



POLITECNICO  
DI TORINO

# Honors thesis

---

COURSE IN TERRITORIAL, URBAN, ENVIRONMENTAL  
AND LANDSCAPE PLANNING

*Abstract*

## **EPIDEMIC CITY: VULNERABILITY AND RESILIENT ADAPTATION TO HEALTH CRISIS IN THE URBAN CONTEXT**

*Tutor*

Prof. Grazia Brunetta

*By*

Martino Faravelli

23/02/2021

This work aims to develop a research based on the theme of infectious epidemics, investigating the relationship of disease with the vulnerability of the urban environment thus seeking to develop resilient response strategies to a complex problem. This master thesis is structured around a clear research question: 'is it possible today to structure a systematic, site-specific knowledge system capable of investigating the relationship between spatial quality and disease transmission? If so, how does this knowledge structure and support the urban transformation and regeneration project? To provide an effective answer, a logical framework was developed based on three phases: epidemiological survey, territorial analysis and operational proposal. The first phase is a selection of five case studies of past epidemics (both near and distant in time). An attempt was made to investigate the general and specific causes linking the occurrence of a particular disease in a specific city. The objective is to identify all those factors that lead to a greater or lesser vulnerability of an urban environment relative to the spread of an infectious epidemic. Once the individual factors had been extrapolated, the second phase built an evaluation process capable of transforming the vulnerability factors into a series of indicators providing a summary measurement of epidemic vulnerability. The model was applied to the city of Turin obtaining a series of cartographic products thus mapping the areas of greatest vulnerability providing a summary concentration map based on the principle of thematic overlay. In the third phase, an attempt was made to construct an "abacus" of urban-building vulnerability mitigation actions for particularly critical areas. Four suggestions (see attached figures) for a resilient project for the city of Turin were then developed.



---

For info:  
E-mail: [martino.faravelli@gmail.com](mailto:martino.faravelli@gmail.com)