into a climate vein where housing, office and retail projects can be added.

Our new system provides a grid of different mobility systems which also leads to growth of the surrounding areas because they are integrated and connected to the *SuperRing*. By elevating the main transport system, the ground level is freed up for pedestrians, bikers and other kind of local small scale mobilities. We remove the cars from the streets and give the space back to the people.

This elevated transportation system and the connecting axes, are a type of autonomous capsule system with different sizes.



LAKE LEISURE LIVING

Martina Gentile & Iman Hirschman

We want to wake Vösendorf from its deep sleep after many decades and give it new life by strengthening its qualities and making them usable again starting with the three Ls: LIVING, LEISURE, LAKE.

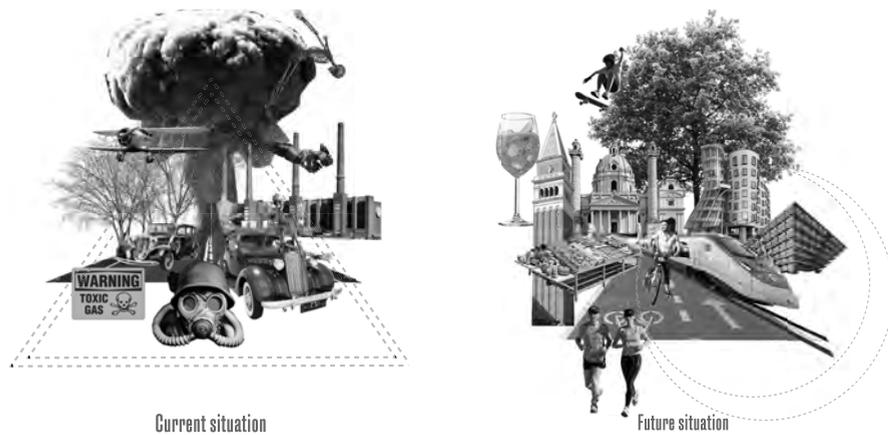
These sum up the key focus points of our analysis. We want to really re-invent Vösendorf, by making sure we merge urban life into a mixed usage, support tourism, enhance local mobility, create a new way to shop, and strengthen the community.

Living: In order to increase growth throughout the area, we decided to interweave housing (shopping in ground floors, living above) with large patio building typologies. All units are facing the now re-purposed lake, which at least doubles the now existing density of our designated area. The new buildings offer a varied mix of modern apartments for families, couples and people of all ages. The result is an architectural ensemble that fits very well spatially and programmatically with the new leisure concept and the lake being the new hotspot of Vösendorf.

Leisure: In order for us to make the entire area more accessible as well as user friendly, we decided to create a passage through the highway. By doing so, cars will not be affected, and Vösendorf's inhabitants have more options to access different areas within our urban development. Pedestrians and cyclists with their very own routes around the lake will positively influence the inhabitants. The beach strip leading to the lake, coupled with a park will bring many opportunities for all age groups.

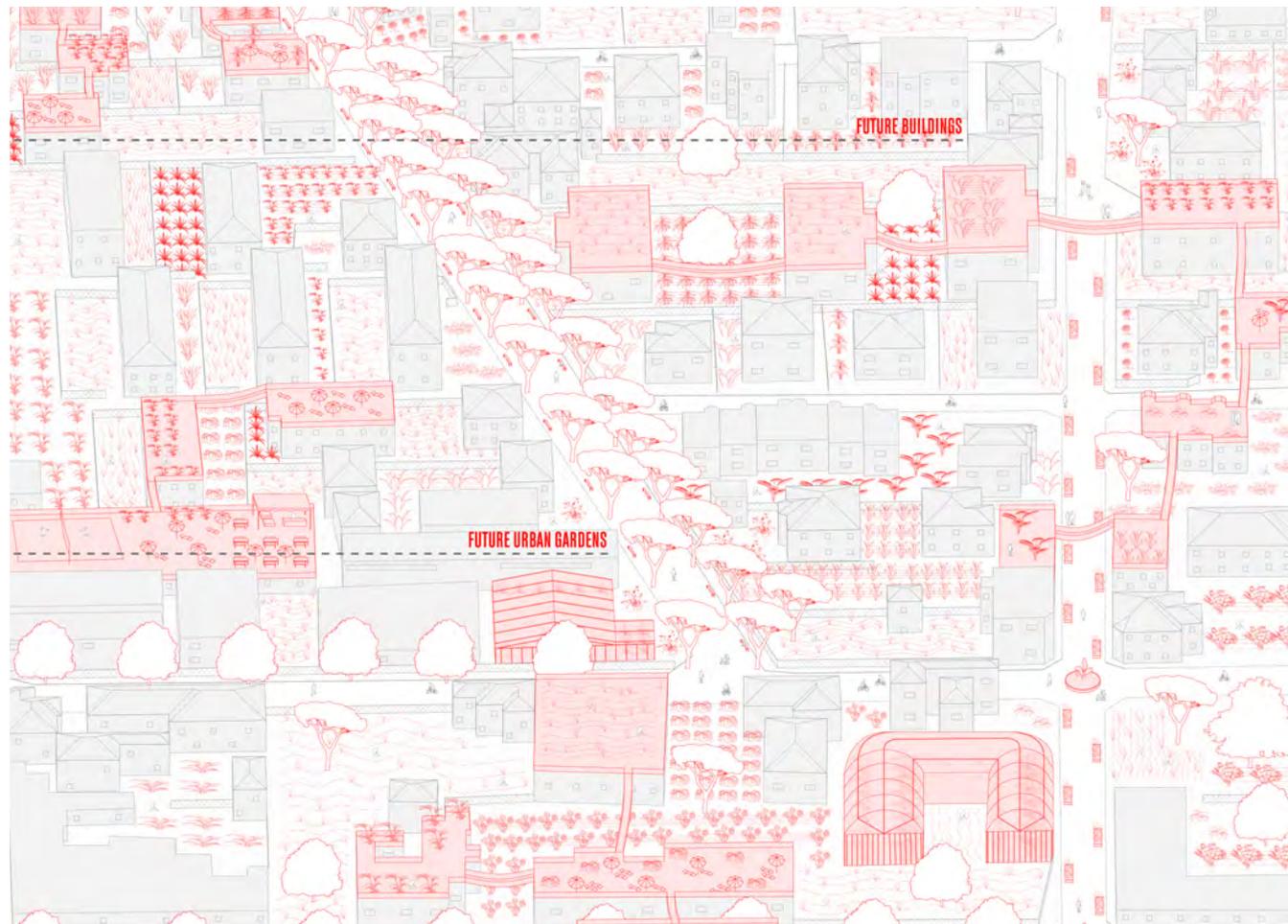
Lake: The Wienerbergteich is a mountain ridge located 244m above sea level at the southern edge of Vienna. Since an urban planning competition idea in the 1980s, the Wienerberg recreation area has been located here with a total area of 117 hectares. We want to now make this natural lake a common place for all the residents of the area. We arranged most of our development by the lake, creating a sort of "lake community living space", where mixed usages of shopping, and leisure are all possible in the same area. By building a pedestrian bridge over the water, new routes open up new perspectives in the area.





Current situation

Future situation



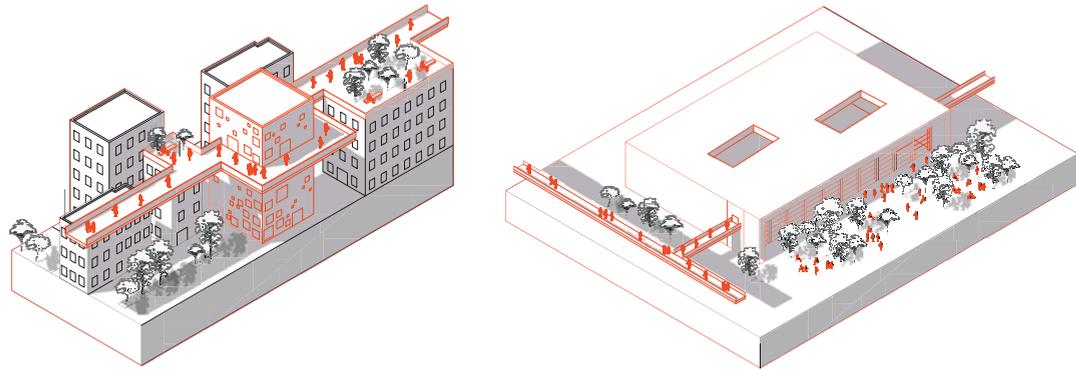
URBAN GREEN

Giorgia Bonet & Máté Milán Kresz

Vösendorf is a city on the edge of Vienna. This place is characterized by the presence of shops, railway, schools and houses. Being a suburban area, most of the buildings and infrastructure have an industrial style, without well-planned infrastructure. Many people have their homes here and commute into the city to work. On the other hand this area, compared to other suburban cities, also offers job opportunities. This is a potential that must be utilised.

