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Planning in Practice: the Impact of the PNRR on the Metropolitan City.¹

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Abstract. The PNRR represents an unprecedented opportunity for urban regeneration and territorial planning in Italy, particularly at the municipal and metropolitan levels. Despite controversies related to its design, management, and fund allocation, it has allowed cities to complete complex projects and innovate governance structures. However, challenges remain, including an imbalance in funding distribution favoring capital cities and a lack of a clear regulatory framework for metropolitan governance.

The research highlights how the plan has redefined the role of Metropolitan Cities (MCs), positioning them as intermediaries between national and local scales. The MC of Bologna has played a coordinating role, consolidating local proposals into three major projects focusing on mobility and housing. In contrast, the MC of Florence adopted a thematic approach, emphasizing accessibility, sustainability, and housing inclusivity.

The PNRR's interventions have reinforced MCs' strategic planning functions while also challenging their governance structures. This shift has implications for the interaction between municipal, metropolitan, and national planning, shaping the future of urban regeneration in Italy.

Keywords: PNRR (National Recovery and Resilience Plan), Metropolitan Cities, Urban Regeneration.

1 Next Generation EU in Italy

1.1 Practices and Processes of Territorial Planning

The climate crisis, migration, and massive urbanization are only a fraction of the interconnected challenges defining the contemporary urban reality. The pandemic has

¹ The working group involved in the PRIN project "*Metropolitan Cities under the PNRR*" is coordinated by Carlo Pisano (Department of Architecture, DiDA, University of Florence) and Valentina Orioli (Department of Architecture, University of Bologna). The working group consists of Giuseppe De Luca, Valeria Lingua, Flavia Rizzuto, and Silvio Cristiano (DiDA, University of Florence); as well as Martina Massari, Francesca Sabatini, and Micaela Antonucci (Department of Architecture, University of Bologna).

acted as a catalyst for these crises, highlighting the fragility of vital systems and the consequent need for new tools and approaches to governance. The challenge for governance is to provide consistent strategic development directions through planning while maintaining the adaptability required by an ever-changing contemporary scenario.

Public policies and literature emphasize how the urban scale is the preferred level for managing global challenges and crises, progressively moving beyond the governance approach that dominated the previous decades [1]. The role of cities in shifting development models to address transitions is a well-established and widely accepted position in public discourse and underpins the formulation of agendas and political initiatives for sustainable development. This importance is reflected in the significant resources, initiatives, and tools that the European Union has dedicated to cities over time, starting with the Amsterdam Pact, i.e. the Urban Agenda for the EU ratified in 2016 [2].

This relevance is clearly expressed by the Next Generation EU program and its Italian counterpart, the National Recovery and Resilience Plan (PNRR), which has initiated a new and unprecedented phase of urban investment. Sixteen measures, distributed across the different Missions of the Plan, directly impact cities and, consequently, Metropolitan Cities, for a total of approximately €21.8 billion.² The most relevant of these, both in strategic scope and funding amount, are the Innovative Housing Quality Plans (PINQuA - M5C2 - I2-3) and the Integrated Urban Plans (PUI - M5C2 - I2.2b), with Metropolitan Cities (MCs) acting as beneficiaries and implementing entities.

The extraordinary investment phase initiated by the PNRR marks a significant turning point for urban and territorial planning practices in Italy. On one hand, the plan presents an unprecedented opportunity for the regeneration of urban and metropolitan areas; on the other, it introduces a new way of conceiving and managing planning, leading to controversies for both strategy and implementation. These include the centrality and autonomy of Ministries in selecting projects to fund, the absence of preliminary consultation with territorial actors and cities, the sectoral and rigid compartmentalization of investments, the competition among local administrations for project selection [4], and finally, the emergency-driven nature of the Plan, which, with its 2026 time horizon, limits the development of an integrated and comprehensive vision for the country's sustainable development.

