

RESEARCH  
in ARCHITEC-  
TURAL UR-  
BAN INTERI-  
OR DESIGN

aid 2024 yearbook

Alessandro Rocca (editor)  
Research in Architectural Urban Interior Design  
AUID Yearbook 2024

© 2024 - AUID (Architectural Urban Interior  
Design) PhD Program  
Department of Architecture and Urban Studies  
Politecnico di Milano  
© 2024 - MMXII Press  
piazza Leonardo da Vinci, 26 - 20133 - Milano  
MMXIIpress@gmail.com  
ISBN 9791298530218

Graphic Design: Gino Baldi  
Editing: Sarah Javed Shah, Gino Baldi  
Layout: MMXII Studio

This book collects the research presentations of  
the candidates enrolled in the AUID PhD program.

#### AUID Scientific Board

Alessandro Rocca (Head) Fabrizia Berlingieri  
- Guya Bertelli - Marco Biraghi - Marco Borsotti -  
Marco Bovati - Luigi Cocchiarella - Emilia Corradi  
- Pierre Alain Croset - Valentina Dessi - Andrea Di  
Franco - Immacolata C. Forino - Roberto Gigliotti  
- Andrea Gritti - Stamatina Kousidi - Camillo  
Magni - Laura Montedoro - Valerio Paolo Mosco  
- Marco Navarra - Filippo Orsini - Orsina Simona  
Pierini - Matteo Poli - Gennaro Postiglione -  
Sara Protasoni - Alessandro Rogora - Pierluigi  
Salvadeo - Luigi Spinelli - Ilaria Valente

#### AUID Board of Experts

Silvia Bodei - Gian Luca Brunetti - Francesco  
Careri - Matteo Clementi - Barbara Coppetti -  
Giovanni Corbellini - Cassandra Cozza - Antonio  
Da Silva Ferreira De Carvalho - Luca M.F. Fabris  
- Maria Fianchini - Carlo Gandolfi - José Maria  
Garcia Fuentes - Francesca Lanz - Jacopo  
Leveratto - Annalisa Metta - Carles Muro - Andrea  
Oldani - Gerardo Semprebon - Giulia Setti -  
Michele Ugolini

# AUID YEAR- BOOK 2024

# REPORTING ON DOCTORAL RESEARCH IN ARCHITECTURAL DESIGN

2

Alessandro Rocca

TIMELY AND  
DARING. DE-  
SIGN-DRIVEN  
RESEARCH  
BENEFITS  
AND AC-  
COUNTABILI-  
TY PAGE 5

COMMONS PAGE  
15

ENVIRON-  
MENTS PAGE 133

FACILITIES PAGE  
207

HERITAGE PAGE  
295

HOME PAGE 383

TECHNIQUES  
PAGE 449

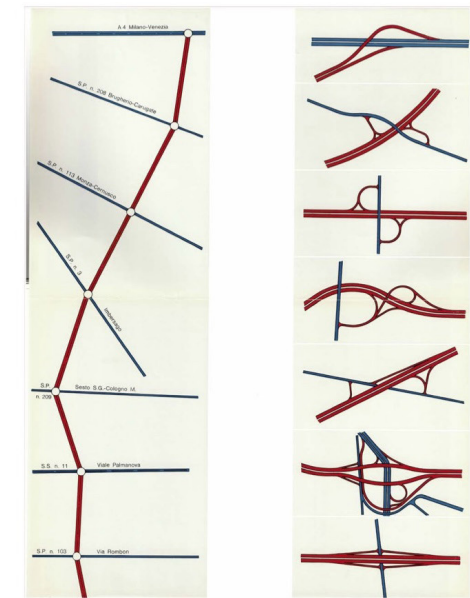
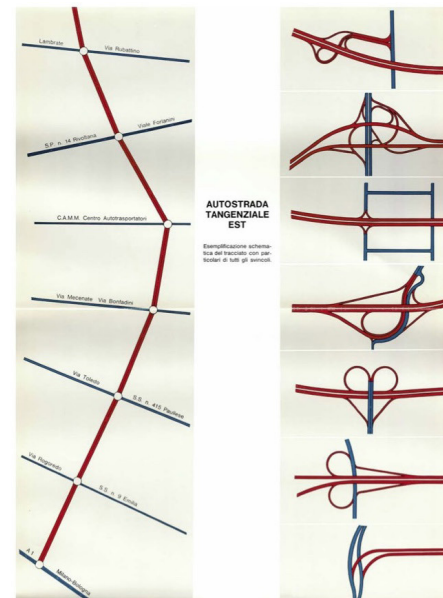
TECTONICS  
PAGE 519