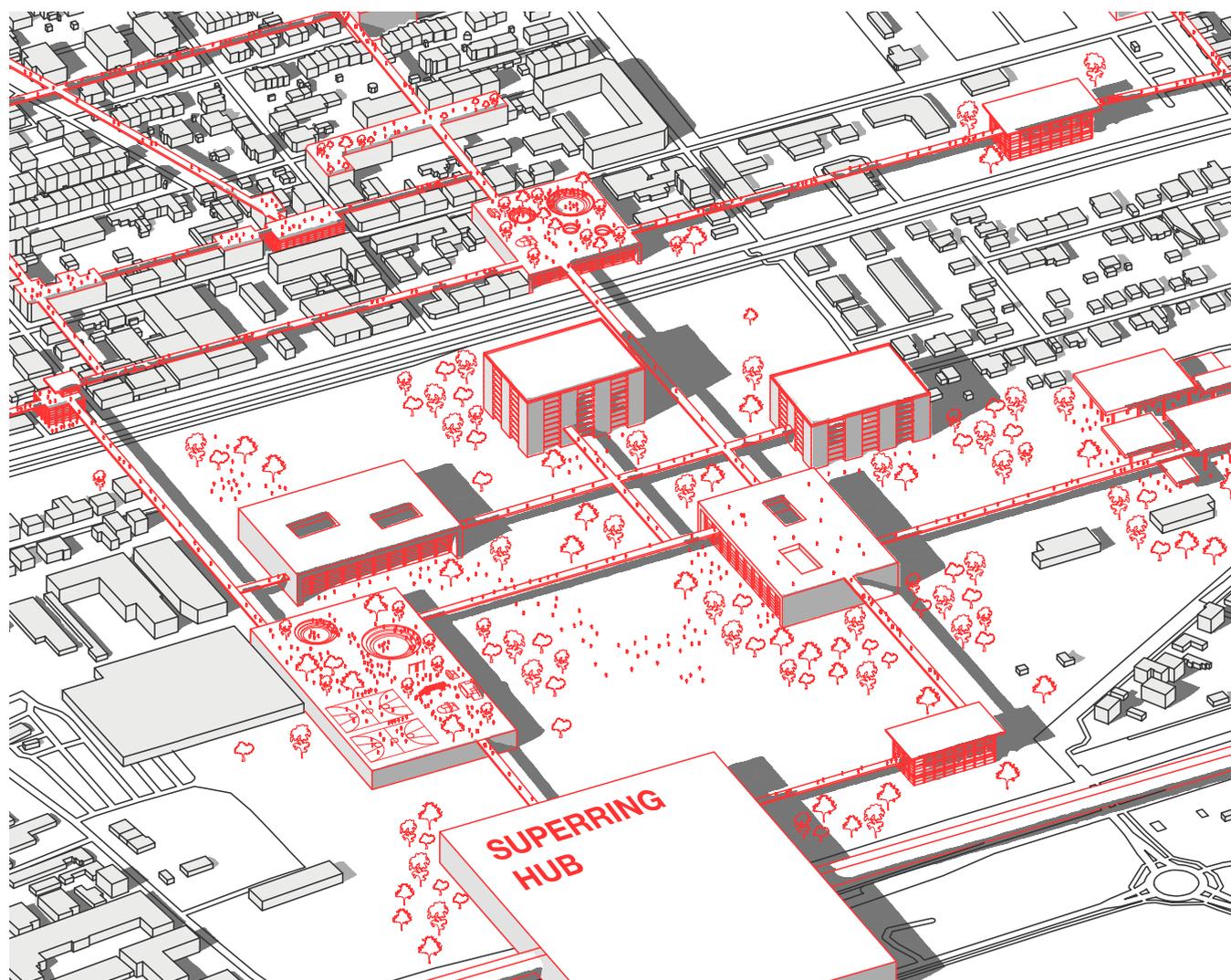
The city nowadays is not liveable, it is overwhelmed with cars, and not ready for our sustainable concept.

From our point of view the most important thing is to keep the inhabitants inside the area, giving them job opportunities in a more liveable city. This could create a new link to the green transportation system in the city. In our project we want to make a car free area of Vösendorf and unite the *SuperRing* with the already existing transportation system. We would like to stop the cars outside the ring with a P+R system, and create transportation connections that are linked to the ring. The idea is that the most liveable stop of the whole super-ring is based on the multi modal connection between the subway, the Lokalbahn and the new train system. With a new cyclers infrastructure and pedestrian areas, we are inviting people to use Vösendorf in as many ways as they can. The *SuperRing* will also connect all the cycle paths around the ring, there is the Eurovelo6 which will now be directly connected to Neusiedl am See for example. People can take their bike on the train or book it at the bike sharing docks near the stations, which will also be possible for everyday use, like going to work or doing the groceries. Streets will be covered by trees. Little markets, bars and restaurants will open to entertain people. Near the Volksschule there could be a skate park where bikers and skaters could train and the people who do not like such activities could cultivate vegetables in the new urban gardens. This new urban planting system could take place on the rooftops of the higher buildings and on the unused fields. In addition, urban gardening provides pleasant green views, and is also an important part of the microclimate. Using natural resources, we want to offer a better life on a human scale.



A LOCAL NETWORK

Alessandro Zanin, Nikos Kouklakis & Rick Rütten



In the first steps of our research we analysed the metropolitan area and the role of our site, as part of the *SuperRing*. The space between the cities Vienna, Bratislava and Wiener Neustadt and especially the industrial and wine quarter could play an important role in the metropolitan network. The old industrial and agricultural heritage of these areas could be connected with the cities and create a strong network to transport products around the whole metropolitan area. If this could be achieved we could create a stronger link between the rural and urban production.

Following this analysis, we focused on understanding our site in the 23rd district of Vienna. Siebenhirten is a vibrant Viennese suburb with a lot of residential, industrial and agricultural zones which are strictly divided by the dominant mobility system south of Vienna. It is really important to understand these layers and find a commuter system that brings all these areas together, especially with the city of Vienna and the metropolitan area Wiener Neustadt-Vienna-Bratislava. Furthermore the 23rd district is next to the 10th and the 11th districts of Vienna, which also play a significant role in the production network of the City of Vienna. All these suburbs are connected with an old railway line, the so-called "Donauländerbahn", but also with the highways S1 and E59-E60. The dense infrastructure system in our site, with these highways, Triester Street and Ketzer Street, forms a strong network for cars and trains, but on the other hand it creates a lot of boundaries and divides our site.

Our proposal is based on a network that is lifted from the ground level and creates a "skywalk" system for pedestrians and bicycles that is strongly connected to the new *SuperRing* station. Next to the *SuperRing* Hub the new city center is located, with a mixed-used concept, where residential, production and leisure zones are in a dialogue with each other and they will connect to the existing public transport network and also connect the countryside areas of our site. Our main goal is to develop a walkable city of the future, where a better flow and transition time of its residents could be achieved. Furthermore, this new network will allow the functions and daily activities of the new city to take place in vertical layers, while creating a new cityscape and a new perspective of how we perceive our cities.

REHEARSING THE FUTURE – EXPLORATORY SCENARIOS AS A TOOL TO DEVELOP STRATEGIES FOR SUSTAINABLE URBAN REGIONS

Kersten Nabielek

In the policy domains of urban development, infrastructure and mobility, we are standing on the eve of a number of far-reaching developments that are difficult to overlook. While transitions, or system changes are needed in the fields of climate, energy and circular economy¹, rapid technological developments are also taking place, for instance, in information and communications technology and transport technology. These technological developments influence daily lives as well as institutions². In addition, social, cultural, political and economic changes are taking place, all of which increase the level of uncertainty that policymakers and planners are facing. And more recently, the Covid-19 pandemic has shown us that unexpected events can happen on top of more structural changes and developments.

In urbanized regions many complex developments come together. This often makes it impossible to 'tame' uncertainty by providing more data, more advanced statistics or improved models. There is simply no reliable empirical data on transport modes that are only just being introduced or that are being tested. In addition, knowledge of interactions between various transport modes, changes in spatial circumstances and evolving needs of both citizens and businesses is often lacking.

In 2019 *PBL Netherlands Environmental Assessment Agency* published four exploratory scenarios for urban regions in the Netherlands in 2049. The research provides input for a debate on what we want our future urban regions to look like, what this means for various groups within society, what policy choices would be required to get there, and which dilemmas policymakers and planners may face in dealing with new challenges. The scenarios have a qualitative character and were developed in an interactive process together with experts and stakeholders, applying the morphological method for scenario building.

