

MECHANICAL ENGINEERING | PHYSICS |
PRESERVATION OF THE ARCHITECTURAL
HERITAGE | STRUCTURAL, SEISMIC
AND GEOTECHNICAL ENGINEERING |
URBAN PLANNING, DESIGN AND
POLICY | AEROSPACE ENGINEERING
| ARCHITECTURAL COMPOSITION |
ARCHITECTURE, BUILT ENVIRONMENT
AND CONSTRUCTION ENGINEERING |
ARCHITECTURAL, URBAN AND INTERIOR
DESIGN | BIOENGINEERING | DESIGN |
ELECTRICAL ENGINEERING | ENERGY AND
NUCLEAR SCIENCE AND TECHNOLOGY |
ENVIRONMENTAL AND INFRASTRUCTURE
ENGINEERING | INDUSTRIAL CHEMISTRY AND
CHEMICAL ENGINEERING | INFORMATION
TECHNOLOGY | MANAGEMENT ENGINEERING
| MATERIALS ENGINEERING | MATHEMATICAL
MODELS AND METHODS IN ENGINEERING



Chair:
Prof. Eugenio Morello

DOCTORAL PROGRAM IN URBAN PLANNING, DESIGN AND POLICY

The PhD Programme in Urban Planning, Design and Policy (UPDP) aims to explore the significance and impact of contemporary urban changes and understand how these processes can be governed through planning, design, and policy-making activities. The programme focuses on the transition towards new, more sustainable and equitable modes of urban development and advancements in planning practice to foster innovation in urban studies, urban design, and policy approaches.

The integration between different fields of urban research on the one hand and between theory and practice on the other distinguishes the approach promoted by this PhD programme.

Objectives

The programme's objective is to provide PhD candidates with analytical and interpretative skills and methodologies to advance research in urban studies, spatial planning, urban design and urban policy.

Candidates are encouraged to reflect upon traditional and innovative practices in these fields by participating in research activities concerning cities and regions in Italy and abroad, paying specific attention to international comparisons.

By establishing a dialogue with the best European and International schools, this PhD programme is the place for research and innovative approaches to urban studies, spatial planning and urban design dealing with the following themes:

- Multi-scalar regional urbanization processes: reshaping the city on a regional scale and addressing the challenges for the analytical approaches and descriptions, as well as for institutional and governance processes;
- Advances and challenges in contemporary planning theory and practice: the reshaping of citizenship, boundaries and collective action in urban areas and their effects in the urban environment;
- Urban transitions towards sustainability: strategies and tools for land and biodiversity preservation, energy conservation, and natural and technological risk prevention and mitigation;
- Social and economic changes and their effects on spatial processes: social inequalities and urban segregation; economic specialization and diversification in a global context;
- Evaluation and management tools for urban projects' feasibility, equity and design quality.

Contents and research training

The educational programme's objective is to offer PhD candidates a challenging environment with space for international debate, research, experimentation, and innovation based on a truly multidisciplinary approach.

The main courses and workshops focus on the following research areas:

Urban studies: Contemporary cities worldwide face increasing challenges regarding local democracy, sustainable development, environmental resources and landscape management, social cohesion, and cultural diversity. The main issues addressed are social, economic, ecological and territorial transformations, governance problems and technological innovations. The main research topics are: forms and processes of the spatialization of social and economic inequalities; urban segregation; processes and institutions of urban governance; the spatial impact of social innovation; forms and processes of regionalization; social, economic and territorial development in local contexts.

Planning theories and practices: Urban planning is not a unitary and self-contained discipline. Planning knowledge and activities can be improved by delving into (and jointly considering) theoretical and practical issues. First, the cultures, ethics, traditions and paradigms of planning are varied and have evolved differently according to their geographical, institutional and political context. Similarly, planning practice is multiform and can be understood from several perspectives. Studying the characteristics, the peculiar interpretations, and the effects of planning practices constitutes a second relevant research field. Thirdly, selecting and discussing the intersections between planning and other disciplines (i.e., architecture, environmental sciences, policy studies, philosophy and others) can dramatically innovate planning theories and practices, going beyond traditional approaches and perspectives.

Design topics, forms and tools: In a scenario of changing socio-economic, environmental and territorial conditions, theoretical and technical issues for the construction of urban projects and the implementation of urban policies are being experimented with to improve the quality of life. Specific research themes are the role and form of

urban projects in leading territorial transformations, innovation in the description and representation of urban environments and landscapes, tools for the evaluation and management of urban projects and policies aimed at mastering the feasibility and equity of land development, as well as the sustainability and the design quality of the physical outcomes and strategies for land and biodiversity preservation and energy conservation.

The fields mentioned above reflect the ongoing research at DASTU and represent a framework for future proposals. They are the backbone for PhD students' educational and research activities.

Professional and research profiles

According to its international orientation, the PhD Programme trains highly qualified researchers and professionals. It expects them to work in academic institutions, research centres, public administration and the private sector in the following fields: spatial planning, design and management of urban projects and policy, urban studies and urban governance. PhD graduates with such a profile qualify for employment by Italian and international academic institutions, public bodies and research centres, and public and private development agencies.