Another critical aspect concerns the lack of detailed guidelines on the territorialization of investments and the assessment of their impact. While there is a

² PNRR investments in Italy amount to €194.4 billion. The strategy is structured into six Missions, each further divided into a series of Measures: 1) Digitalization, innovation, competitiveness, culture, and tourism, 2) Green revolution and ecological transition, 3) Infrastructure for sustainable mobility, 4) Education and research, 5) Inclusion and cohesion, 6) Health. In July 2023, the third installment of funding reshaped the Missions by introducing *RePowerEU*, which allocates over €11 billion to the energy transition. However, this resulted in a reduction of funds allocated to cities in favor of direct support for other actors, including businesses [3].

scarcity of tools for verifying the effectiveness of interventions at the urban level, there is a wealth of monitoring systems focused on operational mechanisms, timelines, and implementation methods stipulated by the plan. This is mainly due to the financing model, where loans are tied to performance objectives rather than expenditure targets for different countries. The absence of control over territorial impact raises concerns over the investments resulting in short-term operations rather than long-term strategic planning.

This new framework has profoundly altered the role of planning. While it has somewhat relieved the central government of responsibility regarding the actual effectiveness of the PNRR as a driver of territorial development—potentially prioritizing short-term economic growth indicators—it has also transferred an unprecedented level of responsibility to MCs and local entities in implementing projects.

1.2 Responsibilities and Challenges of Metropolitan Cities within the PNRR

MCs have long been tasked with coordinating, monitoring, and implementing urban and territorial regeneration projects. Since 2016, with the "Periphery Program," efforts have been made to redefine urban regeneration boundaries, shifting the focus from municipalities to metropolitan areas. Prior to this, urban planning and mobility projects were closely linked to individual municipalities, limiting the broad vision necessary for addressing challenges at a metropolitan scale. The evolution of metropolitan governance and project coordination tools—thanks to European funds and nationally co-financed EU programs—has initiated a process of strengthening managerial and organizational capacities in strategic programming for regeneration interventions. This experience has placed MCs at the center of an important integrated planning framework, intersectoral policies, and cooperation initiatives [5]. Metropolitan governance has been crucial in coordinating project selection for funding, leveraging its strategic plans to ensure cohesion and alignment with regional development strategies, despite the complexity of divided competencies.

A decade after the disputed Italian Law No. 56/2014, MCs have been called upon to translate the PNRR guidelines into concrete actions, attempting to reconcile local needs with top-down imposed objectives and deadlines. From a regulatory standpoint, MCs are based on functional rather than political legitimacy and must demonstrate not only innovation but also usefulness and effectiveness in fulfilling their institutional mission. However, the PNRR provides an opportunity to evaluate their political capacity [6], which extends beyond institutional resources to the construction of cooperation mechanisms among various institutions and actors around a shared territorial vision. Their ability to coordinate multiple stakeholders, including private sector partners, local communities, and regional authorities, is crucial to ensuring the successful implementation of PNRR-funded initiatives.

With the introduction of the PNRR, particularly through the PINQuA and PUI programs, metropolitan planning has undergone further transformation. In general, 16 measures fund interventions in capital municipalities and MCs for €21.8 billion [3], with approximately €4.5 billion allocated directly to them. This funding has

significantly altered the MCs' strategic planning objectives, destabilizing the balance between local and metropolitan planning. As a result, they have faced unprecedented administrative complexities, striving to ensure that projects align with both local priorities and national and European directives.

The bureaucratic-organizational structure of the PNRR has also placed additional pressure on these entities to deliver tangible results within tight deadlines. Within this constrained operational space, MCs have found themselves to balance the need for greater coherence between metropolitan policies and emergency project instruments while maintaining the flexibility required for effective action.

This adaptation has often occurred in conditions of uncertainty, lack of communication with the Ministerial level, and overlapping competencies. Nevertheless, these changes have fundamentally reshaped—albeit temporarily—the landscape of urban and territorial planning in Italy.