SCENARIOS AS A TOOL TO DEAL WITH UNCERTAINTY

Uncertainty is a fact of life when considering future developments. Acknowledging this can make policymakers feel uncomfortable. Their day-to-day tasks are complicated enough. Having to take into account the uncertainty of new developments, possible discontinuity of trends, and changes in the outlook on urban regions and mobility will make it even more complex. This makes it tempting to ignore uncertainty or to try to hide it. However, that does not make uncertainty go away. ▶

¹IEA (2018), *World Energy Outlook*. Paris: International Energy Agency; IPCC (2018), *Global warming of 1.5 °C, special report*. Genève: World Meteorological Organization; UNEP (2018), *Emissions Gap Report 2018*. Nairobi: UNEP; . Watts et al. (2018), *The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come*. *The Lancet*, 392(10163): 2479–2514.

²Van Dijk, J., T. Poell & M. de Vaal (2016), *De platform samenleving. Strijd om publieke waarden in een online wereld*. Amsterdam: Amsterdam University Press; Crang, M. & S. Graham (2007), *Sentient cities: ambient intelligence and the politics of urban space*. *Information, Communication & Society* 10(6): 789–817.



**LEARNING FROM
INTERNATIONAL
APPROACHES**



Figure 1: Impression of the four scenarios
©PBL

So, policymakers will need to relate to it, acknowledging that not exploring possible new challenges, views and policy options will only yield "present-proof" policies rather than "future-proof" ones.

In order to help policymakers and planners gain insight into and anticipate a diversity of plausible developments, including possible paths for autonomous driving technology, exploratory scenarios on urbanization, infrastructure and mobility, titled *Bubble City*, *State of Green*, *Market Place* and *Our Neighbourhood* (see Figure 1), have been developed.

These scenarios all have a qualitative and narrative character and were inspired by the work of researchers such as Townsend³ and Lyons⁴. Each of the scenarios is based on a certain set of societal values that was developed during the research. Moreover, none of the scenarios offers a perfect solution. Each scenario shows advantages and disadvantages and we were specifically interested in imagining and describing possible dilemmas that might arise per scenario.

WORKSHOPS WITH PLANNERS AND POLICY MAKERS

The publication of the project in spring 2019 included a printed handbook⁵, a pdf publication of the full research⁶ and a website⁷ including five short animation movies. In July 2020 an English translation of the handbook⁸ was published. However, the project did not end with the publication of the project. As the scenarios were explicitly presented as a tool for planning, dialogue and involvement, we accompanied the publication with an open invitation to participate in scenario workshops (see Figure 2). Many interested organisations, mostly municipalities, provinces and departments of ministries, responded to the open invitation and during 2019 and 2020 we organised more than 30 workshops, which we called "rehearsing the future". The workshops helped to widen the imagination of the participants and feed the discussion about possible futures of urban regions, underlying societal values and dilemmas that might arise in the process.

IMAGES AND NARRATIVES ARE CRUCIAL FOR THE FORMULATION OF URBAN VISIONS AND STRATEGIC POLICIES

In the face of deep uncertainty, well-informed images and narratives of future developments are crucial for the formulation of strategic government policies in the field of urban and transport planning. It is important to consider today's perspectives on problems and solutions in light of the longer term and to explore possible new challenges, views and policy options. In an era of deep uncertainty, data and quantitative models have limited value.

Qualitative and exploratory scenario research is a useful method that can contribute to dealing with the complexity and uncertainty inherent in transitions and to developing well-informed visions and resilient strategies for sustainable urban developments in regions, cities and neighbourhoods. ■

Kersten Nabielek is an architect and researcher, specialised in research on sustainable urban development and regional design. Since 2003 he has been working at the PBL Netherlands Environmental Assessment Agency. Kersten is author of several research studies on urban developments in the Netherlands and Europe. Currently, he is working on an interactive regional atlas of the Netherlands.

³Townsend, A. (2014), Re-programming mobility. The digital transformation of transportation in the United States. New York: Rudin Center.

⁴Lyons, G. (2015) The future of transport. Initial Perspective, Future Agenda. Available from: <http://eprints.uwe.ac.uk/25131>.

⁵PBL (2019a), Oefenen met de toekomst. Scenario's voor stedelijke ontwikkeling, infrastructuur en mobiliteit in Nederland voor 2049. Ruimtelijke verkenningen 2019. The Hague: PBL Netherlands Environmental Assessment Agency.

⁶PBL (2019b), Scenario's voor stedelijke ontwikkeling, infrastructuur en mobiliteit. Verdieping bij Oefenen met de Toekomst. Ruimtelijke Verkenning 2019. The Hague: PBL Netherlands Environmental Assessment Agency.

⁷Project website: <https://themasites.pbl.nl/o/oefenen-met-de-toekomst/>

⁸PBL (2020), Rehearsing the future. Scenarios for urban development, infrastructure and mobility in the Netherlands in 2049. The Hague: PBL Netherlands Environmental Assessment Agency.

SPATIAL DESIGN – FROM REGIONAL VISIONS TO DESIGN-BASED CROSS-BORDER PROCESSES

Markus Nollert

In recent years, regional visions and processes have increased throughout Germany, Austria and Switzerland. They illustrate the need for a conceptual understanding of larger metropolitan areas and cross-border regions and fill the gaps of other instruments of spatial development, which are limited to their sphere of influence. These concepts and processes demand a new understanding of the method of design, which is, on the one hand, capable of grasping, organizing and simplifying the sheer mass and layers of information of a metropolitan region and, on the other hand, is challenged as a method itself for the same reasons.

It seems that design can and has to play different roles at this level, fulfilling multiple tasks which should be taken into consideration for both, the design itself and the underlying process in order to use its full potential. In the following paragraphs I will try to distinguish and reflect on these different roles of design and introduce the term of spatial design, which focusses on supporting joint learning processes in multi-actor networks.

DESIGN AS A TOOL TO PUT REGIONAL DEVELOPMENT IN NEW (AND DIFFERENT) PERSPECTIVES

The first and central function of regional designs is to introduce different and new perspectives to the development of functional regions, which are normally seen as a multitude of single spatial units that are divided by borders and competences. By adopting approaches like ignoring borders,

concentrating on crucial information, using metaphors or simply imagining a possible development, they set a spotlight on development potentials, functional links and options of collaboration, which mostly were not there before. The *Städtebauliche Vision - Neue Stadt im Glatttal* (Figure 1) by the *Group Krokodil* and the *Metro Map* by Superwien and *CoCo architecture* can be seen as examples of this type. Here, the design as an outcome plays a bigger role – it goes without saying that the process of elaboration can be very complex, time-consuming and elaborated. The design objects speak for themselves, offering new ways of looking at the development of a certain region. Seeing Vienna, Bratislava and its surrounding regions as one metro-system shows how differently the metropolitan region could be organized, if it were seen without borders and as one organism or city. In the case of the Glattal, the urban design vision shows what would be possible if the different municipalities were treated as one “urban body” – referring to the often-used term *Glattal-city*, which does not occur in everyday planning practice.

While the power of these kinds of design lies in opening a discussion and confronting planning and political practice, they face difficulties to serve as a basis for further planning actions. The reason for this difficulty might be found in their simplicity – which is undoubtedly also their strength – and in their elaboration as the work of a group of architects and planners in their “atelier” which do not take into account the interests and objections



Figure 1: *Städtebauliche Vision - Neue Stadt im Glatttal* of the Group Krokodil
© Adam, Hubertus (2011): *Glattalstudie - Die Gruppe Krokodil plant eine neue Stadt neben Zürich*, In: *Archithese*, 3, p. 64-67.

of local actor-networks – which is a strength, too. Hence, one could say that these kinds of regional design can start a discussion, but might not work as a foundation for a further collaborative process.

DESIGN AS BASIS FOR MULTI-ACTOR CROSS BORDER PROCESSES

The *Renish Ladder* – a perspective for the future development of the region between Cologne, Bonn and Düsseldorf (Figure 2), does not differ much from the examples above. In fact, it was designed with the same intention, to break with common perspectives, especially the monocentric view of Cologne. Therefore, it also used a strong visual language and the similar kind of exaggeration and simplification. The main difference is that this concept was designed in a period of one and a half years, which involved regional planning authorities and local politicians in a joint discussion on possible development paths for this region, organized by the *Region Köln-Bonn eV*. In this process, the design-team could discuss several stages of their work with the stakeholders, explaining the central concepts of their work and receiving quite an number of critical comments and questions, which they could integrate into their next steps. Just as important as the integrated design processes was the fact that it was not one single concept to be elaborated and discussed, but four, without the intention of choosing a winner. This concurrence not only allowed the actors to simultaneously compare

different approaches and recommend further actions, it also gave the designers the freedom to emphasize issues they thought were important for the future development of the region and to discuss them with the actors, which in this case proved to be a vital element of successful multi-actor processes.

Despite many parallels, design in this case seems to serve different goals, which is sometimes not that visible in its visual appearance but in the underlying process of its elaboration and the approach designers might have.

