

ULTRACALEM. STRATEGIES FOR THE CULTURAL AND URBAN REGENERATION OF A SMALL TOWN IN CENTRAL APENNINE/

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Abstract. The paper investigates the path developed so far within the framework of the research agreement “ULTRACALEM. The Cagli of the future. Strategic programme for a new vision of Cagli. Relevant themes, places and architectures for the urban and cultural regeneration of the city.” The research and design process involves the municipality of Cagli and the Department DICEA of UNIVPM and aims at imagining short, medium and long-term design strategies to reactivate a territory experiencing significant risks, such as depopulation. Careful mapping and reading of the city have been validated through community engagement and public presentations, to unveil “potential spaces”, selected areas that are neglected or underused but rich in potential. Indeed, they are an important legacy for Cagli, closely linked to the stories of its inhabitants. The community engagement activities were crucial to involve local population in the research, ultimately guiding the final design visions based on the territory’s needs and desires. In working with and on the territory, the researcher-designer task is to manage the fundamental and fragile relationship with local actors, avoiding top-down solutions which are alien to the context and instead favouring new collaborative practices. These activities were fundamental in developing transformative strategies and project visions tailored to the territory. They facilitated a dynamic exchange between the perspectives of communities and the expertise of researcher-designers, ensuring that proposed interventions were grounded in real-world needs and aspirations. This inclusive approach fostered a collaborative environment, bringing together stakeholders and leveraging their collective knowledge to address the complexities of the territory. The trans-scalar and participatory approach, focused on reactivating existing building and in collaboration with administration and citizens, underscores the pivotal role of thoughtful architectural and urban design in the development of a shared vision of ULTRACALEM towards a more resilient and vibrant community.

The context. This short contribution aims to show the first results and the methodological approach developed within the framework of the research agreement “ULTRACALEM . The Cagli of the future. Strategic programme for a new vision of Cagli. Relevant themes, places and architectures for the urban and cultural regeneration of the city” [1]. The context of the project is the area of the Appennino Basso Pesarese – Anconetano (ABPA), in Italy; this is the Marche region’s pilot area for the National Strategy for Inner Areas – the so called SNAI, an innovative national policy for local development that aims to fight the marginalization and phenomena of demographic decline characterizing inner areas in Italy. In this context, the 9 municipalities identified by SNAI are characterized by several risks and opportunities. For examples, they face a relevant depopulation

phenomenon and abandonment of built heritage, they suffer the lack of essential services and infrastructures, but they are rich in natural and cultural resources and the community and local expertise are a unique richness of these places. The municipalities of the ABPA are also characterized by high seismic and hydrogeological risks, as revealed in the dramatic floods of September 2022.

These territories have also been studied in the “Branding4Resilience” project [2], a research project of national interest funded by the Italian Ministry of Research and coordinated by UNIVPM group which involved four Italian universities in exploring potentials and opportunities linked to a territorial and architectural regeneration of the inner areas in Italy. ULTRACALEM adopts its scientific research framework, transferring the similar methodological approach to the area under study.

ULTRACALEM is also connected to a Ministry-funded PON doctoral thesis, RESETting APPennines [3], concluded in October 2024, that studied the rebirth of the mountain inner areas in the Marche region particularly focusing on the possibilities to reimagine territories through minimal architectural design interventions, keeping together both the strategic dimension and the building scale and applying an interdisciplinary approach that combines design-driven research with new digital technologies. The recently completed thesis has scientifically supported the agreement, expanding its theoretical and scientific framework and scope. Cagli, lead municipality of the ABPA, is the small town involved in the project ULTRACALEM, that involves the municipality of Cagli and the Department DICEA and aims at imagining short, medium and long-term design strategies to reactivate this fragile territory. The process of territorial knowledge and design took place through a trans-scalar and multidisciplinary approach, using different tools, which led to imagining an urban vision and developing design explorations.