DOCTORAL PROGRAM BOARD

Andrea Arcidiacono	Luca Gaeta	Paolo Pileri
Simonetta Armondi	Fabiano Lemes de Oliveira	Laura Pogliani
Alessandro Balducci	Antonio Longo	Davide Ponzini
Paolo Beria	Ilaria Mariotti	Paola Pucci
Massimo Bricocoli	Scira Menoni	Nicola Russi
Antonella Bruzzese	Eugenio Morello	Andrea Rolando
Grazia Concilio	Stefano Moroni	Stefania Sabatinelli
Francesco Curci	Carolina Pacchi	Rossella Salerno
Valeria Fedeli	Gabriele Pasqui	

ADVISORY BOARD

Prof. Luca Bertolini	Universiteit van Amsterdam
Dr Biagio Ciuffo	Joint Research Centre
Dr Sabrina Lucatelli	Riabitare l'Italia
Dr Alessandro Maggioni	CCL - Confcooperative Habitat
Dr Marcela Brugnach	Ikerbasque Foundation for Science

MASS HOUSING RENAISSANCE: THE CASE OF MOSCOW

Sofia Borushkina - Supervisor: Massimo Bricocoli

Co-Supervisor: Nicolette Makovicky

This research examines the resurgence of mass housing construction in Moscow, tracing its evolution from Soviet-era typologies to contemporary market-driven developments.

Through policy analysis, market data evaluation, and stakeholder interviews, the study explores how state policies, developer strategies, and homebuyer preferences converge to shape Moscow's housing landscape. It investigates how Soviet housing standards are adapted in a post-socialist, capitalist reality and identifies the key drivers behind the persistence of mass housing models.

The study is structured around five key chapters. The first chapter provides a historical perspective on mass housing, contextualizing its development within broader political and economic shifts. It explores how socialist-era principles of standardization and mass production continue to shape contemporary housing policy and practice. The second chapter examines Moscow's housing landscape, detailing its socio-economic conditions, housing typologies, and the evolving role of mass housing within the city. The third chapter focuses on state policies enabling mass housing production, analyzing

regulatory frameworks, financing mechanisms, and government intervention strategies. The fourth chapter delves into developer strategies, highlighting how large-scale construction firms optimize designs, navigate financial incentives, and influence market trends. Finally, the fifth chapter investigates homebuyer perspectives, examining affordability constraints, cultural preferences, and investment motivations that sustain demand for mass housing.

These five chapters collectively illustrate that the resurgence of mass housing in Moscow is not merely a return to Soviet models but an adaptation of past practices to a new socio-economic reality. The study finds that despite political and economic shifts, mass housing remains dominant due to its affordability, market efficiency, and state support for large-scale development. While contemporary housing differs in aesthetics and financing mechanisms, it retains many spatial and structural features of Soviet-era models. The research contributes to urban studies by highlighting the interplay between legacy and innovation in post-socialist housing production, offering insights

relevant for global housing policy discussions on affordability and urban density.

UBIQUITOUS ARTIFICIAL INTELLIGENCE AND THE URBAN PUBLIC SPACE – THE SMART BUBBLE: A VISUAL APPROACH TO HELP SHAPE SPATIAL FRUITION

Lorenzo Ceccon – Supervisor: Daniele Villa

Tutor: Rossella Salerno

This thesis presents the Smart Bubble framework, integrating a suite of emerging technologies such as artificial intelligence (AI), ubiquitous computing, and augmented reality to enhance the adaptive analysis and management of urban public spaces. This framework explores how advanced visual tools and AI-driven analysis might contribute to optimising spatial configurations, balancing inclusivity with personalisation in public space fruition (Fig. 1). The research examines how explainable AI and visual analytics can enhance urban analysis by revealing hidden spatial patterns and supporting predictive modelling. The Smart Bubble builds upon technologies such as graph databases (Fig. 2), Bayesian networks, and reinforcement learning in view of dynamic adjustments in urban environments based on real-time data and user interactions. The integration of sensor networks and distributed computational processes (IoT) further supports this adaptability, enabling environments to continuously register, interpret, and react to spatial dynamics. This leads to the emergence of ubiquitous computing, where digital intelligence seamlessly blends with physical space, fostering an

ecosystem of embedded, real-time responsiveness. Rather than treating computation as a discrete layer applied to urban environments, ubiquitous computing ensures that spatial adaptation becomes an inherent, ever-present process within them. A series of case studies illustrate specific aspects of the technologies considered, exploring their application across different domains. These examples provide insights into the potential of AI and spatial analytics for real-time decision-making and adaptive design. They serve as proof-of-concept implementations, showcasing how different digital methodologies can be leveraged to enhance spatial analysis and interaction in complex environments. "Affective computing", i.e. emotion-aware AI models, is also considered, as a means to interpret implicit user feedback, recognising patterns in engagement, comfort, and stress levels. This deeper layer of human-machine interaction offers new possibilities for spatial personalisation and the adaptive mediation of conflicting needs. A significant contribution of this research is its exploration of how public space users form contingent preference

clusters, dynamically shaping overlapping spatial "bubbles" across multiple dimensions (e.g. sensorial) based on real-time needs. Instead of assuming static user typologies, the Smart Bubble framework identifies fluid, context-dependent groupings of users who share preferences such as quiet or noise, bright or dim lighting, individual or group work environments, up to higher-level nuances of their spatial feature needs and preferences (Fig. 3). These clusters allow for both active spatial adaptation, where the environment responds through real-time modifications, and passive guidance mechanisms, which encourage users to occupy spaces that best align with their needs. Recognising the simultaneous and sometimes conflicting demands on public space, the

