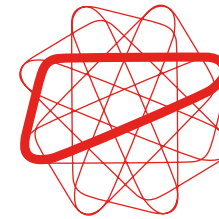


[www.metrolab.design](http://www.metrolab.design)

# 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 (DAStU), 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



*How to manage urban growth?*

# #2 GROWTH

**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 Agenda<sup>1</sup>, the Urban Agenda for the EU<sup>2</sup> or the New Leipzig Charter<sup>3</sup>. 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?

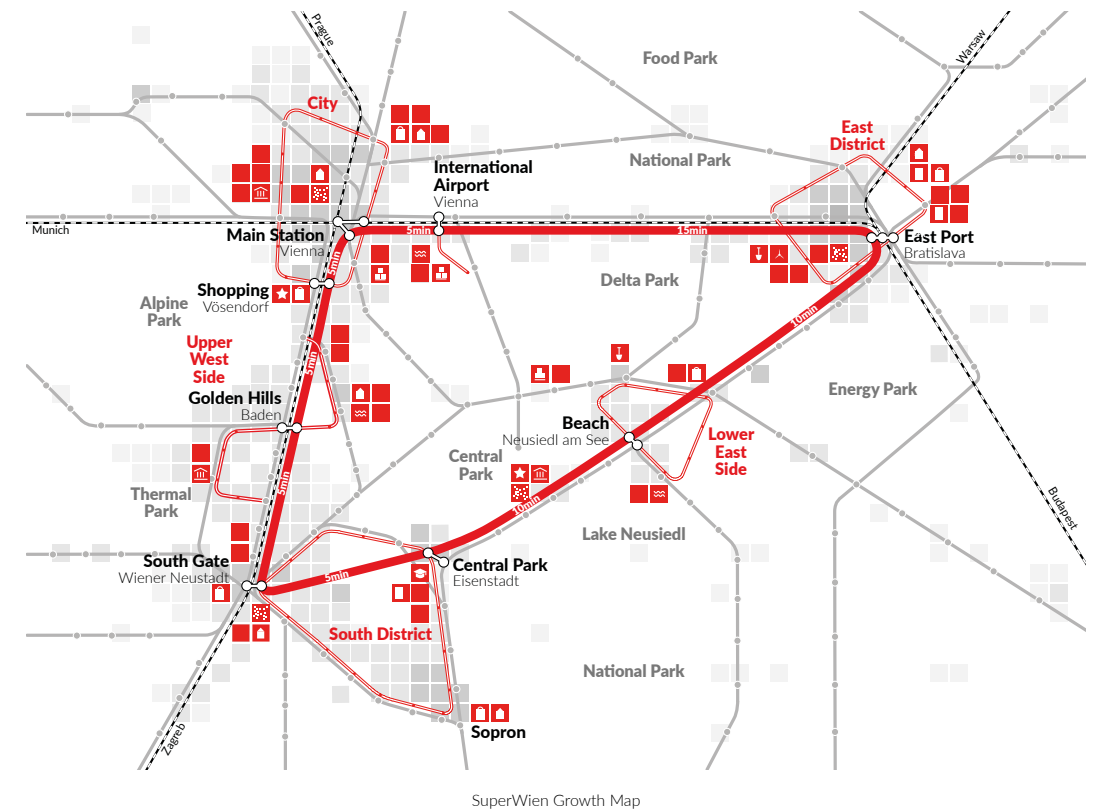
With these questions in mind the *MetroLab* developed a vision for the *SuperWien Metropole*<sup>4</sup>, anticipating six million future inhabitants of the extended metropolitan region around Vienna. By taking the utopian idea of a *SuperRing* as the starting point for development in the metropolitan 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. ►

<sup>1</sup>“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.

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

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

<sup>4</sup>Stefan 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 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 Nabielek 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.»

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.»

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.

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.

