



**Politecnico  
di Torino**

# **Honors Thesis**

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**Master's Degree Architecture for Sustainability.**

## **Abstract**

**Systemic assessment approach for urban design. Urban indicators for measuring the resilience of cities.**

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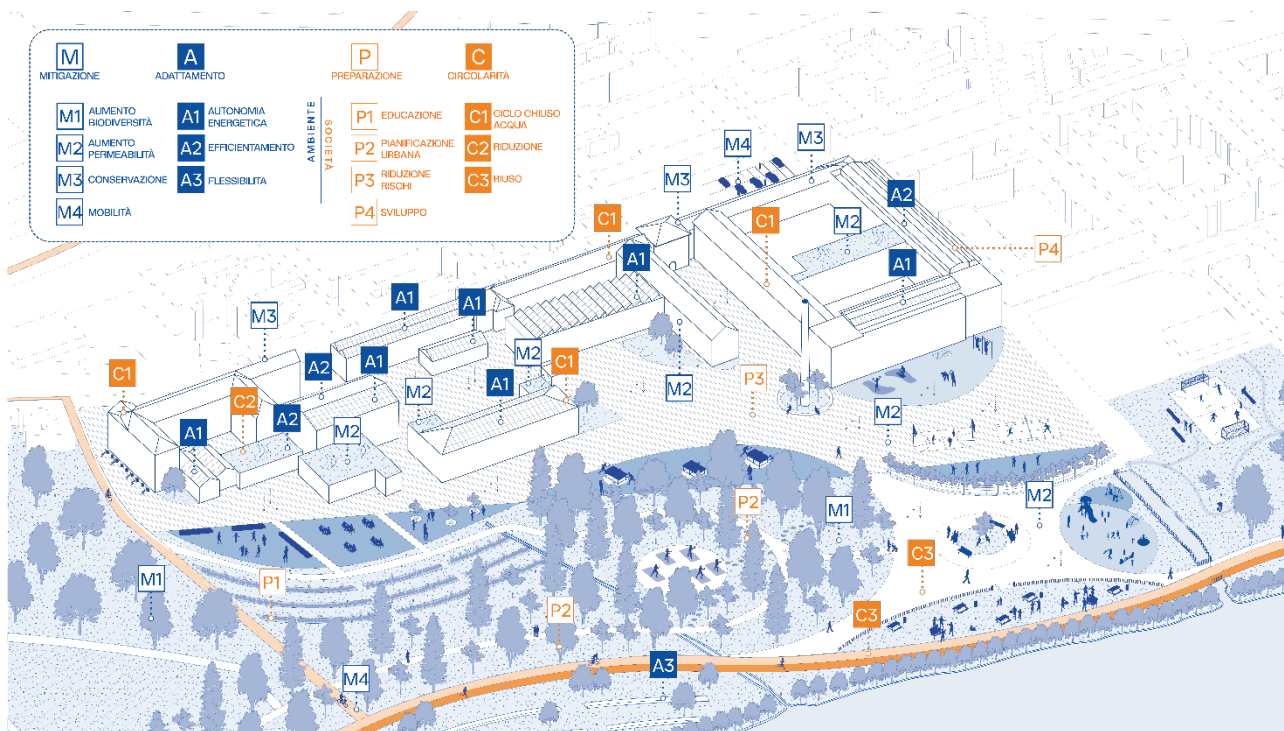
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Resilient urban design is now a key approach to addressing the challenges posed by climate change and environmental risks. However, its complexity and long-term objectives make clear the need for continuous planning and adaptation that acts as much as possible on the present.

This thesis therefore aims to develop a methodological strategy for resilient urban design, based on the integration of resilience and smart city principles, in order to respond effectively and sustainably to the environmental, social and economic pressures cities face. The methodological approach developed is based on a systemic assessment process that allowed the analysis of the vulnerability factors of urban areas, thus enabling the highlighting of critical infrastructural issues and the development of innovative solutions to improve the resilience of urban centres. A key element of this approach was the use of specific indicators to monitor and measure, both quantitatively and qualitatively, the effectiveness of the strategies adopted. In this way, it was possible to make an accurate assessment of the resilience of the case studies analysed, supporting the identification of common practices and strategies for increasing urban resilience . The approach developed proves to be particularly useful not only for the assessment of projects but also of established urban areas and as a tool to support design itself, in order to direct design choices towards greater adaptability to future challenges, respecting local and global needs. This methodology was applied to the case of the recovery of the former Manifattura Tabacchi in Turin, an area particularly strategic for the local community, but characterised by complexity and structural and social fragility. After an accurate assessment of the vulnerabilities of the area, the methodology allowed the definition of specific targets to be reached, in order to elaborate a resilient project proposal that responds to the social and ecological needs of the context, enhancing the integration of sustainable and innovative solutions.





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