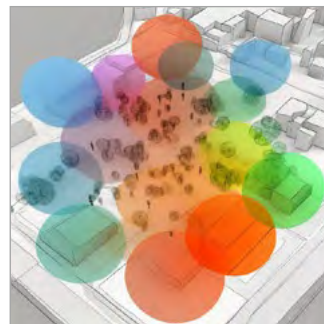


Fig. 1 - Evocative representation of the The Smart Bubble framework (image by the Author/ Midjourney)

Smart Bubble ensures that urban environments can balance coexisting activities without rigid spatial assignments, thereby achieving greater inclusivity and customisation while also limiting the use of resources and avoiding social seclusion. Beyond its technical aspects, the thesis critically analyses the ethical dimensions of the Smart Bubble's approach. Transparency, social equity, and the balance between automated decision-making and human oversight emerge as central themes, highlighting both the opportunities and constraints of these technologies in shaping urban experiences. This ethical reflection informs broader

discussions on governance, ensuring that technological advancements align with public interest and democratic values. The work advocates for a shift from prescriptive urban policies to real-time, data-informed governance, where policy application may adjust dynamically based on evolving urban conditions, as well as collective behavioural trends and inputs, yet maintaining the control by the human side of policymakers and the community at large. Scalability is a key aspect of the Smart Bubble, ensuring adaptability across diverse urban contexts. Unlike conventional Smart City paradigms, which

often rely on fixed, large-scale infrastructures that require significant investment to be implemented, the Smart Bubble prioritizes modular adaptability. This approach allows for incremental deployment, enabling dynamic urban transformations without requiring comprehensive infrastructural overhauls. Whether applied to small neighbourhood settings, parks, or metropolitan districts, the framework remains scalable and responsive to real-time data, ensuring gradual, adaptable improvements to urban environments. The Smart Bubble framework proposes a paradigm shift in urban planning, advocating for a dynamic, adaptable, and participatory model of spatial management. It highlights the need for multidisciplinary collaboration between urban planners, policymakers, technologists, and communities to create public spaces that are both technologically advanced and socially inclusive. By integrating AI-driven adaptation with human-centered governance, this research explores how emerging technologies can contribute to more sustainable, equitable, and responsive urban environments.

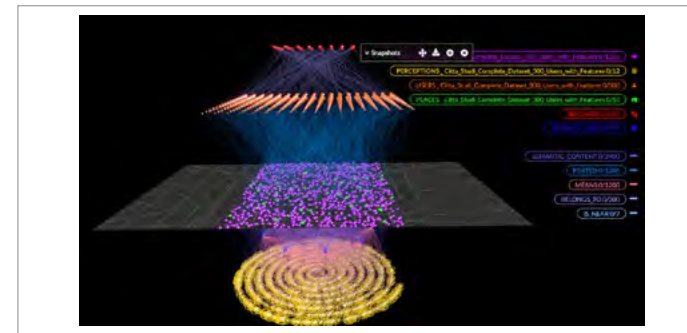


Fig. 2 - Neo4j Graph Database, via GraphXR, structuring of spatialised and non-spatialised multidimensional data (image by the Author)

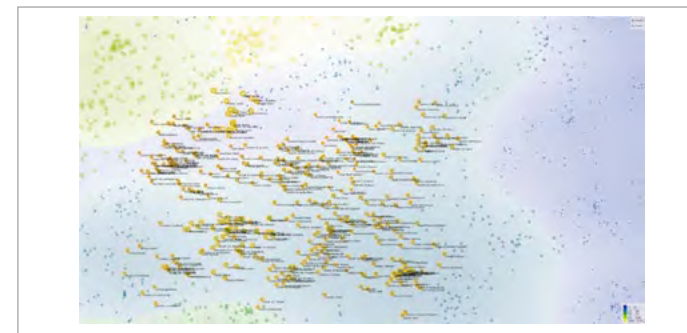


Fig. 3 - Orange Data Mining t-SNE representation of User/Space feature matching and clustering

DESIGN WITH(IN) UNCERTAINTIES. EXPLORING ANTIFRAGILE ATTITUDES FROM DESIGN PROCESSES OF PUBLIC SPACE

Beatrice Galimberti – Supervisors: Bertrando Bonfantini, Ida Sandström

By adopting the term “uncertainties” as a metonymy for various adverse situations, ranging from global events to mundane circumstances, this research observes that some urban designers, architects, and landscape architects are able to stay with and sometimes even benefit from the various uncertainties that arise in the design processes of public space they are working on. But how do they do it? Currently, the body of research on this topic is limited, particularly when it comes to benefitting from uncertainties. Therefore, this study contributes to addressing this epistemological gap through a series of intertwined interpretative operations concerning matters, concepts, cases, and attitudes. First, this work reviews the discourses around design processes of public spaces in Europe over the last twenty years that address—explicitly or between the lines—the relationship with uncertainties. The result is the identification of some topical matters—open, temporary, ruse, and minor—among which the work recognises a common ground constituted by the attention to the dimension of time, with a focus on “becoming” rather than just “being,” the