3

# FACILITIES

# SUSTAINABLE MOBILITY FOR URBAN AND LANDSCAPE REGENERATION. RETHINKING THE MILAN RING ROADS FOR THE ECOLOGIC TRANSITION”

PhD Candidate: Nicolò Chierichetti - Supervisor: Prof. Laura Montedoro



With the evolution of the contemporary city, the modern model of the functional city has proven not to be suitable anymore in the contemporary framework - and once combined with the Ring Road system of a city such as Milan - generated a series of infrastructural residual urban voids that the modern agenda often considered as non-urban. Such spaces are, instead, an occasion to propose experiments of new models of interactions between heterogeneous systems, as well as spatial opportunities for urban and landscape regeneration, for the enhancement of new regional-urban landscapes.

Recovering urban voids means not only taking up the challenge to stem the expansion of the city but can also be an opportunity to investigate new systemic approaches to the urban and architectural project. The space below, above and around the highway belt are currently places for which their bureaucratic-administrative nature links them to the sole mobility function and are usually left behind as so-called “Gray spaces”, usually taken over by informal activities. It is the case of Milano Serravalle - Milano Tangenziali, which faces a series of reliquati (1) and highway junctions that, if also combined with the PGT’s identified spaces for urban regeneration, constitute a wide heritage and field for the design project.

The research project focuses on rethinking sustainable mobility as a transformative opportunity for urban and landscape regeneration. Reclaiming these urban spaces and overlapping them with other areas available for the transformation is the first line of action to recognize territorial figures and propose synergies of actions.

Through the definition and application of spatial criteria, a taxonomy of these urban spaces will allow to constitute an index of the possible scenarios that are most representative of their conditions. With the adoption of the drawing and especially the section as an investigation

tool, the intention is to return an atlas of typical situations on which to propose a series of guidelines for the regeneration of the places. The main challenge in dealing with this kind of physical entity is for sure related to the attempt to apply cultural and methodological devices that refer to the domain of architecture and urban design. The expected approach adopts the tools typically referred to as architecture, which means design-driven solutions, in proposing visions and atmospheres that could be implemented on the side of the mobility system. From the proposed punctual explorations, it is crucial to highlight how the intent of the research is to shift between a certain degree of modelization in focusing on some typical families of landscapes and scenarios where invariant elements can be recognized - and the site-specificity of the selected areas, where the variant elements are referred to the specific sensitivity of the context.

Therefore, the research will shift between modeling the opportunities given by the possible categorized scenarios of the atlas and the nature of site-specific/punctual experiences – bouncing between reproducibility and generalizability.

The initial operation sees a preliminary activity of mapping the areas available for transformation, understanding and creating connections with the highly technical and engineeristic