The process. In order to elaborate strategic and design visions for Cagli, ULTRACALEM adopted a multiscale methodology, capable of considering not only the site of intervention, but the broader context in which the small city is located. This transversal reading, performed continuously and in parallel to the design work, allowed to envisage transformations which are coherent with the territory’s needs and which is attentive to its characteristics. The municipality was studied in depth from different points of view and the extrapolated readings were revised and deepened through a dialogue with the local administration and the community. In a first phase, therefore, Cagli was studied within its broader territorial context, within the framework of the National Strategy Inner Areas and also in relation to the surrounding municipalities. The different maps and multiscale insights then allowed the elaboration of a SWOT and needs analysis. In parallel, public presentations, round tables and an urban walk have been carried out, which have been crucial in guiding the final design visions based on the real needs, perspectives and desires of the area. The experiences were also conducted in line with the policies and programmes of the inner areas, which invest in local actors in the conviction that they can make a difference because they can mobilise and gather material and immaterial resources of the area. In working with and on the territory, the researcher-designer has sought to manage the fundamental and fragile

relationship with the community, avoiding top-down solutions alien to the context and instead favouring new collaborative practices.

The exploration. The first approach to the municipality of Cagli took place through a series of interpretative readings on a territorial and urban scale, represented and narrated through maps. FIGURE 1. For example, the maps produced at the territorial scale were: maps of hamlets, infrastructures and natural elements, constraints, risk, working sectors, patterns of built heritage and heritage assets. In the latter, for example, the built heritage of the municipality of Cagli, included in a complex and rich territorial system, has been identified and classified according to 4 macro-categories (production, infrastructures, nature and settlements). Each category embeds different building typologies derived from a thorough pattern analysis [4] that aims to highlight the existing relationships between the elements of the built heritage, the landscape, and the territory. The surveyed places portray the habitat of the inner area with its spatial capital, the built resources, their relationships, and its complex territorial configuration. Besides the potentialities, the analysis showed the area's shortcomings, such as poor accessibility and thus marginality. Through spatial analysis it was possible to frame the characteristic architecture, its materials and colours, the links and characteristics of each place, but also the singularity of each element, as well as the vulnerability and liveliness aspects of the area. The urban scale readings, on the other hand, allowed for an in-depth study of the urban planning tools and regulations governing Cagli's urban development, as well as its green spaces and road system. These tools and plans are sometimes obsolete and need update. Moreover, an observed critical aspect is that the historical centre is completely open to vehicles and full of cars and parking lots.

The potential spaces. Pattern analysis, supported by numerous on-site investigations and visits, photographic campaigns and the dialogue with the local administration, has been deepened to the point of identification, within the municipal territory, of containers or open spaces inside or outside the historical centre [5] usually perceived as residues of the city [6]. These are not always completely abandoned, empty and decaying spaces, but sometimes they are underutilised and their full potential is not exploited. They are voids, indeterminate spaces that are able to adapt to future uses and could be re-activated from local internal resources [7] through processes of social and ecological resilience (Gangemi, 2019, p.97). The survey revealed parks, squares and sports fields, in a state of decay or even closed to the public and, for this reason, almost unused; but also an abandoned built heritage, considered an important transformative and regenerative potential for the territory to be maintained, protected and re-activated. Among them we have detected the former slaughterhouse, the Mallio bridge, the Sant'Emidio Arena and the church of Santo Stefano, the San Francesco complex and the covered fish and produce market in one of the central squares of the city; the Parco delle Rimembranze, the bus station and the sports field. They have been defined potential spaces [8] because, through their re-use, they can become re-activators of this fragile territory, starting from internal resources and preserving the memory of the place, becoming catalysts of the design visions and pivotal key points of the urban regeneration strategy [9]. FIGURE 2.

The SWOT and needs analysis. The first phase of the research agreement focused on a SWOT analysis and a subsequent needs assessment, marking a critical step in understanding the territory and developing initial design strategies. This analysis highlighted Cagli's strengths, such as its rich built heritage, vibrant cultural and care associations, and the identity and cooperation fostered by its surrounding hamlets. Opportunities include leveraging its built and natural heritage and human capital for regeneration.