propensity to experiment, to adapt, to make incremental changes, the recognition of limits, the awareness of technical competence, the sense of possibility, the resistance to follow a predetermined solution, the search for paths and fields that are not finalised, and the willingness to accept ambiguities and indeterminacy. Second, this research unpacks what it means to “stay with” and “benefit from” uncertainties by juxtaposing different concepts—such as preparedness, care, antifragility, possibilism, negative capability, complex adaptive systems, and evolutionary resilience. Then, drawing on these concepts, it builds a theoretical lens structured in eight points— involving paying attention to processes, accepting being immersed in uncertainties, observing and valuing what is around us, enabling broad response capacities and conditions of possibility, keeping options open, learning from errors, proceeding in increments, staying open to the unexpected, and, finally, practising to feed our hope. Third, the study qualitatively explores nine cases of design processes of public spaces. In the first part, it presents nine case studies selected for their ability

to relate to uncertainties, using the matters as a progressive compass. The cases cover the design processes of *Esto no es un solar* in Zaragoza, Spain; *Prossima Apertura* in Aprilia, Italy; *Zollverein Park* in Essen, Germany; *Barking Town Square* in London, UK; *Piazza Gasparotto* in Padua, Italy; *Tempelhofer Feld* in Berlin, Germany; *Westbahnhof* in Vienna, Austria; *Parc aux Angéliques* in Bordeaux, France; and *Jubileumsparken* in Gothenburg, Sweden. Each case is presented descriptively, emphasising not its spatial qualities but how it deals with difficulties throughout the process. In the second part, this empirical step delves into the design process of *Jubileumsparken* in Gothenburg, presenting its salient points through a retrospective diary,

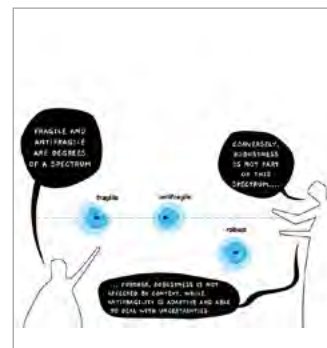


Fig. 1 - Fragility, Antifragility, and Robustness. Elaboration by the author

and then discussing them through eight issues—flowing, prototyping, learning, naming, coping, carving out, curating, and seeding, sprouting, taking root. These issues focus on the relationship between the design process and uncertainties, the value of prototypes, and the curatorial approach of the two process managers who led much of the process. After constructing these matters, concepts, and cases, the research assembles them into thirteen interpretative categories called antifragile attitudes, which are about i) learning from the past, ii) experimenting with trial and error, iii) making simulations, iv) adjusting the course based on what happens, v) turning adversities into opportunities, vi) gaining wiggle room, vii) introducing trojan horses, viii)



Fig. 2 - Concepts between staying with and benefiting from uncertainties. Elaboration by the author

making trouble, ix) acting short-term while thinking long-term, x) assessing negotiability, xi) keeping many options open, xii) providing conditions of possibility, xiii) and making room for the unexpected. These attitudes are facets of the practical know-how of our time, and the study frames them with reflections on acceptance, observation, and hope, understood as three conditions of possibility for these attitudes to blossom. Thus, throughout these steps, this thesis wants to offer three main contributions. First, an attempt to juxtapose different voices within the design disciplines, discussing, implicitly or explicitly, the relationship between design processes and uncertainties. This contribution sheds light on a possible common ground between these different



Fig. 3 - Two temporary structures overlooking the harbour basin in Jubileumsparken, Gothenburg. Picture by the author

voices, intertwining thoughts and experiences. Second, a theoretical body of reflections. Going inside and outside the boundaries of design disciplines, the thesis has explored what it means and what it entails to stay with and benefit from uncertainties during a design process. Third, some antifragile attitudes. These are not templates or guidelines to follow because, in dealing with uncertainties, how could “certain” instructions fit all situations and agents? However, with its interpretation of matters, concepts, cases, and antifragile attitudes, this work aims to contribute to the discussion on the relationship between design processes and uncertainties and support designers’ imagination. One step after another, that is, one concept, one matter, or one attitude after another, encouragement and inspiration to dialogue with uncertainties may blossom and grow in designers. That is, staying with and benefitting from uncertainties are skills we can hone with training, and training them strengthens hope for the future of the practice.

INTEGRATING URBAN DATA AND MACHINE LEARNING APPROACH TO STUDY THE CORRELATIONS OF WALKABILITY AND URBAN VITALITY

Yang Liang - Supervisors: Andrea Rolando, Stefan van der Spek

Streetscape walkability attributes related to urban design quality are usually posited to correlate with hedonic walking activities and invigorate urban vitality. They are widely regarded as beneficial for the construction of walkable and livable cities, playing a significant role in improving public health, boosting community cohesion, and promoting sustainable and eco-friendly urban transportation. Concurrently, the rapid advancement of urban data and artificial intelligence technologies is reshaping the perceptions and research methodologies within the field of urban design. In this context, a more precise and efficient research method based on the emerging data and methods to analyze the correlations between qualitative walkability attributes and walking activities are feasible and worth further exploration. This research selects facade porosity, land use, urban furniture, and street-level greenery as representative qualitative walkability attributes and take slow walking speed as proxy of walking activities. The primary objective of this research is to investigate the correlations between the four attributes and pedestrian's