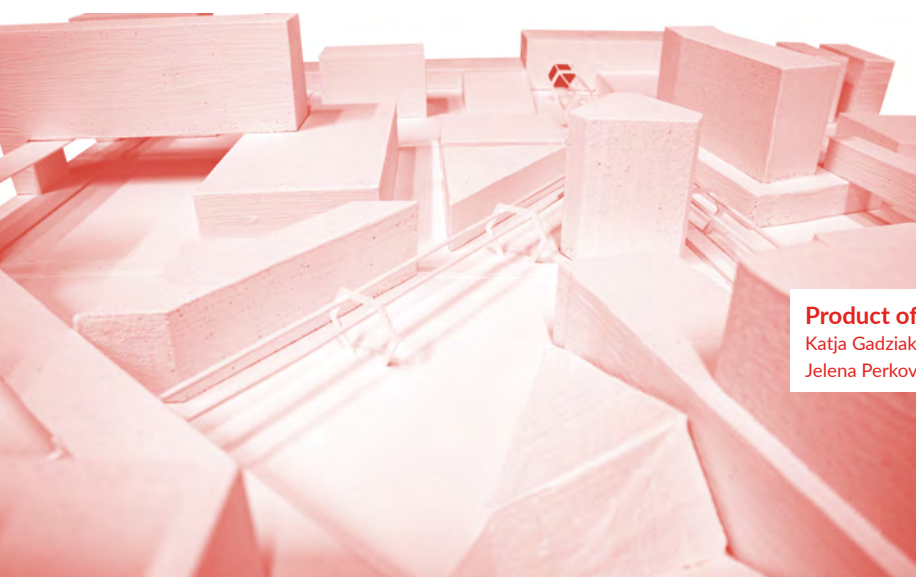
Even though the workshop lasted only three weeks, the ambitious results deserve to be shown to a broader public and should be integrated into the discussion on coping with growth, both at the metropolitan and urban scale. ■