At the same time, weaknesses like a car-oriented historic center and fragmented local networks, along with threats such as hydrogeological, landslide, and seismic risks exacerbated by poor land management, present challenges. By addressing these issues while building on its strengths and opportunities, Cagli can move toward sustainable and regenerative development.

The needs analysis builds on the findings of the SWOT analysis. After identifying the municipality's strengths and weaknesses, the focus shifted to defining its core needs for sensitive and coherent design. These needs were summarized into four key areas: regeneration of the historic center, connections and mobility, riverbank renewal, and public space and participation. FIGURE 3. Although treated as distinct topics, these areas are deeply interconnected and require a cohesive strategy to address them simultaneously for lasting results. The needs analysis thus provides a clear roadmap for Cagli's development, grounding design efforts in a comprehensive understanding of the territory's challenges and opportunities. By integrating these insights, the research transitions from theoretical exploration to actionable design strategies aligned with the community's aspirations.

The dialogues. The Cagli community was actively engaged and regularly updated through public presentations. The first public presentation shared the research team's analyses, including large-scale readings of the territory and SWOT and needs analyses. This event involved both the research team from Università Politecnica delle Marche and Cagli's municipal administrators. To integrate the residents' perspectives, a process of sharing and participation was initiated before developing a strategic vision for the municipality. This constructive process allowed participants to offer valuable feedback, particularly on issues like seismic and hydrogeological risks, leading to discussions about updating the town's outdated plan with more flexible, sustainable tools. Tourism was a key topic, as Cagli, despite its resources, lacks a cohesive economic vision. Promoting Francesco di Giorgio Martini's legacy could become a major tourist attraction. The discussion also addressed generational divides, with young people often feeling excluded and planning to leave. While many questions remained open, the debate still managed to provide valuable insights for the following phases of the design research.

The second public presentation, held at Cagli's Sala degli Stemmi, showcased research progress, demonstrating to citizens that their feedback had been integrated, fostering a sense of trust. The initial phase of sharing results involved a traditional public presentation, followed by roundtable discussions with participants selected in collaboration with the municipal administration based on their engagement with the relevant issues. These discussions focused on the four key themes identified in the needs anal-

ysis, aiming to prioritize actions, identify critical factors, and strengthen connections among local associations, citizens, and stakeholders.

Participants, about 10 per table, were divided into multidisciplinary groups, including researchers, municipal administrators, and representatives from associations, enterprises, cooperatives, and citizens. Organized into three rounds, the activity explored urgencies, needs, and necessary actions. In the third round, a programmatic list of actions, along with a tentative timeline, was developed to help the administration implement the discussed transformative objectives. These “elegant steps” [10] were formulated to provide a timeline for their realization.

ULTRACALEM, in its process of exploring Cagli and dialogue with the inhabitants, also applied already validated methods, such as the urban walk [11] open to the entire community: each participant was provided with a map showing the stops and the route taken within the municipality. FIGURE 4. This activity allowed the researchers to discover the places and needs of the city from a new point of view. During the explorations, in fact, the inhabitants spontaneously narrated about the city and its places, bringing to light memories and anecdotes. These narratives made it possible to add ‘material’ to the research already carried out, providing valuable context and depth. The tool of the urban walk makes it possible to invest in a new sense of living and experiencing places that are to be taken on without rhetoric and with disillusion, even in their negativity [12]. It enables the collection of knowledge about the landscape and its cultural values involving the communities in the narration of their own identity: narration is a central process in the collection of knowledge about the landscape and the cultural values contained in it [13].

Investing in the various actors guarantees an interweaving of skills and the creation of a network that tends to form and take root in the territory over time. Listening must not stop with the administration or technicians [14], but must directly involve universities, operators in the sector, the elderly, children, foreigners, associations, in order to gather opinions on different topics. The dialogue is intercultural and intergenerational: proponents confront and clash, putting transformative proposals, links with the past, and the desire to maintain or innovate on the table. It is the conflict itself, inherent in the nature of small villages that have always been places of tensions and opposition, but at the same time a symbol of bonding and presence [12], that often leads to the activation of the process: the local community should get involved by accepting the possibility of consciously putting itself in crisis and exploring unfamiliar paths, in a process of building trust that can guarantee long-term results [15]. Within the urban walk itinerary, specific stops and routes were carefully selected to highlight the city’s criticalities, urgencies, and resources. These choices were made in agreement with the administration, based on previously identified potential spaces. The aim was not only to gather more information about these locations and their history but also to involve citizens in envisioning their future possible transformation. Together, new futures for these spaces have been imagined, grounded in the community’s needs and desires, while respecting and maintaining a connection to the past and the history of the place.