# Infrastructures Residual Spaces Urban Regeneration

approach given to the infrastructure, but reflecting it through the lens of the spatial and architectural dimension. In an urban design-driven approach, the analysis phase is crucial in reading the system in its components and through the heterogeneity of the different interactions that it conveys with the adjacent networks. This also allows us to define certain families of landscapes or typical scenarios that can be found throughout the whole network, given the intersection of different conditions and variant elements in each segment of linear development. The taxonomy given on the state-of-the-art also allows a consequential development in associating the type of landscape identified within a possible taxonomy of spaces (2) and interventions to enhance the value of the individual specificities but still with a broader and adaptable approach. This is crucial in defining the components that can be considered system invariants and, on the other hand, the variable elements. The peculiarity of the design-driven

approach relies specifically upon the attempt to return an abacus of possible interventions, configured as meta-design explorations, that take as roots the site-specificity of the Milanese case study in all the presented scenarios but that can be eventually replicated and adapted to different conditions. This is possible by selecting the most representative areas based on the proposed categories and indicators resulting from the analytical investigation.

As regards macro-scale approaches, it was certainly necessary to recognize the complex territorial figures and systems that characterize not only the infrastructure of the Milanese ring roads but also the more complex territory of the Metropolitan City of Milan; the reading of the infrastructure, not only as a physical entity but in its relationship with the territories crossed is a crucial element in the investigative activity of the research project.

The three main topics referred to in the design phase will be dedicated, firstly, to understanding and proposing spatial design configurations for the regeneration of the nodal opportunities given by the *reliquati*. Secondly, attention should be paid to the dimension of multimodal interchange nodes in a sustainable relationship with soft mobility and a dialogue with other mobility infrastructures, such as the

railway network. Then, peculiar attention should be paid to the environmental and ecological values in dealing with existing or proposed green infrastructures and ecological corridors that intersect the spaces of the infrastructure. Lastly, the quality of spaces, the relationship between architecture and the built environment, and the landscape of the urban mobility infrastructure will be emphasized.

Another very relevant theme when talking about an infrastructure characterized by linear development is also that of the threshold. The threshold is a concept in which we can identify the opportunity for the different systems to collide with each other and, above all, to interact with the ring road infrastructure. The objectives are those referring to urban regeneration, and in particular to the challenge of ecological and environmental transition, with also the attempt to enhance new landscapes that cross both the urban and regional-metropolitan scales.

The design solutions, therefore, are developed taking into consideration scalable and incrementable scenarios - and at the same time, the value of the really specific context they are firstly proposed for, as well as the possibility of extending the same approach in a comparable, yet different, atmospheres and situations.

The final output will constitute an atlas of design probes that may serve as pilot cases and as guidelines, useful either for the owner of the land plots but also for territorial entities in order to propose strategic transformations and synergies of actions with the local, metropolitan, and regional stakeholders.

The approach is, therefore, to work with a double gaze, on the one hand with attention to the issue of the technical dimension and road safety, but with the added value of the designer who deals with the issues of infrastructure while still referring to the dimension of architecture and urban design.

## Notes

(1) *Reliquati* are portions of land, part of the corporate assets of the motorway concessionaire, but which are not directly used for the mobility and transport function for various reasons - expropriations, irregular cultivation etc. - but could be if combined with other neighboring areas.

(2) The proposed taxonomy relies on a series of selected indicators, in order to return a hierarchy of spatial occasions and opportunities and select a series of the most representative spaces to produce an abacus of design guidelines.

This chapter collects the presentations of the work in progress of the Architectural Urban Interior Design doctoral program candidates focusing on the “Facilities” theme.

The candidates are in different stages, comprised between the 35th cycle (beginning in 2019) and the 39th (beginning in 2022). Here is the list of the candidates with their cycle:

35 Amath Luca Diatta  
36 Sarah Javed Shah  
37 Beatrice Azzola  
37 Nicola Campri  
37 Cui Jiarui  
37 Filippo Oppimitti  
38 Beatrice Basile  
38 Nicolò Chierichetti  
38 Andrea Foppiani  
38 Ottavio Pedretti  
38 Andrea Renucci  
38 Wang Hao  
39 Liu Siyu  
39 Francesca Monteleone

The epigraph at page 209 is taken from: Stan Allen, *Points + Lines: Diagrams and Projects for the City*, Princeton Architectural Press, 1999; p. 55.