walking speed. To achieve this aim, urban data (such as Google Street View and Strava Metro) and machine learning approach (image segmentation models for facade and street-level greenery) are validated and applied. The case study is divided into two parallel sections, each organized according to different logic: the first section examines three routes in Milan and Rotterdam with similar origins and destinations (routes connecting a railway station to a museum or museum park), while the second section focuses on cases selected for their diverse street layouts. Both sections conduct investigations to uncover the correlations between facade porosity, various types of land use, a wide range of urban furniture, and street-level greenery, respectively, with slower walking speeds. The findings highlight pronounced correlations between qualitative walkability attributes and slower walking speeds, demonstrating their potential to create more comfortable and pleasant street environments. Additionally, this study introduces an integrative approach, utilizing urban data and machine learning models, to quantitatively assess these qualitative walkability attributes and walking speeds in

various contexts. Finally, this research presents a wide range of walkable street cases, from narrow lanes to wide boulevards, providing references for street design and transformation initiatives. This collection offers insightful perspectives for designing and implementing walkable, livable, and vibrant urban spaces.

Key Words

Walkability; Urban Data; Machine Learning; Urban Vitality; Milan; Rotterdam

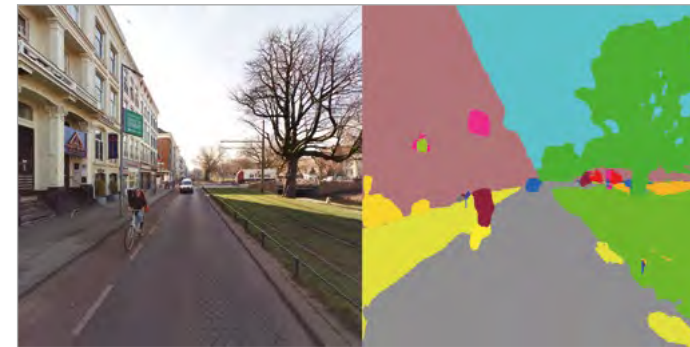


Fig. 1 - Semantic Segmentation of Streetscape



Fig. 2 - Street Cases in Milan and Rotterdam

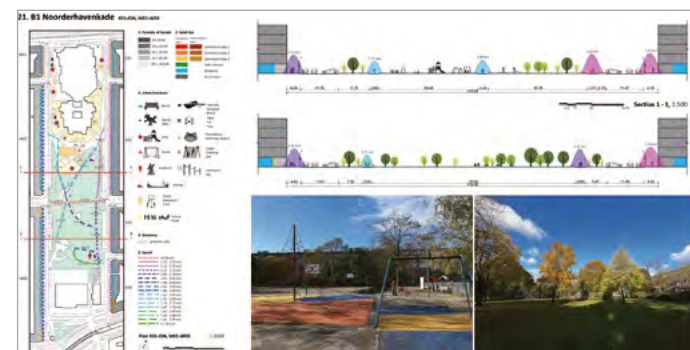


Fig. 3 - An Example of Street Cases: Noorderhavenkade in Rotterdam

PLANNING A SUSTAINABLE CHARGING INFRASTRUCTURE. ESTIMATING PUBLIC CHARGING DEMAND AND INFRASTRUCTURE SUPPLY FOR ELECTRIC MOBILITY IN THE MILAN URBAN REGION

Luis Morais - Supervisors: Paola Pucci, Giovanni Azzone

The electrification of transport is essential to achieve contemporary sustainability goals and mitigate the environmental impact of transportation. This PhD thesis focuses on evaluating how charging infrastructure for electric vehicles should be deployed to guarantee that users are served more efficiently. The thesis begins by introducing the Milan Urban Region (MUR), the case study of the work. It evaluates current policies and incentives for both electric vehicles (EVs) and charging infrastructure. Highlighting the role of Italy and showcasing on the EV side the tax reliefs on acquisition, ownership and fuel and proposes policy suggestions and guidelines for an effective and sustainable EV charging infrastructure. The following chapter estimates the public charging demand by creating a model that uses mobility patterns and EV registrations. The charging demand was projected to 2030 through several scenarios and the introduction of a hypothetical settlement density incentive was tested and emerged as promising. In the following chapter the sufficiency of the existing charging network was analysed. The assessment was

performed regarding capacity: with the introduction of a novel power-based indicator denominated "charging gap", that compared charging supply and demand in the territory, and capillarity: with a study of the placement of charging networks in relation to the most relevant transport amenities including a nearest neighbour analysis and the clustering dispersing effect. Milan emerges as the most critical municipality in terms of capacity and the business-as-usual scenario as the most critical for Milan. Regarding the coverage, areas of improvement were revealed, particularly concerning the coverage of chargers in the South of the MUR and the placement in relation to the road system. The next chapter analyses the sustainability of electrification, including emissions and externalities of electric mobility, to establish the current context and possible advantages and disadvantages of transport electrification. It is revealed that, under certain conditions, EVs can contribute more to global warming than Internal combustion engine vehicles (ICEVs), if the EVs are produced and charged using high-emission energy sources. Additionally, the thesis highlights

the significant impact of non-exhaust emissions, particularly particulate matter (PM) from EVs. The thesis concludes by summarizing its contributions, limitations, and future research directions. Overall, this work aims to provide policymakers and stakeholders with insights and recommendations for developing sustainable and efficient charging infrastructure to accelerate the transition to sustainable mobility.