The strategy and design actions. After analysis, mapping, and dialogue with the community and administration we have drawn upon best practices in urban regeneration and sustainable design to develop effective and innovative ideas for the revitalization of the city. By examining successful methodologies and case studies focused on regeneration and community resilience, we have tailored strategies that address Cagli’s specific challenges and unlock its potential, ensuring the proposed solutions are both impactful and sustainable.

Following the methodological process, we have selected four *potential spaces*, four areas to be transformed through custom-made [16] interventions of architecture and urban design.

The first *potential space* is Largo Eliseo Mattiacci, where Francesco di Giorgio Martini’s tower stands, today used like a roundabout. The recovery of a corner of the site, today occupied by shrubs and bushes and in a state of abandonment is proposed. Here we imagined an information space where to stop, get some knowledge about the tower and enjoy its view. In the second stage, we plan to remove some parking spots and realize a new continuous floor: this will enhance the public space around the tower and it will be a signal for cars to slow down. Finally, in the third stage, vehicular traffic is re-designed and the public space for pedestrians is enlarged and implemented. The step-by-step hypothesis of reactivation of the complex of St. Francesco are more complex and longer, but they are fundamental for Cagli because today the complex hosts a school that will soon be relocated leaving a great void in the city center. In the first stage, the headquarters of local associations will be renewed and new urban gardens will be inserted instead of the semi-abandoned green strip outside the convent. At the same time, the covered market is reopened for the sale of local products and evening events. In the second phase, the square and the ground floor spaces of the complex are redesigned to accommodate co-working spaces. The third phase involves the design of the inner courtyard and the rooms facing it for the creation of cafes and spaces for arts and crafts. Finally, on the second floor a hostel is designed where today there are the school’s classrooms. FIGURE 5.

For the Sant’Emidio Arena, an open-air theatre close to the historical centre, the first step is to arrange the parking lot that is meant to be used when no artistic events are planned. A new park is created, including a green space for leisure activities and new pedestrian accesses to the area. Then a bicycle and pedestrian path along the left riverbank will be built to connect the Arena with the city centre. The rethinking of this slow-mobility system also includes new bus stops and public transport routes. Finally, it will be important to design the permeable area along both Burano riverbanks through the creation of spaces that can be flooded and integrated into the landscape.

The same design approach is applied to other *potential spaces* in Cagli, such as the former slaughterhouse, which is now empty. For this project, the concept involves recycling a section of the building and redesigning the surrounding public space. Following this, the possibility of reopening the area is considered by offering the spaces freely and temporarily to workshops for both elderly and young people. Finally, based on the insights

gained from these earlier phases, the structure could be adapted to suit its newly defined functions through significant interventions.

In these design strategies, the importance of using gradual solutions and reactivating *potential spaces* through a step-by-step approach, envisaging actions, interventions and investments over time is emphasised. This method allows municipalities to reactivate buildings with small interventions and temporary uses and helps communities metabolise the transformation, fostering acceptance and support for the regeneration efforts.

The knowledge transfer. In conclusion, the experience in Cagli helped identify an approach that can be applied to other contexts. Although the architectural interventions remain unrealized, the ideas behind them spark unexpected collaborations, generate projects for funding opportunities, and assist local administration in engaging the community with transformative proposals. Grounded in rigorous analysis and high-quality design, these explorations support sustainable solutions even in fragile territories with constraints like heritage and protected areas. By transferring knowledge, universities play a vital role in aiding inner territories, where limited infrastructure, resources, and expertise hinder development, fostering resilience and guiding small communities through complex future challenges.

