This thesis investigated in the research question how to foster more sustainability in the territory between Vienna and Bratislava while being able to host the increasing population in the territory. This does not sound much at the first glance, but due to the extensive sprawl and land consumption in the territory the dispersed territory urgently requires a sustainable concept in order to guide the urban transformation on regional scale and on local scale in a sustainable direction. The particular section of the metropolitan territory between the two capital cities has to accommodate about 148,000 additional inhabitants till 2050. From this number, 78,000 people (projection by author) need to be accommodated from the turning point in 2030 on, where no land, which has been zoned in advance, will be available anymore. It can be stated that the result of the tested growth model in this thesis is, that it is possible to accommodate the number of 78,000 additional inhabitants from 2030 till 2050 in the territory in within the small villages of the dispersed morphological condition. This is an interesting knowledge for the debate on metropolitan urban growth in the territory.

Based on the spatial analysis of the territory in this thesis, it is possible to conclude that especially the mobility in terms of frequency, cross-connection and inter-modality on local and on regional scale needs to be enhanced. Further the extensive land consumption urgently calls for a growth concept with a big picture on regional scale going hand in hand with solutions on small scale of the village. Moreover, the ecological system has been fragmented by large scale infrastructure. There is a demand for strategic planning concepts which help to enhance the ecology and landscape resilience of the territory.

Planning

Further, the planning system lacks more effective planning tools to guide this ongoing regional transformation. Here, especially the fragmentation of the territory in several different political administrative entities (provinces) with different planning systems, and to a certain extent even different planning tools within Austria, make it difficult to reach a consensus overall picture for the territory. There is the demand of additional elements in the existing planning approach. This framework should also consist of a regional design strategy (or spatial structure plan as one more tool of the planning system), a governance model and adjusted policies to establish also new rules for sustainable growth and integrate results of the other unsustainable development dedicated at the fields mobility, ecology, landscape resilience. Here, it is important also to install these new tools in the right position of the existing planning system. Due to this result of the analysis phase in the thesis, I concentrated on developing such a framework as final product of this work. Helpful for the establishment of the framework was the combination of the theory out of planning on the one hand, and out of design theory on the other hand. The acquired knowledge base evolving out of planning theory was especially helpful to structure the analysis of the thesis by the understanding of the most and indispensable principles for a sustainable regional planning. The orientation on the most important principles for sustainable regional planning led to a step by step indicator guided analysis, of both spatial reality and planning system.

Besides, it was important to understand from planning theory, but also from the planning evaluation, how difficult it is in regional planning to keep balance between sustainability and ecology and economic interest. Also, the complexity of governance and the influence on it on the spatial outlook in the territory was crucial knowledge for both parts of the final product. The planning and the design part of the thesis. Through this knowledge base, it was possible to integrate planning system adjustments and governance aspects into the established final product of the thesis.

Design

The view on the territory through the lenses of the concept of Horizontal Metropolis was an instrument to help to establish a greater understanding of the current state of the territorial condition. It helped to point out unsustainable development in a rather precise manner connected to the actual spatial location in the territory. The relation between space and revision of strategic planning concept is something, which is widely missing in the regional planning approach for the territory. In my understanding, the view on the territory by the help of the concept Horizontal metropolis has the potential to contribute to a debate on the possible revision of the strategic planning concepts. This current concept is emphasising compact corridor development as model of city expansion and is leaving out any deeper engagement with the largest part of the metropolitan territory, which is in a state of dispersed condition. Here a guiding concept for sustainable future development of the growing territory is urgently regarded. The alternative way of approaching the territory by the help of the knowledge base Horizontal Metropolis was crucial in order to think beyond the limits of the current growth model of the cities and enabled to draw the attention to the actual major part of the metropolitan are which is the dispersed territory in-between the capitals.

Overall, design theory background made it possible to understand the importance of landscape ecological urbanism and landscape...
urbanism as integrative parts of the design in order to create a sustainable and also resilient future of the territory in times of climate change and increasing extreme weather conditions. Through this awareness, several challenges, but also potentials on local and on regional scale of the territory could be solved or integrated into the design strategy.

For instance, the ecological permeability on scale of a town or the gap closing of existing bottlenecks in the system of European eco corridors on large scale. Ecological urbanism has also been used as background knowledge to develop the village growth model. Based on the village context in relation to nature access and blue-green network, it was possible to design a sustainable growth model. By doing so, it was further possible to understand, that the historical village forms existing in the territory do not harm the ecological system, whereas the recent extensions of the settlements led to a disturbance of the ecological permeability. The currently examined expansion model of the growing cities in the metropolitan territory resulting in development corridors spreading out of the cities, neither produce spatial quality in public space, nor sustainability in terms of ecological permeability, public transport access or land consumption. However, this produced corridor reality is at the same time the currently decided growth model in strategic planning in the case of Vienna and Vienna metropolitan area. This strategic planning model does not provide a concept in order to interlink the development corridors to the north, south and west with the areas of the areas in agricultural context with sprawling villages. This means that the existing growth model is to a certain extent insufficient.

**Continuing design research**

Due to the limited time frame for this thesis, it was not possible to further investigate in this interesting aspect, nevertheless I aim at continuing to engage in this particular research in this area.

Highly interesting for a next step of this research is the testing of the future outlook of the territory after 2050. Here it is about to test further possible spatial growth models for the time after the year 2050 in order to host the continuing growth of the metropolitan with a sustainable territorial approach.

Besides, two important parts of the territory need to be further investigated in: This is the detailed regional design along the border between Austria and Slovakia and the Slovakian part close to Bratislava. Due to a lack of data and research access (mainly based on the language barrier and the fact there is no data available in English or German), it was not possible to investigate in a deep understanding of the Slovakian planning approach and detailed understanding of the metropolitan part of Bratislava region. Here, it is necessary to involve research partners of the Slovakian planning community to continue further research. Also, it is necessary to investigate further on a detailed research of the produced urban development and its spatial quality along and next to the Viennese south corridor spreading out of the city towards the cities Baden and Wiener Neustadt. Here, the complexity between ecological corridors and extensive sprawl require further research investigation and deeper understanding.

**Next steps**

As the next step, the results of this thesis should be presented to decision makers and planning authorities in the provinces Lower Austria, Burgenland and Vienna. For this step, it is necessary to elaborate on the underlying theory part, the analysis chapters and the final product of this thesis in order to produce a condensed form. Ideally, the next federal development plans involve at least parts of the results framework developed in this thesis.

Reflecting on the aim of this thesis, it can be stated that I hope to enrich the planning debate and the knowledge base in Austria’s planning approach. The Dutch tradition of research-based design thinking in urbanism as well as the Italian urbanism approach, both with a particular focus on the understanding of the morphological condition of the territory, is something which has not been integrated in the Austrian planning tradition yet. This is why I am looking forward to apply what I have I learned in these postgraduate studies.

In particular, with this thesis, which is one possible alternative regional design example, I hope to stimulate the debate of how to continue in strategic planning of the growing metropolitan region.