SPATIAL DESIGN – A COLLABORATIVE LEARNING PROCESS

Using the method of design in multi-actor cross-border processes aims at the revelation of “knowledge of action” [in German: “Handlungswissen”]. The design itself is only one tool to represent central development principles, findings, proofs and arguments. The main work and outcome lies in the process of design, its findings and the exchange with the stakeholders concerned. This means not only to work in the designer’s “atelier” or “workshop”, but to actively integrate the actor’s interests into the design process. Of course, this is also done in other design-tasks, but perhaps in a different way. One difference lies in the active discussion between the design team and the stakeholders and the fact that they are not direct commissioners as, for example, in the ▶

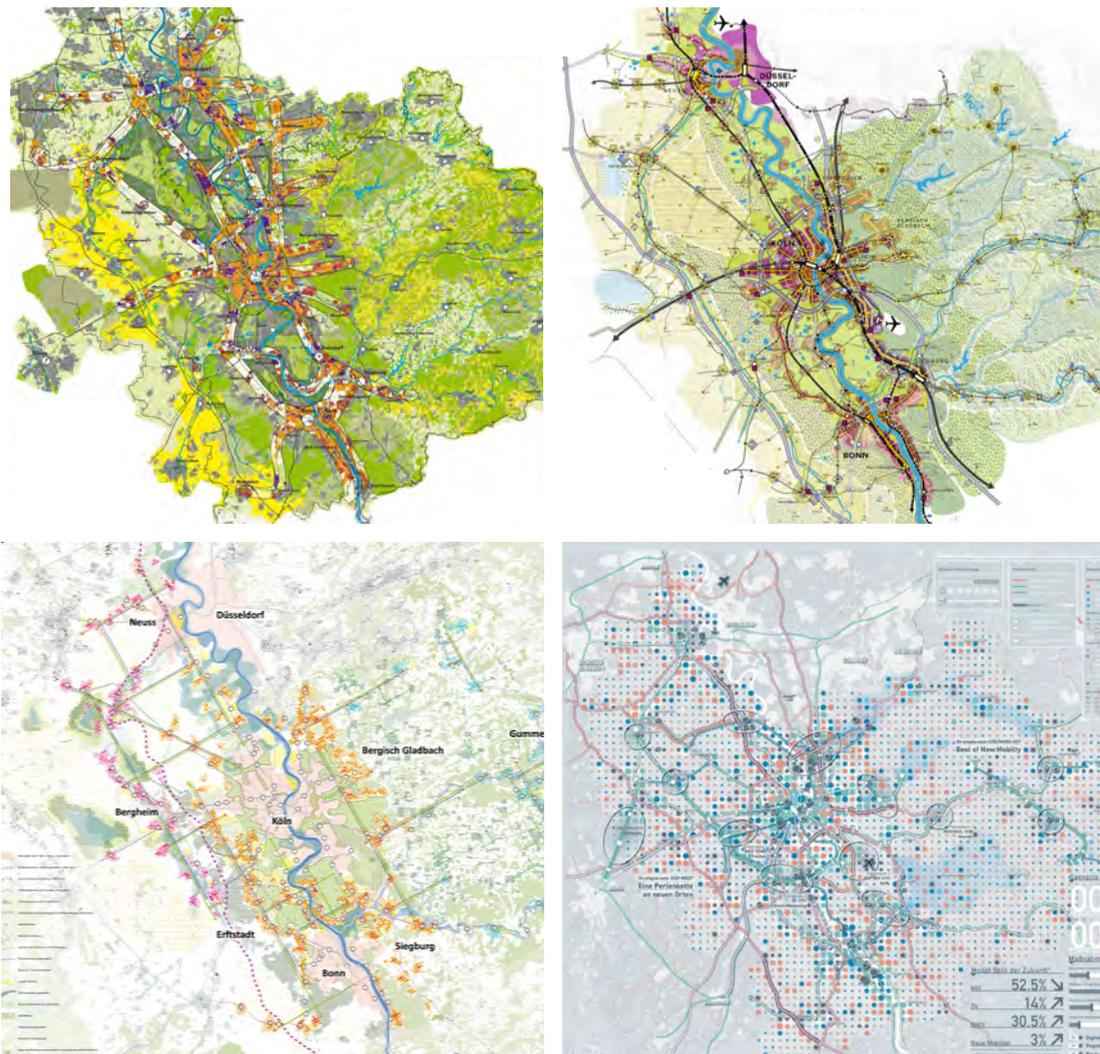


Figure 2: The *rhenish ladder* as one of four contributions for the process "Agglomerationskonzept Köln-Bonn", © Region Köln/Bonn e.V.

design process of a house. Another difference is the importance of the explicitness of the design-process itself and one of its major advantages: The productive handling of failure. In regions like Cologne-Bonn or Vienna-Bratislava, the matter is so complex, that its simply not possible not to fail when designing. But these failures are often the basis for new findings or the discovery of tasks, which weren't visible before. The best way to solve "wicked problems", as Rittel¹ called them, is to define a problem - or in other words: a task - try to solve the visible part of it and fail. By discussing a preliminary state of a design alongside with the

identification of tasks, possible options of action and failed attempts, the process of designing becomes an outcome in itself and a collaborative learning process.

To enable this learning process, designers must make their design process explicit and also show unfinished and preliminary elements - which is why I also like to refer to the term "draft" or "drafting", which is included in the German term "Entwerfen".

On the other side, spatial design has to be embedded in a process enabling discussions between designers and actors in an organized way and lays the ground for an open exchange



Figure 3: The interplay between different roles of design. ©Markus Nollert

between all parties involved. That is why these processes cannot define a winner in the end, because this would decisively impair the openness of the discussion. One family of suitable processes was "born" in the city of Vienna, called the "Wiener Modell"² and is now known as "test-planning". These processes aim at discussing options of action with stakeholders, identifying common ground and conflicts among actors, testing possibilities and preliminary approving or rejecting solutions - rather than the selection of a winning concept by a group of experts. Being a known element in Switzerland in the last decades, these kinds of processes also start to be conducted in Germany and Austria again.

DESIGN | DRAFT | TEST - PROCESS

The aim of this short reflection was not to judge certain forms of regional design and choose a favorite, but to rather to become conscious about the role and outcome that different forms of design can have, especially in regional cross-border situations. It would not be surprising, if it takes an impulse of a design like the SuperWien metro map to start or support a discussion about the integrated development of a region across borders - which could then become a process as described

in the paragraphs above, or something else. It is only important to know what role the process and the outcome of a design should play and what consequences it can have. If it should be the basis of a design-based cross-border process, then it needs to be integrated into the actor-networks involved.

In addition, design can play so many more roles which could not be discussed here, and we are only at the beginning to understand the potentials and restraints of the method of design in complex (regional) tasks. So, every time we start a new design task, we are part of a much bigger design-based process about design itself. We try, we succeed, we fail, we learn. ■

Markus Nollert is the co-owner of *urbanista.ch* and co-director of the *Spatial Transformation Laboratories at ETH Zurich*. His work is dedicated to the treatment of complex tasks of spatial transformation in science and practice. As co-founder of *Urban Equipe* and *NextZürich* he deals with practical challenges of public participation.

¹Horst W. J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4, no. 2 (1973): 155-169.

²Freisitzer, K., Maurer, J. (1987) (Hrsg.): *Das Wiener Modell. Erfahrungen mit innovativer Stadtplanung - Empirische Befunde aus einem Grossprojekt. Wien.*

BORDEAUX MÉTROPOLE - FIFTY THOUSAND HOMES ALONG PUBLIC TRANSPORT ROUTES

Jérôme Goze

With 65 kilometres of tram lines, 2 651 kilometres of roads, 152 million passengers on the public transport network, nearly 4 000 social rental housing units built each year, 420 000 jobs, 140 kilometres of walking paths in the green belt and 150 parks and natural spaces, the metropolitan area of Bordeaux is a dynamic territory. It is also a territory that boasts an outstanding architectural heritage, with its UNESCO-listed eighteenth-century historic centre – the *City of Stone* – as well as low-density neighbourhoods, where three storeys are considered a high-rise building.

