

## THE SUSTAINABLE FUTURE OF THE SMALLER HISTORICAL CENTRES, BETWEEN "MODULATION OF THE PROTECTION" AND NEW TECHNOLOGIES

### Mario Cerasoli

Researcher

[mario.cerasoli@uniroma3.it](mailto:mario.cerasoli@uniroma3.it)

Dipartimento di Architettura

Università Roma Tre

Via Madonna dei Monti, 40. 00179. Rome. Italy.

+39 3397920501

### Rolando Biere Arenas

Researcher's assistant

[rolando.biere@upc.edu](mailto:rolando.biere@upc.edu)

Centre of Land Policy and Valuations (CPSV)

Department of Architectural Technology (TA)

Technical University of Catalonia (UPC)

Av. Diagonal 649, 4<sup>a</sup> planta. 08028. Barcelona. Spain.

+34 934016396

**Key words:** Strategies of historical transformation, sustainable revitalization and regeneration, smart historical centres, heritage and future

### Abstract

The smaller historical centres can play an important role in the rebalancing of the territory, reversing the trends (now also historical) to urban concentration and metropolisation.

In an specific time of slowing urban growth, a greater attention to the rehabilitation and expansion of the concept of historicity, also to peripheral areas of the city and at the same time of the rural landscape, always more often the urban policies aim to reconnect the (interrupted) relations between historical city and territory, in order to build new development strategies centred on the complex identity of the historical places.

The possibilities and perspectives aimed to increasing the "attractiveness" of the smaller historical centres requires a "healthy combination" of criteria for urban intervention, starting from the "modulation of protection", building restoration and use of new technologies, at urban level (in the logic of new "*mini-Smart cities*") as building level (energy efficiency, etc.)

The "modulation of protection" is based on a scrupulous historical-critical reading of the historical centre and has as the main objective to prevent its "freezing".

Its process consists of a set of rules for "correct behaviour" to provide the maintenance, restoration and conservation of these areas or parts of the historic building heritage, remained essentially unchanged (compared, for example, with the historical land registers) and, at the

same time, allows the controlled transformation of the buildings that in the past have been transformed and today retain only the function of “*urban footprint*”.

The new ICT (digitals), the ability to “move” data and information instead of people, more clean energy due renewable sources, constitute a renewed opportunity to enhance and Re-inhabiting the smaller historical centres. While so it is important to protect these realities within the cultural landscape they are inserted, on the other it is possible rethink them in a smart key, identifying possibilities for a sustainable revitalization and regeneration.

In this framework, we will present some study experiences conducted under the framework of the research seminar on Recovery of the historical centres of the research Master's degree in Land Management and Valuation of the UPC.

In each case we will present methodological and thematic aspects; spatial analysis, strategies and policies for the conservation, maintenance and transformation, determination of assets and their classification, key projects and finally relevant aspects of the proposed Master Plans developed in the minor historical centres studied.

### **Why talk about the historical centres?**

In times of real estate crisis and slowing urban growth, greater attention to the rehabilitation and expansion of the concept of historicity also to peripheral areas of the city and at the same time of the rural landscape, the urban policies have the opportunity and the task of reviving the historic centres.

Due to their (historical) role of local presence in socio-economic and environmental key, the historical centres can and must play a decisive role in the rebalancing of the territory, reversing the trends (now also historic) to urban concentration and metropolisation.

In this complex aim two additional factors of evolution of urban renewal practices can usefully contribute: the “*modulation of the protection*” and the new technologies.

The new digital communication technologies, the possibility to “move” data and information instead of people, the more and more clean energy through renewable sources, constitute a renewed opportunity to live and inhabit also the smaller historical centres. If on one side so it is important to protect these realities within the cultural landscape in which they are inserted, on the other hand it is possible to rethink them in key smart, identifying possibilities for relaunching and sustainable regeneration.