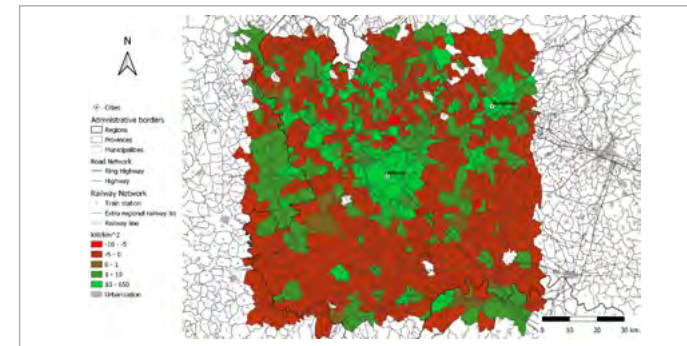


Fig. 1 - Spatial distribution of charging gap (kWkm²) over the MUR territory

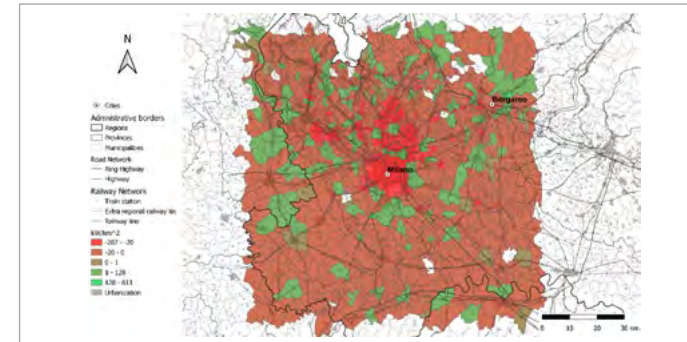


Fig. 2 - MUR BaU 2030 scenario charging gap with 2020 supply

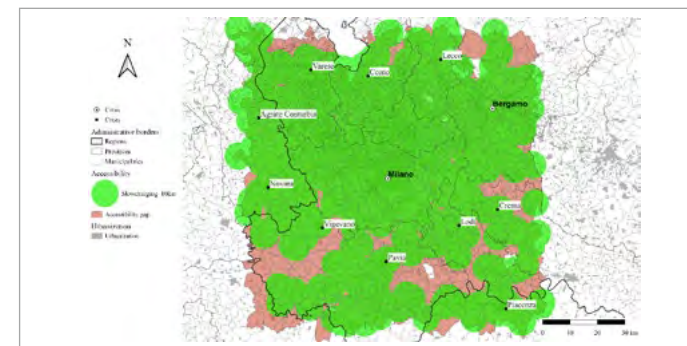


Fig. 3 - 10 km circular diameter buffer of slow chargers in the MUR 2020

ON THE FAULT LINE: INHABITING EXTENDED TRANSIENCY IN FIKIRTEPE, ISTANBUL

Francesco Pasta – Supervisor: Gabriele Pasqui

For many urban dwellers, inhabitation is increasingly shaped by impermanence, uncertainty, and provisionality: an extended condition of transiency that stretches over time and affects populations beyond those typically considered ‘temporary’ or ‘in transit.’

This research focuses on Fikirtepe, an informally developed neighborhood in Istanbul undergoing a large-scale but flawed redevelopment since 2005. As its social and material fabric unravels, various transient inhabitants – long-time residents, seasonal workers, people on the move, and others – navigate a landscape suspended between ‘soon-to-be’ and ‘not quite yet.’ Through socio-spatial mapping and ethnographic fieldwork, I examine how they inhabit this prolonged in-between space amid Turkey’s authoritarian urban planning.

By analyzing the socio-material assemblages formed between material leftovers, spaces deemed ‘beyond repair,’ individuals rendered expendable, and practices seen as marginal, this research maps the diverse ways heterogeneous transient populations negotiate informality, vulnerability, and temporariness in the city. In doing so, it challenges simplistic binaries – between

‘host communities’ and ‘displaced groups,’ ‘permanent’ dwellers and people ‘in transit,’ displacement and emplacement. It also reveals how these interactions and transactions connect to broader systems, including housing provision, waste economies, urban restructuring, and global migratory routes.

The thesis consists of four core parts. The first examines urban redevelopment and migration in conjunction, positioning Istanbul, a metropolis on a geopolitical fault line, shaped by global imbalances and selective immobilities, as a key site of analysis. Informal neighborhoods under redevelopment, attracting debt-driven real estate investment while also absorbing

migratory influxes, emerge as strategic settings to observe the localized interplay of these forces and the resulting extended transiency and overlapping displaceability shaping urban life. From this perspective, stretched temporalities of urban transformation and migration – including recurrent delays, forced waiting, and advancement in fits and starts – are not suspensions but moments of intense reworking and renegotiation that can significantly shape both the trajectory of these processes and urban society at large. The second part retraces the historical trajectory of urban development in Fikirtepe, from its origins as a marginal squatter settlement through