2 Case Study: Bologna and Florence

In order to tackle the challenges listed above, the first phase of the research reconstructed the structure of the PNRR, its financing instruments, and the distribution of funds at the national and metropolitan levels. Interviews and questionnaires were conducted with officials and stakeholders to analyze the integration of the PNRR with the planning tools of the MCs. The findings indicate that multi-level governance and administrative coordination are among the top challenges. The cities of Bologna and Florence (Italy) are interesting points of observation since, despite having similar sizes and geographical contexts, have adopted different approaches in managing PNRR resources, striving to balance the demands of new funding with the consistency of pre-existing territorial strategies, which were shaped by their respective political-administrative traditions.

The MC of Bologna exhibits distinctive characteristics compared to other metropolitan entities: it developed within a framework of long-standing and well-established voluntary metropolitan governance, based on interinstitutional cooperation among local entities [7], [8]. Its roots trace back to the 1970s, when the first inter-municipal plan was developed, culminating in 2006 with the adoption of a voluntary and agreement-based metropolitan strategic plan. Bologna thus represents an example where metropolitan governance emerged spontaneously before the formal establishment of the MC, creating a favorable environment for the operational effectiveness of the new entity.

From an organizational perspective, the Strategic Planning Service in Bologna is currently housed under the General Directorate of the MC, distinctly separated from the Planning Sector, which falls under the Territorial Planning and Sustainable Mobility Department. This division allows for a more focused approach to the overall strategic vision and long-term guidelines while maintaining constant dialogue with the different involved sectors.

Additionally, the territory of the MC of Bologna is divided into Unions of Municipalities,³ which serve as the primary interlocutors in territorial and urban planning decisions. This governance system grants the Unions a central role in the selection and management of projects, fostering a broad-scale inter-municipal cooperation approach and closer debate at the local level.

At the governance level, PNRR management has been overseen by a Steering Committee within the MC's organizational framework, responsible for ensuring its strategic coherence with the planning instruments and vice versa. However, according to MC interviewees, this arrangement has led to some redundancy in internal management.

In Bologna, metropolitan planning has leveraged urban regeneration primarily through sustainable mobility and improved accessibility. This approach focused on creating a network of pedestrian and bicycle paths and enhancing strategic railway stations to make the territory more connected and accessible. One emblematic project under this approach is the *Ciclovia del Sole*, a cycling infrastructure that spans across Europe, with Bologna assuming the role of general coordinator, further consolidating its position as a promoter of sustainable mobility at the metropolitan level.

The office responsible for territorial management and Strategic Planning in Florence is part of a broader structure encompassing various aspects of territorial management, from hydrogeological risk to statistical analysis. This office—which has changed names over different legislative periods—has played a central role in integrating PNRR tools with ongoing urban regeneration plans and projects.

Unlike Bologna, Florence is territorially organized into homogeneous territorial areas (as stipulated by the 56 Law), which serve as references for planning. These non-institutionalized divisions reflect the morphological and territorial specificities of different areas but do not hold the same institutional weight as the Unions. Consequently, Florence has taken a more centralized approach to planning, with the MC playing a direct role in coordinating and supervising projects, as seen in the Periphery Program.

In Florence, strategic planning for urban regeneration projects has been more focused on improving neighborhood quality of life, with particular attention to education as a tool for urban transformation. The school system was central to the Periphery Program, based on the idea that strengthening school facilities and integrating social, cultural, and sports functions could act as a catalyst for neighborhood revitalization. This approach highlights a vision of regeneration that goes beyond merely improving infrastructure, aiming instead at building more cohesive communities and fostering greater social integration.

In this context, both cities have used PNRR funds as an opportunity to consolidate their urban regeneration strategies and align projects with the content of their pre-existing planning tools, such as Bologna's Metropolitan Territorial Plan (PTM) and

³ 89.1% of the municipalities in the Metropolitan City of Bologna are grouped into seven Unions, covering 74.8% of the metropolitan population, excluding the capital city. The Unions are identified in various planning documents as the primary reference for the territorial organization of policies and actions within the Metropolitan City.