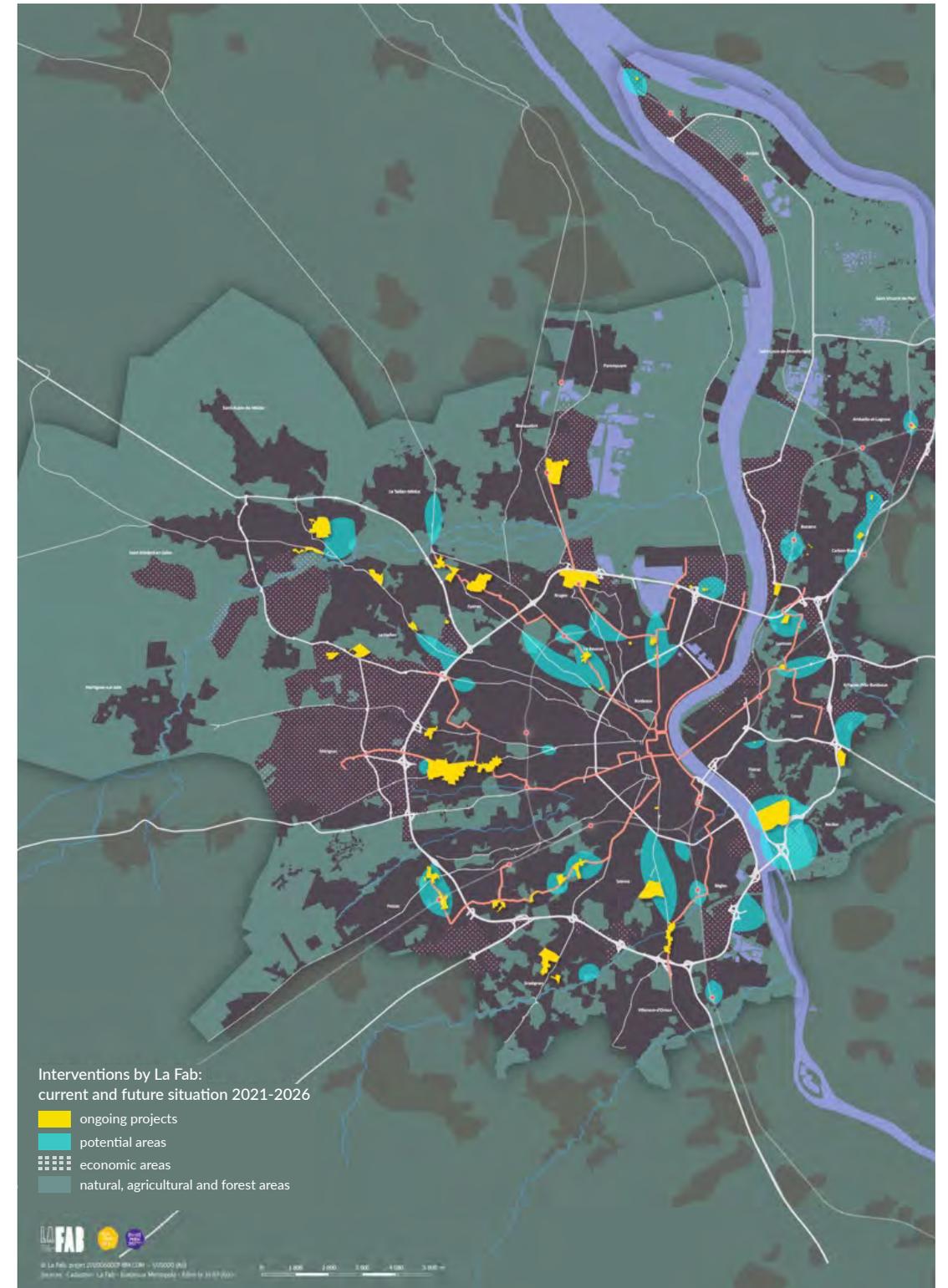
But there is another side to the metropolitan region. Firstly, the waiting time for social housing is more than three years, which affects about 80% of the French population entitled to social housing. Secondly, there are growing difficulties in housing the middle classes of the conurbation. Housing is becoming too expensive to stay in the metropolis, so they often have no choice but to move to the outskirts, where there are fewer public facilities and poorer infrastructure.

This is reflected in frenetic consumption of farmland, heavy rush-hour traffic, long commuting times and, ultimately, a lower quality of life. Looking at the local economy and people's purchasing power, the majority – around 70% – of households in the metropolis can spend up to € 250 000, which is equivalent to 58 m² of new housing today. Accordingly, the majority of households can no longer afford to live in the metropolitan area. The discrepancy between the metropolitan and

the suburban area is made clear in the following example: for about € 185 000, one will find a flat of 60 m² in the metropolitan area, but if one moves around 15 kilometres away from the metropolitan area, one can afford a flat of 90 to 100 m². So, if we want to keep families in the metropolitan area, avoid morning and evening traffic jams, fight urban sprawl and protect nature, landscape and the environment, we need to be more competitive in what we offer. That means we have to build more, cheaper and better, which is what happened in the metropolitan area in 2010.

The programme *Living and Thriving – 50 000 Naturally Accessible Homes* was initiated by *Bordeaux Métropole* and aims to counteract urban sprawl by producing housing differently. The goal is to nurture the emergence of innovative housing developments, meeting the needs of future residents, entrepreneurs and users and providing homes which are economically accessible, located in immediate proximity to existing and future public transport lines. The five main objectives were:

1. To support the ambition of the *Bordeaux Métropole*, because without political will, there is no change.
2. To provide new answers to the need for housing, which is one of the most important economic and social issues, along with the necessity to contain global warming.
3. To question our way of shaping the city through housing. ▶



Interventions by La Fab: Current and Future Situation, 2021-2026
© La Fab



Model of the Route de Toulouse Project
© LaFab



Le Bouscat - Libération
© LaFab



Mérignac Langevin
© LaFab



Cité de la gare
© LaFab



Bordeaux Résidence du lac
© LaFab

4. To strategically reflect on the metropolitan area by comparing local operational situations.
5. To answer basic questions such as, "Do we know how to build the housing we would like, so that we can all live in *Bordeaux Métropole*?"
2. A significant proportion of housing for families
3. A selling price for affordable housing of around € 2 500 € per m² compared to € 4 300 per m², which is the average price per m² in the conurbation
4. A maximum of one parking space per flat

Despite the naivety of the question, the needs of the population, such as the desire for a safe and beautiful home and the desire for the city, come to light. The public authority has surrounded itself with experts to develop a working method and tools to ultimately achieve these objectives.

Five international teams were selected for their vision and their responses to the challenges, by taking urban reality as a basis, making use of the mobility infrastructure, highlighting new types of places to live, and applying a useful approach by studying a wide range of building typologies.

Their method was to take urban situations and create conditions to produce tailored responses, such as to build in the suburbs, to build to define the boundary between city and nature, to build on a car park, to build to accommodate changing family forms and so on. The five teams set the themes defining the quality of housing. Working on specific project sites as unique urban situations required answers in relation to mobility and parking, privacy and sociability, environmental performance at the service of housing, etc.

The teams determined how to improve the urban, architectural and landscape quality through housing design taking into consideration specific requirements in regard to density, diversity, and accessibility, and the environmental and climatic conditions of Bordeaux.

The following mission and specific targets to contribute to an attractive and balanced metropolis and its neighbourhoods on a local scale were defined by *Bordeaux Métropole* and the 28 municipalities:

1. A breakdown of the programme into three parts, namely social rental housing, affordable homes and private housing

At the same time, a consultation on fifteen trial blocks has been launched to mobilise project owners and project managers in different locations and municipalities, starting with those on land parcels over which we as the city of Bordeaux have control. In parallel, we are working and looking at different approaches that require more complex arrangements.

The bottom line is that 42% of private housing means that we have 58% price-controlled housing, which is made up of social housing, first-time buyer housing and affordable housing!

In conclusion, it is crucial to stimulate discussions and exchange ideas and, at the same time, to never stop demanding high-quality housing for everyone, to respect urban situations and human narratives, to respect the people who are already there and those who are just moving into the area. With this in mind, never insult the future with ready-made answers when we have not even asked all the questions yet, and remember that contradiction is often the most obvious path to truth. ■

Jérôme Goze is a graduate in architecture, holder of a Master's Degree from the *École des Hautes Études en Sciences Sociales Paris* and has completed training at the *École Nationale des Ponts & Chaussées Paris*. He has held the position of Chief Executive Officer of the local public company *La Fabrique de Bordeaux Métropole (La Fab)*, in charge of the Living, Flourishing - 50 000 housing units accessible by nature and has been undertaking work in the metropolis since 2014.

THE DISCIPLINARY APPROACH TO A METROPOLITAN QUALIFIED WAY OF LIFE – PROJECTS & TOOLS

Antonella Contin

I want to introduce the Metropolitan Approach to Complexity. Regarding the *Großstadt* of the last century, I have to point out a discontinuity. That is why we say that we are dealing with a Post-Metropolis Era, and not with a polycentric city. Instead, nowadays, Metropolis is a net-city. It is not only referring to nodes and poles but the space in between the infrastructure – the body of space, as G. Shane called it in 2005¹ – which we have to reconceptualise. Nevertheless, we are not referring to a conurbation, but we have to understand a new entity with a new DNA, and we need new tools to comprehend and design it.

