

A Topological Study of an Urban Street Network and Its Use in Heritage Areas

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Abstract : This paper aims to demonstrate how a topological study of an urban street network can be used as a tool to be applied to some heritage conservation areas in a city. In the last decades, we find different kinds of approaches in the discipline of Architecture and Urbanism based in the so-called Sciences of Complexity. In this context, this paper uses mathematics from the Network Theory. Hence, it proposes a methodology based in obtaining information from a graph, which is created from a network of urban streets. Then, it is used an algorithm that establishes a ranking of importance of the nodes of that network, from its topological point of view. The results are applied to a heritage area in a particular city, confronting the data obtained from the mathematical model, with the ones from the field work in the case study. As a result of this process, we may conclude the necessity of implementing some actions in the area, and where those actions would be more effective for the whole heritage site.

Keywords : graphs, heritage cities, spatial analysis, urban networks

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