A Territorial Design Case Study

Between 2010 and 2013, the chair of Information Architecture at ETH Zurich led a research project in the Swiss National Science Foundation program NRP 65 “New Urban Qualities” under the name of “Sustainable Urban Patterns, SUPat”. The area of investigation stretched in the north of Zurich along the river Limmat, with the former villages and towns of Altstetten, Schlieren, and Dietikon. These communities increasingly become part of the agglomeration of Zurich, and at the same time want to maintain their historic and special character. The central challenges were: (1) how to achieve a sustainable transformation that could, at the same time, create new qualities (2) to develop shared ideas of future urban patterns for practical implementation, and (3) to bring together a very heterogeneous interest group with representatives of the Canton, the communities, the owners, the investors, the planners, the architects, the general public and the citizens of these communities.

The Limmattal between the city centres of Zurich and Baden is typical for the unexpected results of only loosely coordinated growth processes since the 1950s. As such, the Limmattal is a representative case for the so-called “Schweizer Normalstadt”. These are the agglomerations, in which most of the people in Switzerland live and work. The region expected a continuous and strong population growth until 2013. Not all the developments are considered positive by the population, they see the danger that the original settlements will lose their special qualities without gaining a new identity. Therefore, the Information Architecture team set out to explore mechanisms to construct a positive relation between infrastructure, settlement and landscape, and to work towards their implementation.

The heterogeneous research team found good knowledge on the disciplinary level on all scales and partners, as well as solid methods to use this knowledge in the planning process. Yet the team identified a lack of diagonal understanding between land use planning, transportation planning, ecology, sociology, and economy, when dealing with the crucial issues of Structure (topography, infrastructure by Cantonal guidelines), Shape (district, quarter by zoning plans and neighbourhood plans), and Form (buildings, green areas by architects, designers and authors). There was a lack of capacity to discuss the topics in a way that it would cross the fund skills and disciplines. Therefore, the first task was to develop a common language to define the planning and political processes and to establish a new communication and collaboration culture which had to consider (1) the dimensions of Structure, Shape, and Form, (2) in close the perspective of all scientific disciplines, and (3) respect the contributions of the different planning groups and clients on all stages of the planning process.

To achieve this, the research team built a platform for a new collaboration culture which offers instruments and practical

advise for the multitude of tasks and questions on different scales.

In this process, the creation of qualitative and quantitative regional scenarios is important. The qualitative descriptions and schematic visualisations create possible images of the future region in the imagination of the participants. Yet they are not efficient and sufficient for the revision of the existing rules and regulations, because they do not concretely represent discrete spatial scales and different uses. Therefore, we employed an integrated land use model (UrbanSim) and an agent-based transport model (MATSim) for the simulation of each scenario. As starting data we could use the revised zoning plans for the region and the communities. The results are quantitative, spatially explicit visualisations of economic, ecologic and social qualities in the different scenarios. This includes, for example, the reachability on the regional level, the density of the communities, or the percentage of recreational space on the scale of a neighbourhood. Those indicators can be made visible at different times of the process. The implementation of such complex simulations can help to avoid that decisions on actions are based on to simplistic instruments which provide solutions that are meaningful only at first sight.

The results were political recommendations. Those were: (1) to organise broad-based collaboration processes in the regions, (2) to revise the local and regional strategy development and regional planning, (3) to define the goal of changing the mindset and to develop shared ideas for the future, (4) to define the instruments that accompany and support this process, and (5) to guarantee the participation of communities, the Canton, investors, architects, representatives of the population, and science.