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Figures.

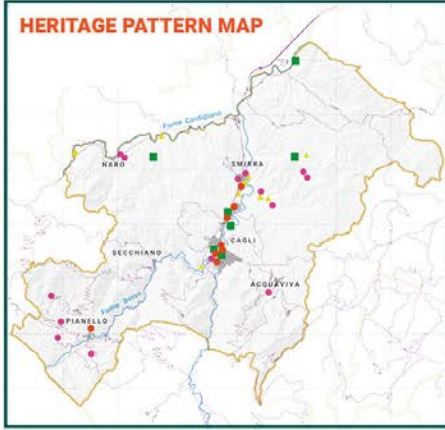
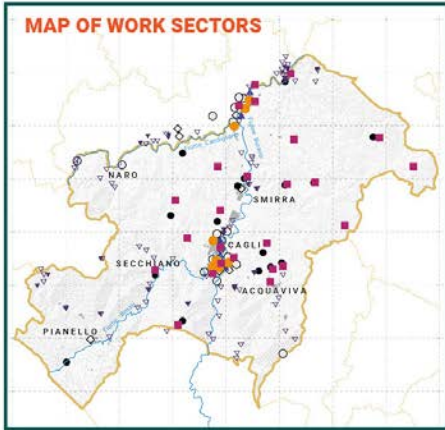
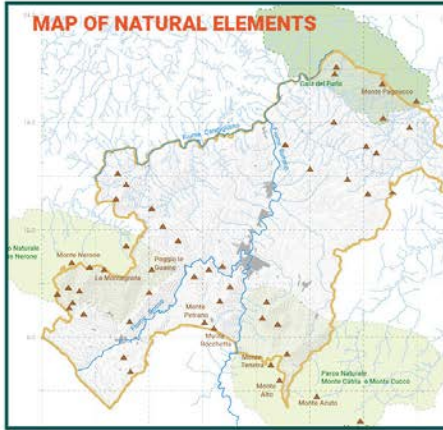
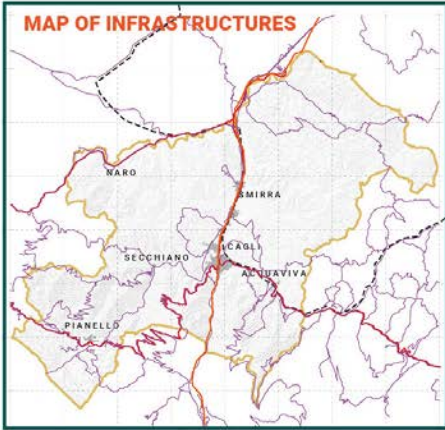
FIGURE 1 - Some of the maps created for reading and interpreting the municipality of Cagli on a territorial and urban scales.

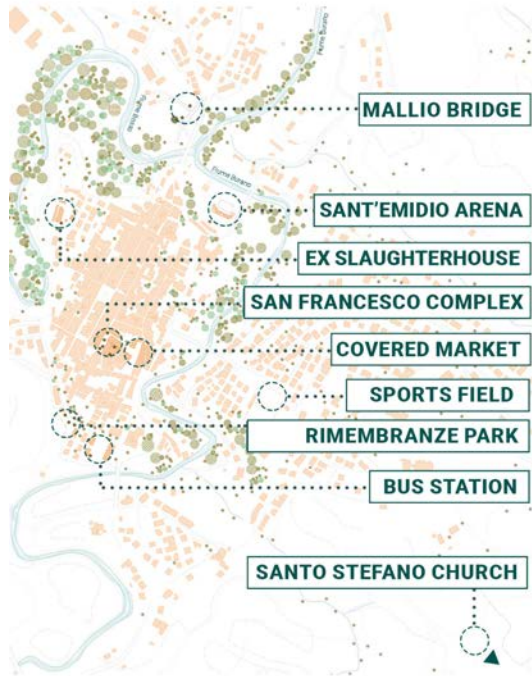
FIGURE 2 - Map of the *potential spaces* in Cagli.