Florence's Strategic Plan and Provincial Territorial Coordination Plan (PTCP). However, significant differences exist in how and when funds have been integrated into urban planning.

In Bologna, metropolitan planning played a central role in defining PNRR-funded projects. The city had already approved its PTM in May 2021, shortly before the arrival of PNRR funds, and sought to align the application of funds with the pre-existing territorial plan, adapting the PNRR to the objectives of the PTM rather than vice versa. The Urban planning Regional Law 24/2017—which focuses on regeneration and combating land consumption—had already assigned the MC significant responsibilities in these areas, preparing the territory to seize the opportunities provided by the PNRR. Bologna used the PINQuA call, launched before the introduction of the PNRR, as an initial test for the new plan, revising proposals to incorporate criteria from the PTM. For instance, particular emphasis was placed on sustainable mobility and accessibility, key elements already present in the metropolitan plan. Subsequently, the PUI was also conceived in full alignment with the PTM, with specific attention given to the theme of knowledge and innovation, culminating in the flagship project, the “City of Knowledge.”

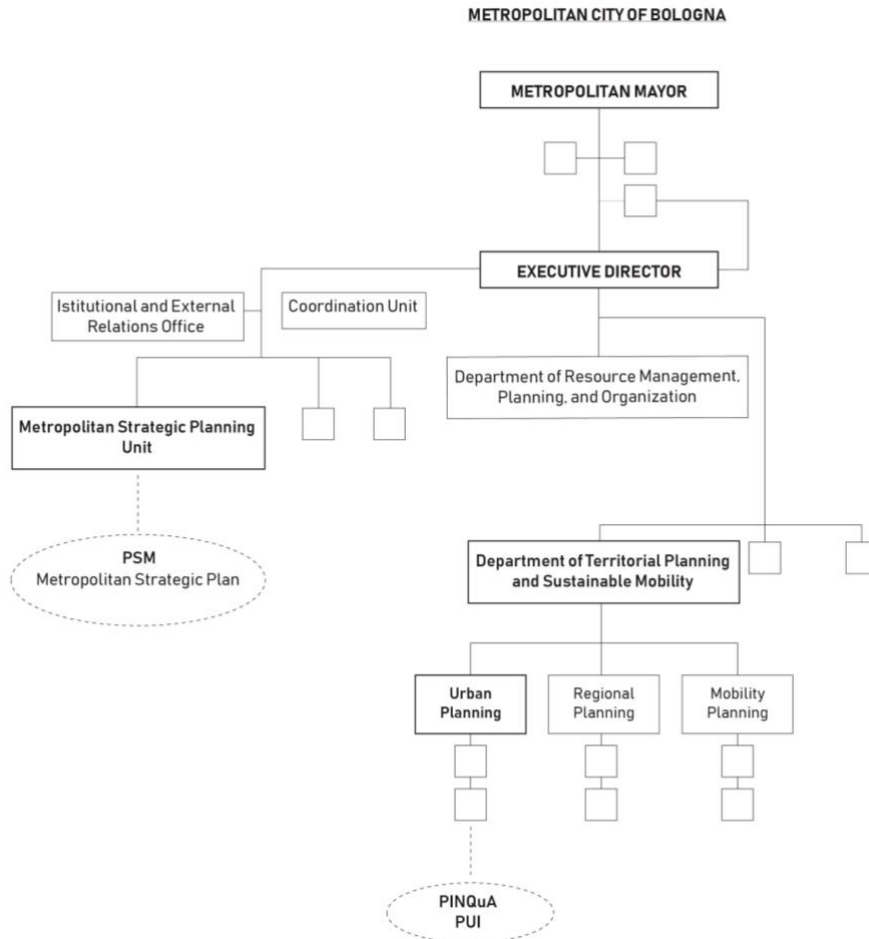


Fig. 1. Organization chart of CM Bologna and its role in the implementation of PSM, PINQuA, and PUI. Prepared by: Flavia Rizzuto