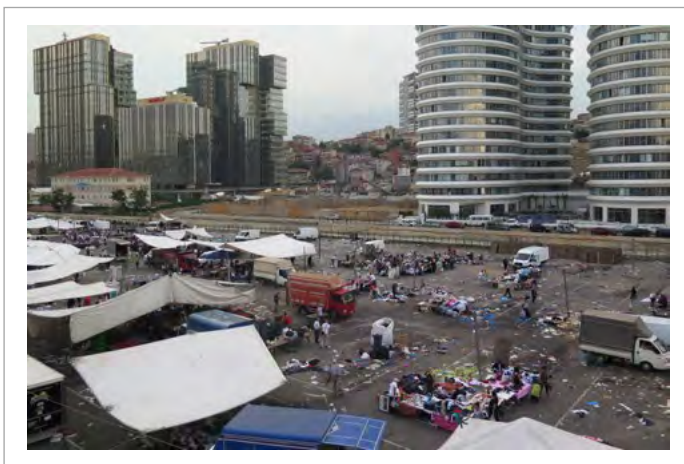


Fig. 1

its evolution into a dense central neighbourhood, up to its ongoing transformation. Unpacking the restructuring process, this section highlights the on-the-ground side effects and unforeseen consequences that have emerged over its protracted unfolding – mass displacement, prolonged uncertainty, population shifts, discursive and material decay, and increased socio-spatial inequalities. Here, I extrapolate three main factors that contribute to producing “extended transiency”, in order to sketch out an initial conceptual definition: patchwork governance, transient populations, and protracted temporariness.

The third part, the core theoretical section, focuses on extending transiency, deepening our understanding of what it is and what it does. This section shows that while extended transiency is particularly visible in sites where human mobilities meet capital-driven restructuring—such as Fikirtepe—it is an increasingly widespread urban condition shaped by planning policies, bordering mechanisms, and deepening inequalities. As neoliberal flexible accumulation exacerbates precarity, the metropolis becomes a space of unsettled inhabitation, intensifying circulations, and permanent temporariness. The ‘proliferation of borders’ fragmenting urban societies creates blurred ‘gray spaces’ where people, places, and practices are suspended between valuable and disposable, legal and illegal, inclusion and exclusion.

Under these conditions, citizenship is increasingly hierarchised, widening the gap between formal and substantive rights while coerced mobility and immobility grow more common. The convergence of disenfranchised citizens and migrants, slum dwellers and refugees, urbanising camps and campifying cities highlights that as permanence becomes tenuous, transiency detaches from impermanence. Expanding our understanding of transiency is therefore essential to critically address flawed assumptions in planning, migration, and humanitarian policies. The fourth section reflects on how people inhabit the city under extended transiency, combining fieldwork observations and theoretical insights. Material deterioration, social disentanglement, and uncertainty fuel decay, reinforcing redevelopment narratives while exposing contradictions. Restructuring merges with its remnants, forming a *precarious balance* of neglect and care, abandonment and reappropriation – an intensely dynamic environment rather than paralysis. Improvised *infrastructures of scrapping along* emerge, linking remaindered spaces, wasted materials, and disenfranchised populations. These temporary interdependencies sustain liveability but do not forge collective identity, forming an *integration without community*. As settlement remains unstable, *splintering emplacement* expands across territories, both reproducing transiency and

enabling strategies to navigate uncertainty. Residents invest in Fikirtepe for the sake of elsewhere, maintaining a foothold while adapting to displacement’s prolonged temporality. Inhabiting extended transiency, as explored in this work, represents a plural practice of city making. Acts of precarious balancing, scrapping along, emergent integration without community, and splintering emplacement all contribute, in aggregate, to reshaping the urban and what it means to inhabit the city. *City making*, in this sense, refers to how people shape the city without subscribing to overarching narratives or deliberate frameworks of urbanism. In this sense, inhabitation under conditions of extended transiency holds great significance for social movements and knowledge production advocating for freedom of movement, the right to the city, and social justice. Shifting away from comprehensive visions and static end states – often as untimely as they are misplaced – urban theory and practice must attune to these incomplete transitions and open-ended positionings. In other words, urban studies and planning theory should not only seek to understand these practices of city making but also build upon and complement them.

AN IN-DEPTH LOOK AT DIGITAL MAPPING AND ITS IMPLICATIONS FOR 'PARTICIPATORY' PRACTICES

Aubrey Toldi – Supervisor: Carolina Pacchi

Many of us ascribe to the notion that mapping can be an evocative and powerful process that can help us accomplish radically different things in community work; yet, in the same breath, there have been a growing number of concerns when collective geographic knowledge becomes digitally mediated. To explore this, I advance the idea that scholars have remained rather 'path dependent' in how we apply critical theory to digital mapping. Digital remains absorbed into conversations of 'the map,' as it is often cast as simply 'cartography but through a digital lens,' without recognizing that it entails a multitude of geographies, logics, and practices in and of itself. This text explores how this has cultivated a particular yet limiting debate around digital mapping – one in which digital has remained the object of criticism and where the socio-political concerns associated with it continue to be analyzed as outcomes of practice (opposed to situated in-action). Instead of continuing to extend the (by now) well-established critique of the practical and theoretical shortcomings of participatory digital mapping approaches or postulate a

hypothetical future where these 'wrongs' somehow become 'righted,' this work engages more directly with some of the politics and processes of digitally mediated geographic thought, scholarship, and practice. It illustrates some of the ways in which digital uniquely informs our sensory experiences (i.e., *aesthetics*), depicts particular socio-spatial configurations (i.e., *narratives*), and/or legitimizes and sustains its relevance (i.e., *discourses*). Through this debate, I demonstrate how the current participation-centric critique does not adequately address or fundamentally 'fix' problems that come when we work with conventional digital cartographic representation (i.e., these systematic ways of representing, tactical ways of producing, and technical ways of facilitating). Through this lens, this text then raises the following question: how are digital practices and presences presently shaping collective mapping processes? This work explores in what ways (*how*) and in which places (*where*) community work is currently struggling for interpretation through case examples. These examples illustrate *how* digitally mediated aesthetics, narratives, and discourses can give rise to pressing socio-political

