



PhD in ARCHITECTURAL URBAN INTERIOR DESIGN - 38th cycle

**PNRR_352 Research Field: THE CHALLENGE OF SUSTAINABLE MOBILITY: THE CASE
STUDY OF MILAN'S RING ROADS**

Monthly net income of PhDscholarship (max 36 months)

€ 1195.5

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

Motivation and objectives of the research in this field

The Program studies architectural urban and interior design in all aspects through the methodological frame of design-driven research, where design is the cultural environment to test and produce theoretical and technical knowledge.

The proposed research especially refers to Mission 2 and Mission 3 of the PNRR, GREEN REVOLUTION AND ECOLOGICAL TRANSITION, and INFRASTRUCTURES FOR SUSTAINABLE MOBILITY.

Much of the research on mobility understandably focus on technological solutions to reduce vehicle emissions and fuel consumption. Starting with a careful analysis of international case studies and national cases, the field of investigation proposed here is instead the interaction between infrastructure and the territory crossed, particularly the reactivation of residual areas adjacent to the infrastructure. The study of the ring road system, the Milan Tangenziali, read as a unicum that produces a large figure of the metropolitan landscape, also implies a reinterpretation of the territory included between this system and the railroad circle line, far beyond the established administrative boundaries-

Starting with the case study of the Milan ring road, the research aims in particular to explore two aspects: the ways in which the highway infrastructure can be an opportunity for the regeneration of the territories crossed and the ways to increase intermodal exchanges (with trains, shuttles, electric cars, bicycles, scooters, etc.) for



	<p>access to the city. So, on the one hand, rethink the circular system, reversing the image of the caesura into a connective element and a grand figure of the landscape metropolitan (Green Belt), on the other hand, work on the radial system of accesses to the city, imagining nodes that reinvent the relationship between the city and the region, resorting to innovative forms of sharing and interchange and encouraging virtuous travel practices.</p> <p>Many environmental values are involved: ecological (vegetation and wildlife), water (meteoric, irrigation, and groundwater), agronomic (farm and crop systems), acoustic, and air quality air. Many are also the landscape and architectural values at stake: enhancing the built heritage, and defining public spaces to improve their accessibility and inclusiveness, of daily use (pedestrian and bicycle paths, trails, rest areas).</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The candidate will develop a research methodology starting from the lectures and assignments of the AUID courses and the courses of the Polimi Ph.D. School.</p> <p>The internship supported by the partner Milano Serravalle - Milano Tangenziali S.p.A. (FNM Group) will allow the candidate to spend at least 6 months working on research-related topics in close dialogue with the corporate supervisor. From the definition of the topics of investigation and the cognitive framework, the identification of strategies and modes of intervention can serve as a replicable reference point in various contexts. It identifies as an applicative field of experimentation and verification of the proposed approach the system of Milano Tangenziali managed by the FNM group, an important partner in the development path of the research. The spatial scope is highlighted in its most general terms within the PNRR (p.10). The national transportation infrastructure system is largely characterized by a heritage historical heritage of considerable extent and consistency, mostly articulated in the central and northern regions of the country.</p> <p>FNM SpA is already active on these issues with the FILI Project, which concerns the redevelopment of the main FERROVIE NORD connection centers between Milano Cadorna and Malpensa, allowing for a fruitful exchange of</p>



	<p>experiences and synergy.</p> <p>The candidate will spend a period of at least six months at the TU Delft to study the highly advanced Dutch model of interchanges between slow and fast mobility and the ways in which infrastructure is often an opportunity for the design of places.</p>
Educational objectives	<p>Educational objectives focus on the deep understanding of a well-selected and defined topic, oriented to the ecological transition. The candidate will define specific research containing a comprehensive overview of the scientific question and an original track and output.</p> <p>The candidate will acquire the skill to organize a consistent analysis of case studies, formulate a clear proposal for an original approach to a question, and elaborate innovative strategies and research methods.</p>
Job opportunities	
Composition of the research group	<p>15 Full Professors 21 Associated Professors 6 Assistant Professors 67 PhD Students</p>
Name of the research directors	prof. Laura Montedoro

Contacts

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Further information is available at: <http://www.auid.polimi.it>



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Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	834.84 €
By number of months	6

National Operational Program for Research and Innovation	
Company where the candidate will attend the stage (name and brief description)	Milano Serravalle - Milano Tangenziali S.p.A.
By number of months at the company	6
Institution or company where the candidate will spend the period abroad (name and brief description)	TU Delft
By number of months abroad	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information

Universities that cooperate in the research

- Katholieke Universiteit Leuven, Campus Sint-Lucas, Ghent
- HafenCity Universitaet Hamburg
- TU Delft, School of Architecture
- TU Berlin, Institute for Architecture
- Université Paris-Saclay

educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops, and conferences)

financial aid (budget) per Ph.D. student (DOTE):

per three years: 4.872,90 euro
 per year: 1624,30 euro

Workspace

In the AUID hall, on the 4th floor of Bldg 12 in Leonardo Campus, are available workstations for shared use.

All the Ph.D. students can use their laptops with a wireless connection.

Workstations and other equipment are available in the various departmental laboratories (Dastu) linked with the doctoral Program.