**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

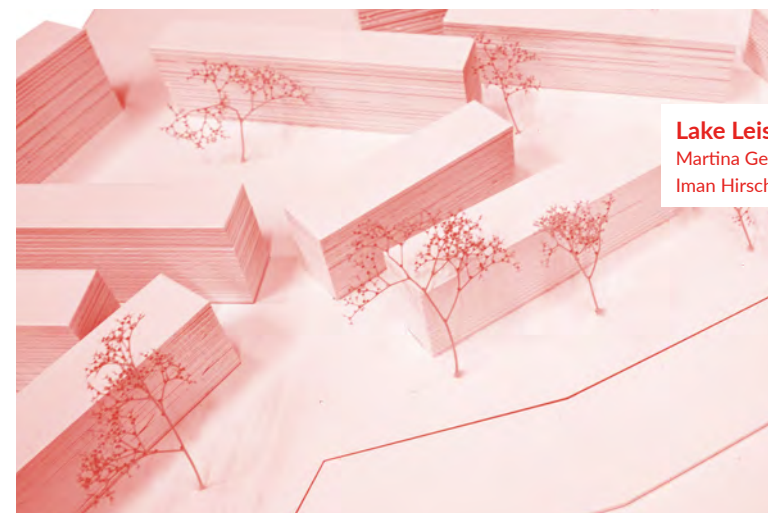
DESIGN STUDIO  
METROLAB GROWTH





### Product of Transition

Katja Gadziak, Pamela Maldonado & Jelena Perkovic



### Lake Leisure Living

Martina Gentile & Iman Hirschman



### Sustainable Stacking on the SuperRing

Stefan Mayrhofer, Lea Storz & Markus Zorn



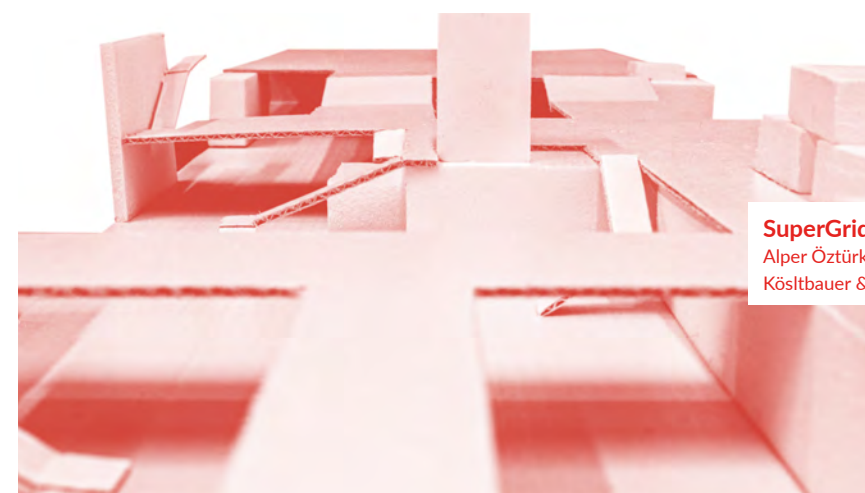
### Urban Green

Giorgia Bonet & Máté Milán Kresz



### A Local Network

Alessandro Zanin, Nikos Kouklakis & Rick Rütten



### SuperGrid

Alper Öztürk, Clemens Ferdinand Kösltbauer & Dominik Hütter

Design Studio  
MetroLab Growth

**Städtebau** TU Wien  
WS 2020/21, 5 ECTS

Teachers: Nela Kadic,  
Stefan Mayr, Cédric Ramière



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

# 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 2005<sup>1</sup> – 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-Matrix<sup>2</sup> 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 transactive territories<sup>3</sup> 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 intersomaticity<sup>4</sup> 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) scales<sup>5</sup>. 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 Maki<sup>6</sup> and then Frampton's definition<sup>6</sup> of the new ►

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

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

<sup>3</sup> Zammataro, 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

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

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

<sup>6</sup> Frampton, 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 Morphotypes<sup>7</sup>. These must re-connect the anonymous urban city-fabric within the city centre in a new syntax and unit. According to Fenton<sup>8</sup>, 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 through<sup>1</sup> 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 centre<sup>2</sup> 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 again<sup>9</sup>.

## 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 disciplin'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 representation<sup>10</sup>.

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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<sup>7</sup> D'Alfonso, E., (2000), Architettura, Milano: Mondadori

<sup>8</sup> Fenton, J. (1985). Hybrid Buildings in Pamphlet Architecture 11. Princeton: Princeton Architectural Press

<sup>9</sup> Koolhaas, R., (1995), The Generic City, Rotterdam: Sikkens Foundation

<sup>10</sup> Contin, A., Galiulo, A., Sánchez Fuentes, D., Tellme 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 (DASTU), 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,  
urbanista.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.





## DISCUSSING 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. ►

<sup>1</sup>The 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

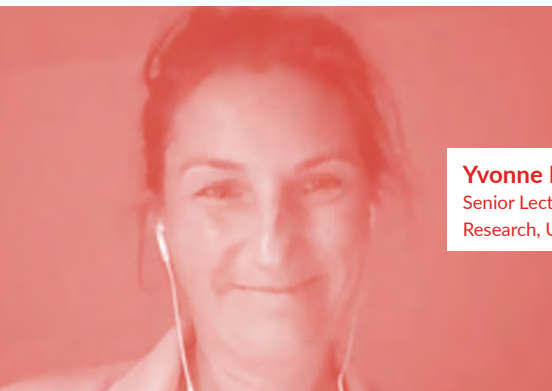




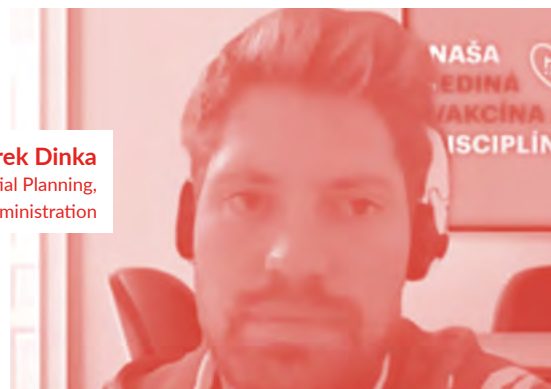
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### Forum Discussion

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 inter-connected, 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 lifestream 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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Many thanks also to Eliette Felkel, Martin Heintel and  
Michel Duchène for your valuable input!

## Imprint

© MetroLab  
Vienna, August 2021

## Editors (Texts, Graphic Design and Photos, if not stated otherwise):

Alina Bärnthaler, Flora Fessler, Mara Haas, Roland Krebs, Stefan Mayr,  
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## In collaboration with:

**Städtebau** TU Wien

Front Cover: CORINE Land Cover, edited by Superwien & CoCo architecture

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