FIGURE 3 - Diagram of the Needs Analysis of the Municipality of Cagli.

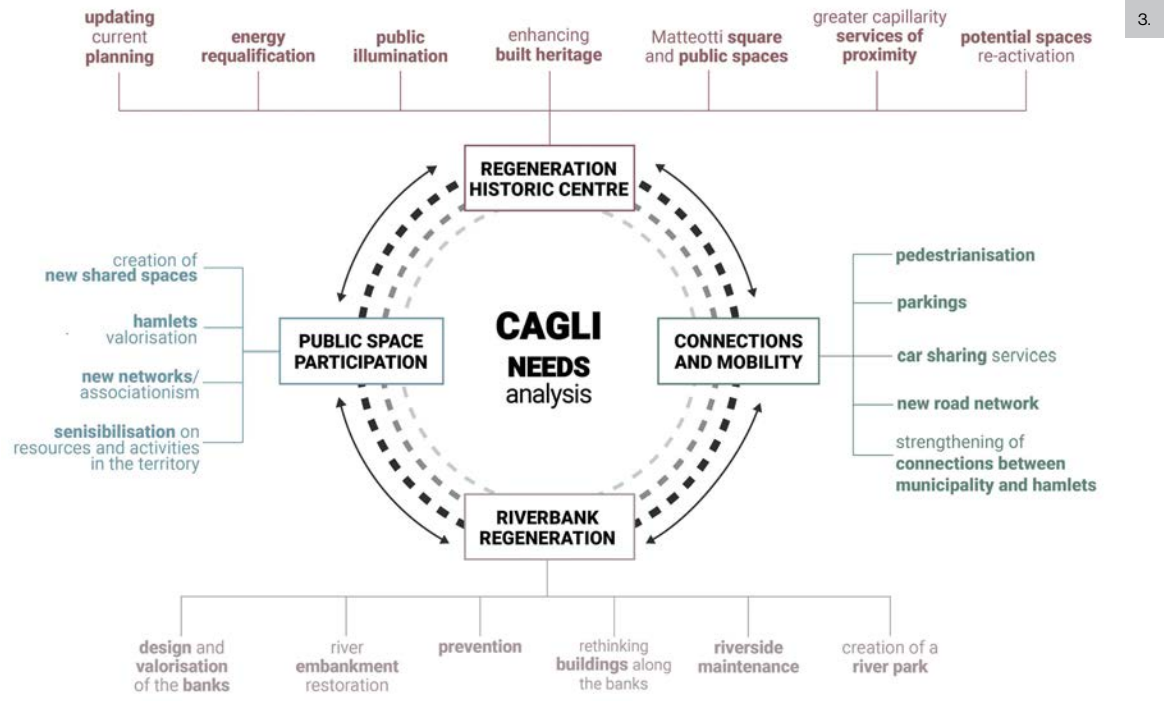
FIGURE 4 - Some moments of the urban walk and the itinerary provided to participants with the stops and actors involved.

FIGURE 5 - The re-use of *potential spaces* to hypothesise strategies of re-activation in the municipality of Cagli: design exploration for the complex of St. Francesco and the former market.





2.



3.



CAGLI'S POTENTIAL SPACES URBAN WALK

The route, the stops, the stories:

- 0 Torrione Martiniano**
passando per porta Massara
- 1 Ex Mattatoio**
Racconto 1: Simona Palazzetti
passando per via Luperti
- 2 Arena di Sant'Emidio**
Racconto 2: Paolo Paleani
passando per via Atanagi
- 3 Ponte Taverna**
Racconto 3: Sandrina Maggioli
risalendo per via Guglielmo Marconi
- 4 Complesso di S. Francesco**
Ex mercato coperto
Racconto 4: Alberto Mazzacchera
passando per via Lapis e via Cucci
- 5 Piazza G. Matteotti**
Conclusioni e discussione finale

MARKET REOPENING + NEW CONNECTIONS



PUBLIC SPACES + CO-WORKING



ART, CRAFT AND COMMUNITY



NEW ACCOMMODATION SPACES