concerns due to tensions between digital techniques of spatial inquiry and one's epistemic position. Although a number of studies have raised awareness of this conflict, this work uncommonly *locates* the 22 named 'methodological difficulties' in three nonlinear dimensions of practice, i.e., framing (the ways in which mapping is imagined & positioned in our programs), depicting (the ways in which we engage in visually building spatial knowledge), and mobilizing (the underlying goals or motivations one has with mapping). To conclude, I offer three generalized tensions and challenges these case examples seem to support. First, *structured* data metrics are placed against *messy* lived experiences, creating challenges of saying something 'meaningful' about socio-spatial relations. Second, *desirable* change is placed against *desired* change, creating challenges of maximizing meaning in practice. And lastly, normative *institutional goals* are placed against *off-the-map outcomes*, creating challenges of working between multiple conventions and realities. In unpacking each, I discuss how these tensions

and challenges (re)enforce various problematic cultures of practice that exist more broadly within our discipline. I conclude by arguing that we need less conversations around what we believe digital mapping *should be* and more conversations about *how it is actually taken up*.

Keywords: geographic knowledge; digital technologies; community work; critical theory

REGENERATING PUBLIC HOUSING, REGENERATING CITIES. TRIESTE, BOLOGNA, FIRENZE, BARI, CATANIA.

Constanze Wolfgring – Supervisor: Massimo Bricocoli

In Italy, there has been a strong tradition of policies and programmes addressing urban regeneration since the 1990s, some of which particularly concerned challenges related to public housing. Yet despite this tradition and a variety of practical experiences focussing on the regeneration of deprived neighbourhoods, public housing estates still tend to be among the most disadvantaged spaces in Italian cities, displaying multidimensional (social, spatial, economic, structural) criticalities. The regeneration of large parts of the existing public housing stock is very much needed, as reflected in a high number of vacancies within the stock (mostly flats that can't be assigned before being retrofitted), facing growing waiting lists and an almost complete halt of construction of new public housing. These developments are in line with a more general trend of residualisation of public housing in Italy throughout the past decades, in the course of which its societal role, the recognition of its value and its target groups changed significantly. The question of how to regenerate public housing should therefore be posed within the broader framework of the question of how its role and value in Italian cities

can be redefined and re-placed on a solid basis in the future. As this research will show, public housing regeneration can take manifold shapes and be an opportunity to address various criticalities simultaneously: apart from tackling structural shortcomings, regeneration can contribute to an increase of the existing stock through densification, thereby alleviating the shortage of affordable housing. It can occur through the reuse and transformation of vacant (public or private, residential or other) buildings, thereby contributing to more sustainable cities. Through material and immaterial interventions, it can foster the strengthening of connections

and cohesion between estates and their surroundings and inspire new spatial imaginaries for stigmatised neighbourhoods. In brief, the regeneration of public housing can contribute to the regeneration of cities as a whole and the strengthening of communities on a much wider scale. A main purpose of this work is to explore how some of the key players within such processes in different Italian cities – and therefore within diverse planning, social, political, economic, and demographic contexts – address challenges and potentials related to the regeneration of public housing in light of diverse constraints and a long-lasting process of residualisation. Key



Fig. 1 - San Girolamo, Bari, 2023

stakeholders include public housing associations/companies (organized in different legal and institutional ways) and municipalities, which assume a variety of roles in context with public housing: as owners and/or managers; as allocators; as those immediately responsible for the planning of issues related to housing and urban regeneration at the local scale. In more depth, the thesis aims at (i) analysing which role public housing and its regeneration does and potentially can play in a wider context of urban regeneration and development; (ii) identifying the main challenges in context with the regeneration of public housing; (iii) gaining an understanding of how municipalities and public housing associations can extend their scopes of action; and (iv) discussing how existing or upcoming potentials at the intersection of public housing and urban regeneration can be activated. After a general analysis of the evolution and current roles of public housing and urban regeneration in Italy, the diversity of approaches in tackling these issues will be explored in the contexts of five Italian cities: Trieste, Bologna, Firenze, Bari, and Catania.

The choice of cities was guided by different motives: firstly, to look at medium-sized cities that fulfil crucial roles within Italy's polycentral territorial system, but whose challenges related to public housing (when compared with Italy's biggest cities) aren't typically at the centre of scientific attention. All chosen cities are core urban agglomerations (and, with the exception of Catania, the capitals) of their regions (in terms of population size, economic and cultural activities) and not located within the immediate sphere of influence of another major city. Apart from these parameters, the cities and the challenges they face are highly heterogeneous – the selection reflects the attempt to choose examples from different locations, stretching along the country. An aim is furthermore to cover a variety of different contexts (besides geographical considerations) in terms of the amount, typologies and management of the public housing heritage; demographic, economic and housing market trends; urban patterns and public housing typologies; political landscapes and historic trajectories. This diversity suggests promising insights on the main challenges and approaches to tackle them.