Florence integrated PNRR funds into its planning instruments but adopted a different approach. At the time of the PINQuA call for proposal, the city had not yet adopted a new metropolitan territorial plan. The planning instruments used included the PUMS (Sustainable Urban Mobility Plan), the Strategic Plan, and the PTCP. Florence worked in parallel on the development of its new Territorial Plan, using PINQuA as a reference to align projects with themes already present in the PTCP and municipal plans, such as the reuse of inner areas and the construction of an inclusive community. The MC worked closely with municipal administrations and in-house companies responsible for public housing to ensure that the projects were consistent with existing urban planning frameworks. Over time, Florence incorporated PNRR projects into the new Territorial Plan, which was still being drafted. This parallel planning approach

allowed the city to develop a planning tool that not only included PNRR-related projects but was also forward-looking, anticipating further funding opportunities at the European or national level.

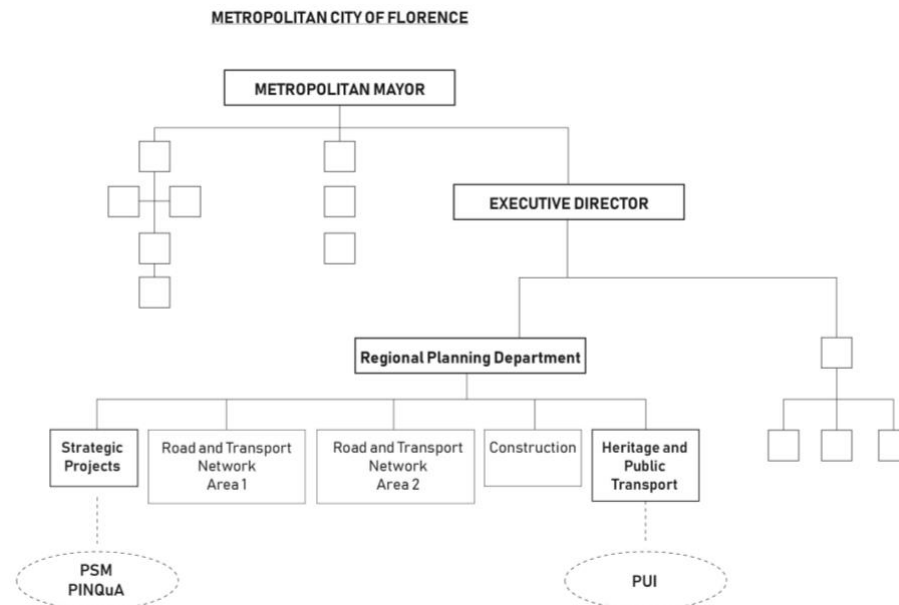


Fig. 2. Organization chart of CM Florence and its role in the implementation of PSM, PINQuA, and PUI. Prepared by: Flavia Rizzuto

3 Preliminary Results

The initial findings suggest that, despite the PNRR representing an unprecedented opportunity to address long-standing urban issues related to inclusive housing and sustainable mobility, its success largely depends on the MCs' ability to overcome internal structural deficiencies. The PUI and PINQuA planning processes are disruptive, placing pressure on the governance balances painstakingly built over the last ten years since the establishment of the MCs. At the same time, they allow for an assessment of the extent to which MCs, within the PNRR framework, function as innovative large-scale entities in line with the model envisioned by the 56 Law—capable of carrying out strategic planning and large-scale territorial development while ensuring institutional relations and a higher level of integration among central, local administrations, and territorial stakeholders.

