

POLITECNICO DI TORINO
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Master of Science in Sustainable Architecture
Honors theses

THE VISIBLE CITY: A LIGHTING PLAN FOR HISTORICAL CENTER OF PAVIA

by Sara Teresa Aschei

Tutor: Chiara Aghemo

Co-tutor: Rossella Taraglio

The thesis presented intends to investigate the possibility of using knowledge derived from sociology to define urban planning strategies. These strategies have the purpose to image an illumination light more sensitive to the way the people live their city. The design of urban lighting in fact is seen as an opportunity to redesign the nocturnal image of the city in continuity with the diurnal one, already present in the memory of the people and in which they are identified.

I have started from the concept of orientation to derive the elements which help us to rebuild a mental image of the urban landscape in which we are immersed. In fact, we can note that, independently from the place's singularities and the persons' characteristics, some spatial categories are constant. Kevin Lynch, in "The image of the city "(1960), defines five archetypal urban elements. Through these elements, the human being is able to read the city in which he is moving: paths, edges, references, and nodes districts. However, in order that these five elements give a concrete contribution to the development of a strong urban structure, it is necessary that they possess some particular spatial characteristics. (Fig. 1).

	Serie temporali	Consapevolezza di movimento	Ambito di visione	Differenziazione direzionale	Chiarezza di connessione	Preminenza	Continuità	Semplicità di forma	Singularità
Quartieri 			✓				✓		✓
Margini 			✓	✓	✓	✓	✓		✓
Riferimenti 				✓		✓		✓	✓
Nodi 				✓	✓		✓	✓	✓
Percorsi 	✓	✓		✓	✓		✓		✓

Fig. 1 - Table of relationships between urban elements and spatial qualities

Taking care of the other face of the city means to confront the fact that, in the absence of natural light, the urban image is drawn from artificial light. The same spatial "archetypes" become lighting elements whose characteristics do not only derive from their physical qualities but also the way in which these are illuminated. The spatial qualities presented in the table may be translated into lighting strategies to conserve the urban role of each element.

In particular, the thesis has focused on the case study of the historical center of Pavia. It is a privileged area of analysis because the old town has retained many of spatial relations that characterized the medieval Pavia and that have been preserved over the centuries. In addition to the coincidence of the orthogonal grid of interior streets, the correspondence with the main access routes to the city center, the external limits and the main town square, there have been survived many medieval towers. These towers, in the past, led people to attribute to Pavia the nickname "The City of Hundred Towers ". In particular, I took care to track down, in the ancient urban fabric, the urban elements and the spatial relations characterizing the place (following the approach proposed by Lynch), studying the way in which citizens live them and perceive them (Fig . 2).

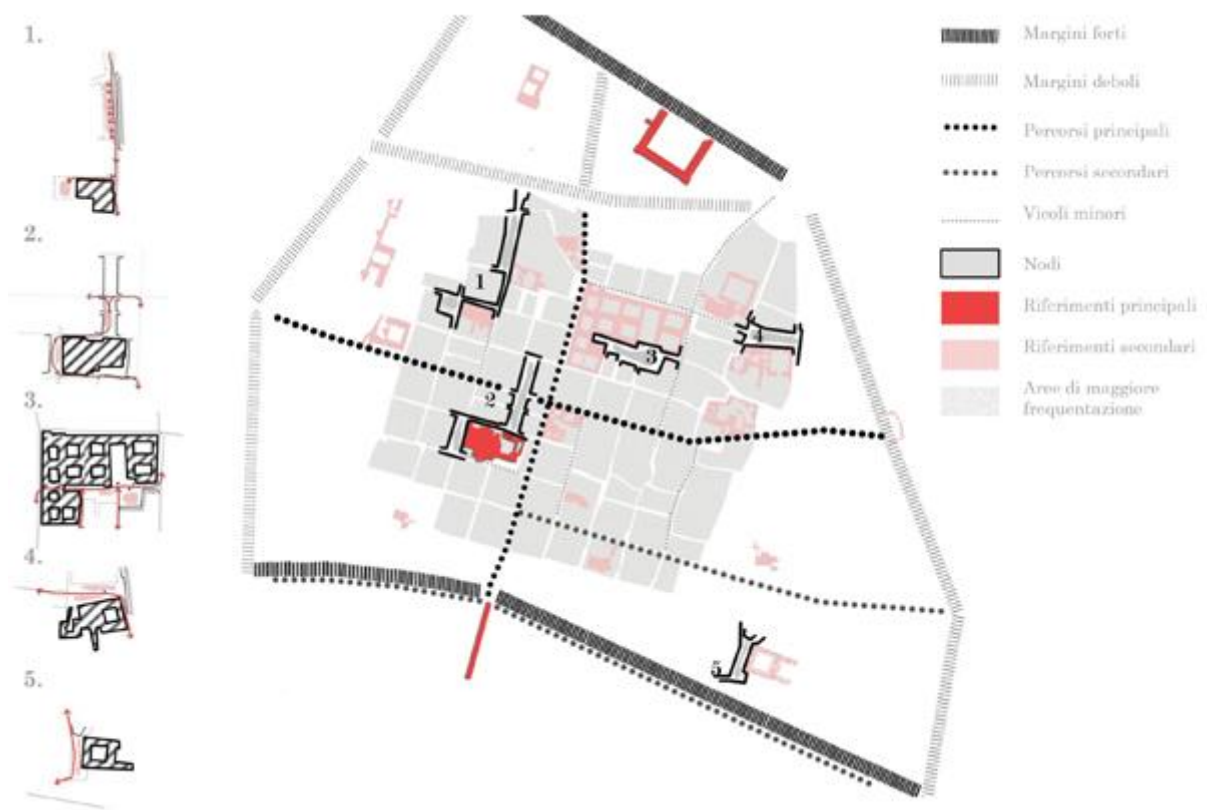


Fig. 2 - Perceptive analysis of the historical center of Pavia and flow analysis of the main nodes

Then I have studied the adjustment proposals to LR 17/00 made by the "Lighting Plan of the city" adopted by the Municipality of Pavia. Studying this plan, I could note the absence of an overall image of the city and an heterogeneity and an inconsistency of the solutions in relation to the areas of intervention. These inconsistencies concern the types of devices, the types of sources and the color temperatures. Therefore I have made a proposition that considers the identity structure of the district and promotes an organic and unitary image in strict coherence with the diurnal one. I have also defined specific lighting strategies for each intervention area drafting a synoptic table for each element identified through the analysis of perception. Each element is linked to a base spatial category (paths, edges, references, and nodes districts) for which there have been given lighting strategies more generic.



Fig. 3 - Synthetic Lighting Plan for the historical center - Render along the path of the towers

Finally, to show what would be the new face of the nocturnal historic center of Pavia, following the adoption of my proposition, I have suggested a "nocturnal walk" led by the illuminated medieval towers. In fact the towers, being spread in the Roman grid and placed in strategic locations such as angular, projecting, etc. .., are the system of local references privileged to lead the user to explore the fascinating night system of districts and streets (Fig. 3).

For further information, e-mail:

Sara Teresa Aschei: sara.ask@libero.it