METROPOLITAN ARCHITECTURE PROJECTS

In the current metropolitan dimension, we can follow two different active paths of research. One is dealing with policies at the government/sub-national level and the other with actions, namely the implementation through Metropolitan Architecture Projects, which is our research field of action. Our research questions are related to how it is possible to give order to the explosive growth, which means arguing how we can structure the knowledge related to the metropolitan region. Then, we investigate the metropolitan principles and issues, in order to be sure that our metropolitan project will be sustainable. Also, we investigate

our values and what the notion of public and common good mean at the metropolitan scale. We also define a possible metropolitan scope as the Metropolitan Architecture Projects' field of action. Thus, we figure out new tools to understand the impact of metropolitan processes and dynamics on the territory for the realisation of meta-projects. That is "how" the Academy can intervene in the metropolitan arena, providing meta-projects as negotiation support for the dialogue among the different metropolitan agents.

GREEN-GREY INFRASTRUCTURE AS THE GENERATOR OF A NEW URBANITY

Today we are dealing with a new metropolitan nature, which is defined by the structure or architecture of our city framed by the green-grey infrastructure continuity: the wet and drylands, the scarcity of the resources, the wellness and the welfare that means water capital and management, renewable energies and pollution prevention.

We have models. Looking at the image of Madrid's chessboard and the Filarete' section, the city is always related to geography and water. The Madrid Metro-Matrix² is the geographic structure for the mental map of a metropolis, but, at the scale of metropolitan architecture, it can also prefigure something more "modern" than the traditional

concept of the metropolis. Looking at the Madrid diagram, the mental grid disappears but the linear city rooted in its territory through metropolitan centres rises. A city without administrative boundaries, the continuity of the green and blue infrastructure, a city of exchanges of flows and defined places.

We classify the metropolitan paradigms of city structure related to the revolutionary cultural eras in order to address the understanding of growth issues. Analysing the scales-progression towards the threshold of discontinuity, we observe how the compact shape of the city walls had been transcended during the eighteenth century. Nowadays, the challenge we face is to move away from the broad and de-regulated shapes of the diffuse urbanisation of the second post-war period. Regarding our categories we can say that the identifying name of the historical Evo is the Regional Net-City linked to the network of the cities of the word; the Shape and Structure Paradigm is the Archipelago for the practice of the Tele-città supported by the green-grey infrastructure; the Scale, so the character of the urban space is the electro-telematic Scale of the just in time; the Idea of Citizenship is the Utopia of cosmopolitan citizenship, and time is the Metropolitan Unit of Measurement.

Four Metropolitan Contexts shape our set of landscapes and our field of action:

1. The semi-sprawl along the main roads (Venturi's Las Vegas Strip)
2. The hyper-oriented and planned space of the grey infrastructure (Moses's New York grey infrastructure)
3. The new centralities (the Lille TGV station and its neighbourhood by Koolhaas)
4. The eco-armatures.

The section strategy is the connection between them. It is a critical section that links the lithology of the ground, the water, the grey infrastructure, nature and agriculture, and finally the layer of the

landscape. That allows us to think about transitive territories³ where the project operations determine a relationship between inhabitants and the environment not only through efficiency and economy but also considering cognitive and perceptual aspects.

Our research question is also related to the conditions of providing a metropolitan urbanity or intersomaticity⁴ through the Metropolitan Architecture Project; it usually acts in the hybrid territory in between urban and rural; rural and rural; rural and natural identifying their linkage. So, we are trying not only to identify which functions are needed but also a new typo-morphological invention.

Nevertheless, we consider the green-grey infrastructure as the generator of a new urbanity. In our project, we interconnect the regional (commuter), metropolitan (metro), urban (BRT-LRT-Bus-Taxi) to the micro-urban (Bicycle-Pedestrian) scales². So, the grey infrastructure guarantees performance and feasibility of the railway; the environment deals with the physical structure of a fragile context, and finally the urban settlements re-organise a scattered territory. Thus, we achieve urban-rural organisation with the creation of new linkage patterns. Our results are land properties, tenure formalisation and governance, the creation of hierarchies and performative connections. Our Metropolitan Architecture Project, subsequently, must reinforce the urban-rural linkage pattern's water networks. In India, for example, we studied the Desakota region as a best practice and a systemic approach to implementing territorial resources.

NEW URBAN MORPHOTYPES

The Metropolitan is a phased project, and we have defined new morphotype patterns. Starting with the categories of the Japanese author Fumiko Maki⁵ and then Frampton's definition⁶ of the new ▶

¹Shane, D.G. (2005). *Recombinant urbanism. Conceptual Modeling in Architecture, Urban Design and city Theory*, West Sussex, England: Wiley-Academy.

²Ortiz P. (2014). *The Art of Shaping the Metropolis*, McGraw-Hill Education

³Zammataro, A. (2020) *Transactive building types for territories in transition*, PhD Thesis, Politecnico di Milano. Doctoral Programme in Architecture, Built Environment and Construction Engineering, Supervisor: A.Contin, 32nd Cycle

⁴Choay F. (1992), *L'orizzonte del posturbano*, E. d'Alfonso (a cura di), tr. it., Officina, Roma.

⁵Maki F. (1964). *Investigations in collective form*, Washington: The School of Architecture-Washington University

⁶Frampton, K. (eds). (1999). *Megaform as Urban Landscape*. Raoul Wallenberg Lecture. Ann Arbor: Univ of Michigan

built form types as megaforms, we argue that something that was related to the morphology of the city right now is miniaturised and included inside the metropolitan new typologies: the New Urban Morphotypes⁷. These must re-connect the anonymous urban city-fabric within the city centre in a new syntax and unit. According to Fenton⁸, we can catalogue them in three categories: the fabric, a fence and traditional typologies integrated inside (the Rockefeller Center); the graft, building as layer-machine (The United Nation Headquarter); and finally the newest the monolith that combines different functions and times of use in the same "big" form through¹ multiple pockets of space (the Lilla of Moneo in Barcelona).

These new patterns of land use and morphotypes represent an evolution of the TOD centrality that must include in its pattern green and blue infrastructure, not such as an embellishment, but as fundamental elements grounding the project to the territory. Our metropolitan digit covers more or less 1 km x 1 km. A rail or commuter transportation system station is at the centre² and the green-grey continuity is provided by the connection between the urban park and the regional park through the new built form type of the Metropolitan Architecture Project. Ours is a cognitive approach. Starting from strategic and structural plans, we must deal, then, with the local, territorial intelligence which constitutes variant elements at the local scale that we have to maintain, develop or radically transform to be the invariant elements at the Metropolitan Scale. That avoids generating a generic city again⁹.

METROPOLITAN CARTOGRAPHY

The maps potential produced through our methodology tool, the Metropolitan Cartography, is expressed in the research and analysis of open-source data. We express the intrinsic meaning of the data, not only the alphanumeric descriptive ones but also those that contain the relational and

spatialising value of the implicit properties of the territory. This study makes it possible to generate synthetic, non-thematic maps that attempt to express the information of the analytical maps through the representation of the implicit connections between the levels of information, keywords and related concepts, organised in the software of Glossary. It is difficult to assess the vulnerability of the Metropolis through the limited availability of data. However, a study focusing on the environmental, social, political and economic management issues in the exposed metropolitan context could be the key to promoting more specific and inclusive policies for the benefit of the host communities and migrants. Our epistemological approach drives us to always demonstrate the reasons why we select specific data and indicators. The Protocol Maps are maps that show the fundamental relationship between the elements that make up the metropolitan system and reveal its structure through the stratification of the physical aspects of geographical and historical data. We conceived eight protocol maps at XXL, L, M scale. The maps of dynamics, instead, are maps which represent the factors of mutation of the landscape over time. These are the result of the synthesis done by the metropolitan expert towards the different perspectives done by the other team members, who see the metropolitan issues from their specific discipline's point of view.

By using alphanumeric data, the metropolitan cartography selects, orders and relates the unexpressed quality values of the territory. Therefore, it tries to evaluate and represent the qualitative-relational data through a logical sequence of choices. Due to the software of Glossary, from the semantic package obtained through the metropolitan discipline evaluation, as a container of keywords (categories) to which the specific concepts of the descriptive variables of metropolitan complexity correspond, it is possible to take a further step: to initiate the selective process. However, we must clarify specific details

in order to understand the general structure of the process since the Semantic Package is a set of possible concepts applicable at a global level to identify current scenarios or changes in the metropolitan territory.

The semantic package can contain related concepts for each metropolitan dimension: physical, social, economic and governance, according to the classification by each category. The correspondence of the concept and the information level layer on the map is not always immediately perceptible, as intangible economic and governance factors cannot always be spatialised. However, metropolitan cartography provides an opportunity for the immediate representation of quantitative economic values, which help to adequately describe the properties of the metropolitan reality, since the conversion of the mental map, the semantic package, into the metropolitan cartography, is a synthetic result of the representation¹⁰.

