

Urban Networks as Model of Sustainable Design

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Abstract : This paper aims to demonstrate how the consideration of cities as a special kind of complex network, called urban network, may lead to the use of design tools coming from network theories which, in fact, results in a quite sustainable approach. There is no doubt that the irruption in contemporary thought of Gaia as an essential political agent proposes a narrative that has been extended to the field of creative processes in which, of course, the activity of Urban Design is found. The rationalist paradigm is put in crisis, and from the so-called sciences of complexity, its way of describing reality and of intervening in it is questioned. Thus, a new way of understanding reality surges, which has to do with a redefinition of the human being's own place in what is now understood as a delicate and complex network. In this sense, we know that in these systems of connected and interdependent elements, the influences generated by them originate emergent properties and behaviors for the whole that, individually studied, would not make sense. We believe that the design of cities cannot remain oblivious to these principles, and therefore this research aims to demonstrate the potential that they have for decision-making in the urban environment. Thus, we will see an example of action in the field of public mobility, another example in the design of commercial areas, and a third example in the field of redensification of sprawl areas, in which different aspects of network theory have been applied to change the urban design. We think that even though these actions have been developed in European cities, and more specifically in the Mediterranean area in Spain, the reflections and tools could have a broader scope of action.

Keywords : graphs, complexity sciences, urban networks, urban design

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