

# Computer-generated urban Structures

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**How does it come to particular structure formations in the cities and which strengths play a role in this process?  
On which elements can the phenomena be reduced to find the respective combination rules?  
How do general principles have to be formulated to be able to describe the urban processes so that different structural qualities can be produced?**

With the aid of mathematic methods, models based on four basic levels are generated in the computer, through which the connections between the elements and the rules of their interaction can be examined. Conclusions on the function of developing processes and the further urban origin can be derived.

The direct or indirect sense of this work is to inquire how the parameters that have generated existing urban structures can be transformed into mathematical controlling terms to achieve a new comprehension of the urban development. The results build the basis for the experimentation with the structural attributes. Furthermore the basic and efficient producing alternative solutions can be enabled and effectual mathematic models can be created. From these mathematical models urban developing processes can be simulated, interpreted and prognosticated.

## Information level

The information level is a possibility to work up these information that can not be reduced on elementary components. These components have to be assumed as given. There the contextual basis can be found which the system of the superior levels accesses like a databank to modify their parameters.

## Developing level

One of the main structuring elements of a city is the organisation of the road network, which is closely connected to parcelling. By controlling connecting processes, different compartment types can be generated and by combining these types all kind of urban structures can be built.