In conclusion, starting from the need for interconnection among the different SDGs, which describe the sustainability regarding the four metropolitan dimensions: physical, social, economic, and governance, our metro-dology provides the decision making for SDGs Assessment. Through interconnection, merging the elements of our cartography within the SDGs, their targets and indicators, we can define which areas of activity must be reinforced with new policies actions. In short, from the projects to the policies, not vice-versa. ■

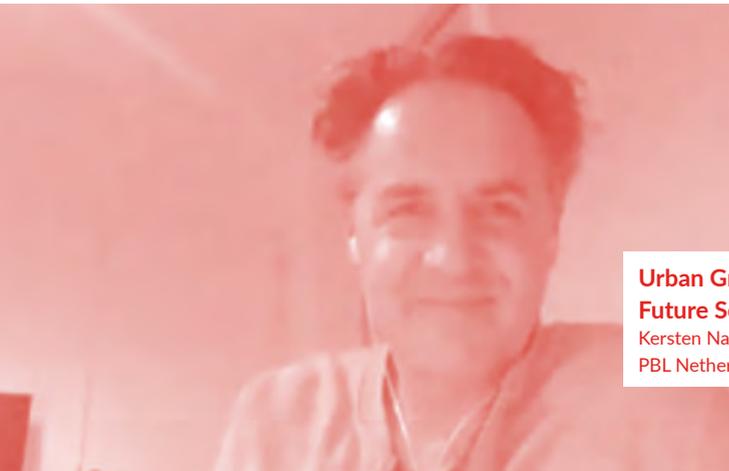
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⁷ D'Alfonso, E. (2000), *Architettura*, Milano: Mondadori

⁸ Fenton, J. (1985), *Hybrid Buildings in Pamphlet Architecture 11*. Princeton: Princeton Architectural Press

⁹ Koolhaas, R., (1995), *The Generic City*, Rotterdam: Sikkens Foundation

¹⁰ Contin, A., Galiulo, A., Sánchez Fuentes, D., *Telling metro-dology: Cartografía Metropolitana como herramienta metodológica de la sostenibilidad*, 3er Congreso Internacional sobre Sustentabilidad en los Hábitats, 2020, ITESO - Guadalajara (México)



Urban Growth, Regional Design and Future Scenarios in the Netherlands
 Kersten Nabielek,
 PBL Netherlands Environmental Assessment Agency



The Disciplinary Approach for a Metropolitan High-Quality Way of Life. Projects & Tools
 Antonella Contin
 Department of Architecture and Urban Studies (DASU), Politecnico di Milano



50 000 Thousand Times a Home/Design each Home as a Pixel of the Metropolis
 Jérôme Gôze
 La Fabrique de Bordeaux Métropole

Aufzeichnung läuft... LIVE auf Facebook

designing (supra-)regional scales **STL** Spatial Transformation Laboratories **urbanista.ch** bureau für raumentwicklung

Spatial Design – From Regional Visions to Design-Based Cross-Border Processes
 Markus Nollert,
 urabista.ch, Spatial Transformation Laboratories, ETH Zürich

International Lectures
 The international lectures were held as an online event. The guest articles from the experts in this magazine reflect their presentations and give an insight into the current growth-specific approaches.



Watch the livestream of the International Lectures and the Forum Discussion to dive deep into the debate on the management of urban growth.



«THE CITY OF VIENNA IS A STRONG BELIEVER IN THE REGIONAL DIALOGUE»

What new demands must be placed on urban governance to ensure a high-quality and affordable living environment? How can existing standards in housing be maintained while fostering compact growth? And how can decision-makers be sensitized when it comes to coordinated settlement development within urban regions?

These are some of the key questions raised during the Forum Discussion of the second *MetroLab Forum* which was devoted to the management and design of rapid urban growth. Five experts from the fields of city planning, housing development, urban geography and urban design contributed, from their professional perspectives to the challenges and limits of growth.

At the very beginning of the discussion, Michael Rosenberger, representing the *Urban and Regional Development Unit* of the *City of Vienna*, took the opportunity to look beyond the administrative borders of Vienna. Relating to the challenge of managing growth within the city limits and not only to grow in size but also to increase density, he stated that we are currently confronted with a “running-out-of-space-phenomenon”. However, the biggest obstacle in providing people with qualitative and well-connected places for living and working is not a lack of space itself, but more a lack of willingness to cooperate within and between cities, towns and their surrounding areas. By stating that “*the possibility to look at the metropolitan dimension to accommodate growth*” has not yet been considered, he supported the idea of finding

“*other modes of growth*” which are more oriented towards functional interdependencies.

According to Rosenberger, the prerequisite for a strong metropolitan plan would be to establish a common ground aligning the individual motives of the different entities of one metropolitan region:

«We don't all have the same interests and desires. So, I think the task is to create this common narrative and understanding of what a metropolitan region could look like.»

Michael Rosenberger

Then he added: “*if we want to become a metropolitan region of six million with Bratislava and all the partners in the region then we have to arrive at a shared kind of spatial vision.*”

Important steps in this direction have already been taken with the help of the *BAUM* project, said Marek Dinka, the initiator of the *Bratislava Region Management* and city planner of the *Division of Spatial Planning* at the *Bratislava City Administration*. Although his wish for a joint master plan for the cross-border city region of Bratislava and the surrounding municipalities in Lower Austria and Burgenland was not fulfilled, the platform now offers the framework for a trustworthy and cooperative partnership. ▶

¹The connecting SuperRing is presented as a metropolitan Vision for “SuperWien” in the book *SuperWien Metropole. A new Capital for Europe* (2018) by Cédric Ramière and Stefan Mayr

DISCUSSING URBAN

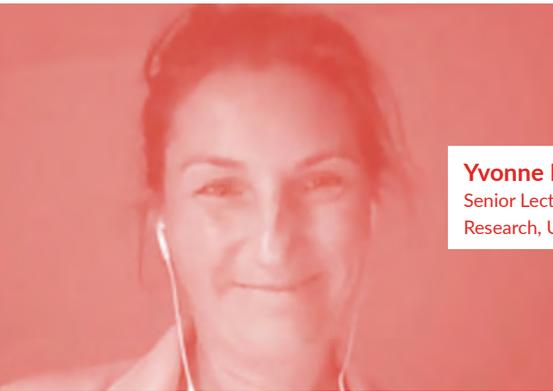
GROWTH



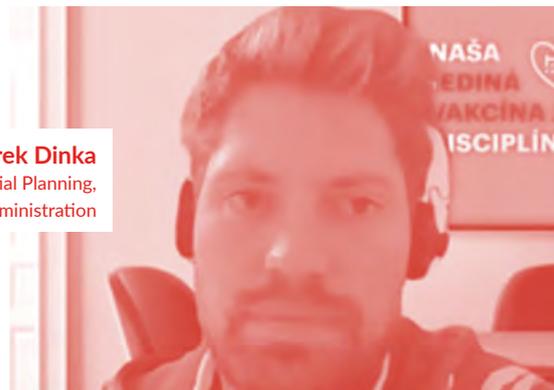
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Marek Dinka
Division of Spatial Planning, Bratislava City Administration



Kurt Hofstetter
Senior Coordinator, International Building Exhibition Vienna 2022

Forum Discussion
The Forum Discussion was held as a closing event of the second *MetroLab Forum*. On the basis of the previous International Lectures the specific case of the Vienna city region was discussed from the different perspectives the local experts represented.

According to Dinka, the joint project office and the international team function as a “hub” and are less concerned with suburbanization issues than with cross-border pilot projects on mobility or culture. It is the soft factors, according to Yvonne Franz, working for the *Department of Geography and Regional Research* at the *University of Vienna*, which, from the perspective of Urban Geography, help establish a shared identity and visibility. This is especially true for the terms we use to describe the metropolis: relations, networks, connectivity etc. Even though municipalities are spatially interconnected, they often have very different legal, administrative and institutional systems, making the successful transferability of best practice implementations difficult, Kurt Hofstetter argued. The Senior Coordinator of the *International Building Exhibition Vienna 2022* further stated that the key to a coordinated urban development avoiding urban sprawl lies in a well-connected public transport system and the commitment to meet at eye level:

«We do not only need the infrastructure and the public transport system, but also the willingness and the understanding of developing things together.»

Kurt Hofstetter

From the perspective of an urban designer, Nela Kadic, Senior Lecturer at the Institute for Urban Design of the *Vienna University of Technology* argued that large-scale visions, which are mostly elaborated on the level of metropolitan regions, need to consider concrete design solutions for the local environments.

This not only includes the proposal for built structures, but also considerations about transportation, connecting and linking different spatial units, establishing (social) infrastructure, logistics of production etc., which has been demonstrated during the Urban Design Studio organized in collaboration with *MetroLab*. Very satisfied with the students' designs, which deal intensively with the facilitation of slow mobility and lively public spaces, she spoke out against the outdated top-down Masterplan, but admitted:

«Somehow we started to rely only on the strategy itself and today have forgotten to make a design proposal.»