In the case of Florence, one emerging aspect from the investigations concerns the coordination and supervisory role assumed by the Strategic Planning Office through the Periphery Program, establishing itself as an interface between municipalities and national authorities. The implementation process of the PINQuA projects confirmed this function, fostering more integrated and less conflictual coordination compared to

the past, especially when compared to the experience of the provinces, which struggled to promote a cohesive supra-municipal vision. In this sense, the MC successfully balanced the strategic coherence of interventions, creating a shared development vision while maintaining the project flexibility to adapt to local specificities and the needs of different municipalities. Moreover, Florence worked closely with the University and engaged a wide range of local stakeholders from the early design phases, particularly in the Tenuta di Mondeggi project. In this case, the interaction between associations, citizens, and the MC was structured as a pathway to ensure that interventions met community needs and were sustainable over time, guaranteeing managerial and economic self-sufficiency. Operating within the PNRR planning framework also served as a guarantee for obtaining quicker permissions and feasibility opinions, demonstrating how the program fostered a sense of responsibility among the various involved entities.

In the case of Bologna, the Territorial Planning and Sustainable Mobility Area served as the main coordinating agent for the PNRR, in agreement with the Steering Committee. In the case of the PUI, the influence of political will on project selection—also evident in the formulation of the calls for proposals—and the consequent allocation of two-thirds of the resources to the Municipality of Bologna significantly weakened the coordination role of the MC, leaving both the capital and larger municipalities with full autonomy in project management. The flagship project of the "City of Knowledge" in Bologna includes six interventions, corresponding to €106 million of the €157 million allocated for the PUI. In the case of PINQuA, the MC played the role of an aggregator: the bottom-up selection of proposals presented by the municipalities enabled the formulation of a coherent project framework, with the Unions of Municipalities and small towns as key players, centered on two main axes—sustainable mobility and accessibility on one hand, and counteracting depopulation on the other.

4 Conclusions

Despite the multiple controversies surrounding its design, management, and monitoring, the PNRR represents an almost unprecedented opportunity for the country and its territorial entities, particularly at the municipal and metropolitan levels. This opportunity has an undeniable economic dimension: after years of austerity, the PNRR has invested in the public capital of cities, allowing them to develop and complete complex or incomplete projects within the framework of urban regeneration. However, beyond the economic aspect of the funding, it has provided an intriguing arena for experimenting with and innovating territorial governance structures and mechanisms, prompting a political, administrative, and strategic re-evaluation of the role of beneficiary territorial entities.

The initial findings of this research project highlight some significant aspects of how the PNRR is specifically transforming the role of MCs in governance and territorial planning. This transformation appears to be still incomplete, lacking a clear regulatory framework that assigns specific, well-defined competencies. This is evidenced by the imbalance of PNRR funds toward capital cities, not only in terms of

projects eligible for funding but also in terms of implementation competencies. This economic and political disparity tends to favor a centripetal vision of the metropolitan territory—particularly in the case of PUIs, which receive significantly larger allocations compared to PINQuA, as well as a higher share directed to capital municipalities. However, in both MCs, PUIs have been developed in alignment with the Strategic Plans formulated by the MCs themselves, thereby ensuring that the PNRR-funded interventions fully adhere to a coherent planning vision.

A different scenario emerges in the case of PINQuA, which has been developed in continuity and coherence with pre-existing metropolitan planning tools. In this case, the approaches taken by the two analyzed cities diverge: the MC of Bologna has taken on a federative and coordinating role, consolidating various proposals from local entities into three major project proposals focused on mobility and housing, each with distinct territorial applications. The MC of Florence, on the other hand, adopted a thematic approach, identifying accessibility, sustainability, and housing inclusivity as the core pillars of a comprehensive territorial plan.

On one hand, we observe the consolidation of the MC's previously defined roles, particularly in relation to its strategic planning tools; on the other, the MC is assuming a new political role as an intermediary between the national scale, the local scale, and territorial stakeholders. Though still in the process of being defined, this role has been amplified and solidified within the framework of the PNRR and its interventions. This development invites reflection on the long-term implications of the interaction between the territorial, municipal, and metropolitan scales in urban regeneration and territorial planning in Italy.

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