Nela Kadic

Designing the hardware as well as the software of our living environments in an innovative way means being courageous enough to leave constraints behind, to think outside the box and, above all, to establish a solid and inclusive communication structure in favor of building trust and mutual knowledge exchange. This is the only way we can succeed - and all experts agree on this - in developing shared future visions representing not only the perspective of urban planning professionals, but of local experts who live on the ground. Leaving the comfort zone of one's own discipline and introducing bottom-up and co-creative tools such as urban living labs or urban design competitions that include workshops with citizens enable the opening up of new and unconventional forms of living and dwelling. Here a certain degree of irritation can be quite helpful, as Yvonne Franz pointed out: *“I love provocation, because it starts new debates and new perspectives.”* ■



Watch the livestream of the International Lectures and the Forum Discussion to dive deep into the debate on the management of urban growth.

KEY FINDINGS ON MANAGING URBAN GROWTH

1. A METROPOLITAN NARRATIVE SUPPORTS COMMON DEVELOPMENT PERSPECTIVES

As functional regions often break with existing administrative delineations, there is not only a high demand for coherent spatial development, but also for the creation of common development perspectives for all places within the extended urban area. A shared metropolitan narrative is essential to drive coordinated spatial development on a larger scale and to face metropolitan challenges such as jointly designing and managing urban growth or coordinating land use and transportation projects across municipal boundaries.

In order for the metropolitan region to be increasingly perceived as integrated, it is important to emphasize commonalities. This includes unifying hard factors such as infrastructural or economic connections, but also soft factors such as culture or leisure. The definition of an inclusive metropolitan narrative should be framed as an open process so that all stakeholders, political decision-makers as well as citizens can co-create it and find themselves in it.

2. DEFINING SPATIAL AND THEMATIC FOCUS AREAS MAKES THE NARRATIVE APPLICABLE

Based on the joint metropolitan narrative, a comprehensive strategy with tangible objectives and fields of action needs to be defined in an intensive negotiation process between different stakeholder groups as well as the civil society. To better coordinate growth and initiate joint projects, both spatial and thematic focus areas should be identified at the metropolitan level. They must be well aligned with each other. In particular, the mutual influence of settlement development and mobility as well as green space development, agriculture and production must be considered and synergies between these different sectors created. The public transport network should serve as a basis to manage settlement development and define centers in which growth is to be forced and a spatial as well as functional density (living, working, production) is to be promoted. As a counterbalance to dense urban centers, generous natural spaces and agricultural areas must be preserved and developed.

3. TRANSLATE METROPOLITAN STRATEGIES INTO PLACE-BASED ACTION

The definition of focus areas provides an important strategic framework, but needs to be translated into place-based projects. One way to turn metropolitan strategies into local action is to organize cross-border, metropolitan planning competitions based on the spatial focus areas. The innovative housing program *50 000 Naturally Accessible Homes* initiated by Bordeaux Métropole, demonstrates that a coordinated approach can be more effective in combating urban sprawl by quality densification than if spatial units act individually. Taking into account specific local requirements in terms of density, diversity, accessibility, environmental and climatic conditions, tailored responses could successfully be developed in different urban situations. Finally, transforming focus areas into place-based projects enables compact, socially, and economically mixed centers within the polycentric network of the metropolis.

4. INTEGRATIVE PLANNING INSTRUMENTS ARE NEEDED TO BALANCE GROWTH

To proactively balance metropolitan growth, the inter-municipal mobilization of financial resources is needed to jointly respond to challenges related to uncoordinated urban growth, such as the increasing consumption of land, as well as spatial and social fragmentation frequently leading to unequal living conditions.

A shared budget allows for the integrated and targeted development of the metropolitan area to be driven by different political stakeholders meeting at eye level. Moreover, compensation

mechanisms that balance profits and costs between urban centers and surrounding and structurally weak municipalities such as an inter-municipal financial equalization have proven to be an effective instrument to support more sustainable spatial development. In addition to formal financing instruments, regional associations that promote the joint coordination of land policies as well as informal instruments such as strategy papers enable coordinated and balanced territorial development.

5. INCLUSIVE METROPOLITAN AREAS DEMAND CO-CREATION

One of the main challenges of urban growth is integrating expansion areas into the built city and overcoming or preventing dissatisfaction or even protests by residents in the surrounding area. To create more inclusive and just neighborhoods, it is necessary to also involve those groups who are not seen or heard at first glance as well as those who do not live there yet. As institutionalized participation is limited in its reach, new, more engaging formats should be integrated into day to day and formal planning processes to overcome these hurdles. The advantages of co-creative approaches, such as Urban Living Labs, lie in their experimental character, the opening of new perspectives and the productive handling of failure, whereby the process itself becomes the actual result. The openness of such dialogue-oriented formats enables the exchange and cooperation of stakeholders across encrusted structures and, thus, also stimulates collective learning processes and knowledge spillovers. Further, the possibility of co-creation also strengthens the identification of the participating actors with the common metropolitan area. ■

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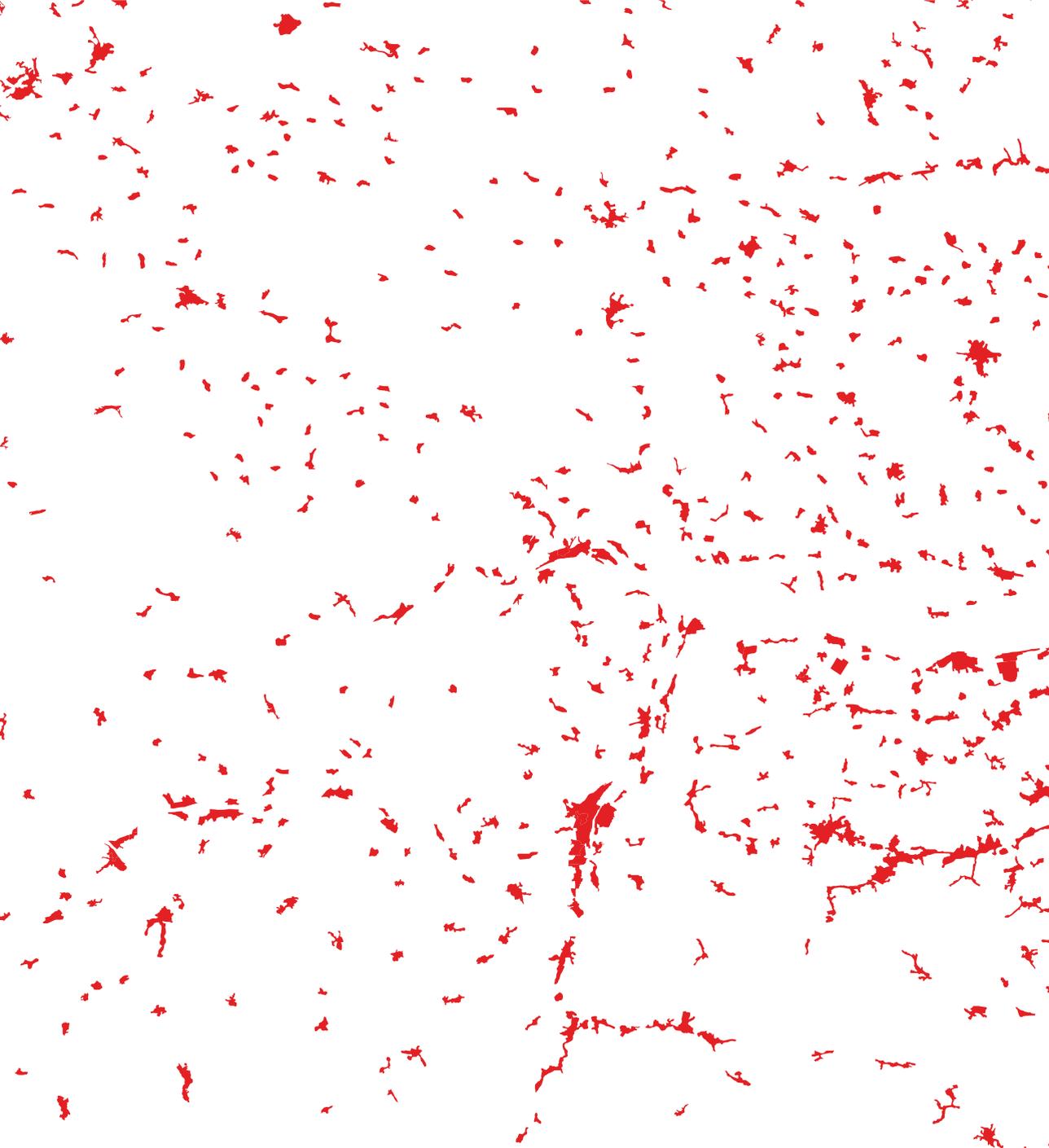


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