### **What do we mean today when we speak of historical centres?**

Today, on the basis of this long debate, an historical centre, therefore understood as a cultural, economic and social asset, constitutes an extremely sensitive geographical area, with a specific urban identity and a high historical value and testimonial referable both to the urban fabric that to elements of the building heritage, both with notable that with minor importance (Cerasoli, 2010).

The same definition of “*historical centre*” was the subject of an evolutionary process in the Italian cultural and disciplinary debate which starts since the end of the Thirties of the past century.

The first juridical definition of “historical centre” is present in the so-called Bottai Laws (no. 1089 and no. 1497 of 1939), where the “historical centres”, focussing for the first time the attention on

the preservation and protection of cultural heritage, were defined *“complexes of properties that form a characteristic appearance having aesthetic and traditional value”*.

During more than seventy years, the disciplinary debate on this field has evolved considerably.

There are some basic steps in this debate that deserve to be mentioned: the most important is, of course, the Gubbio Charter of 1960, which for the first time states the *“necessity of an urgent recognition and a preliminary classification of historical centres with the identification of the areas that should be protected and rehabilitated”*; In 1968, the Ministerial Decree no. 1444 - introducing the *“homogenous territorial areas”* as classification of the municipal territory in order to the municipal urban planning – defines the historical centres those *“urban agglomerations who hold historical, artistic and particular environmental value or portions of them, including surrounding areas, which, for these characteristics, can be considered an integral part of the agglomerations themselves”*.

The Law no. 457 of 1978, which, for the first time, reserves significant financial resources to the recovery of the historic built heritage and introduces a new and specific type of plan, the Recovery Plan.

And, finally, in 2010, in the context of the *“Preparatory study to the development of guiding instruments for the application of seismic regulations to the historical settlements”* - drafted as result of disastrous earthquake which has rocked the historical centre of the city of L'Aquila in Abruzzo - the Working Group established by the President of the Superior Council of Public Works speaks of “historical centres” as “extensive cultural heritage”.

*“The historical centres are, in their entirety, representation of stratified culture of a community, a place of communal and individual historical memories, identitarian and self-recognizability heritage of the population. Therefore, potential strategic assets for the development of entire territories, cultural and tourist polarity of a “slow” local network systems.”*

In the larger context of “historical centres”, at this time the “small” ones, that constitute the majority of cases, have particular important in the debate on the sustainability of the territory.

In Italy, as “minor centres” are defined those municipalities that have a population of less than 5,000 inhabitants – and, of course, their “historical centres” are considered “minor” –. So, we can define “small historical centres” the old cities of the municipalities that count 20-30,000 inhabitants in total. They are centres that, in general, form the urban heritage of the “internal” or “peripheral” areas. In Italy, about 8,100 municipalities, in fact, 5,836 have a population of less than 5,000 inhabitants, 3,651 to less than 2,000, 1,971 to less than 1,000 and 845 of less than 500 (ISTAT, 2014).

Overall, it is very important to note that less than 20% of the national population lives in „minor centres”, however affecting a territory that corresponds approximately to 54% of Italy's total. A percentage halved compared to 70 years ago.

### **Historic Centres: Yesterday, Today and Tomorrow**

For a better understanding of the (past, present and future) role of the historical centres it is important to observe the dynamics which have interested them - and continue to do so. The historical centres always are formed from a building fabric that, apart from the residences of the nobility and clergy, is simple and essential, with building comfort and hygiene minimum requirements.

A building fabric normally formed by row houses, often equipped with a laboratory or a warehouse at the ground floor, and, in the ridge centres, with wine cellars dug into the ground – where to store the food reserves. And, mostly, even with a small open space, a *patio*, a vegetable garden, which effectively replaced the household toilets – obligatory in the Italian house only after the new Sanitary Law of 1924.

Poor houses in fact, inhabited by humble people. Houses that, from Second World War, those who could have abandoned, preferring to them more comfortable housing situations, even if most qualified only symbolically. This only in an attempt to make a social climbing and free themselves from the poverty from which they came, however pursuing a “globalized” and not sustainable settlement model.

Dynamics which have involved both the historical centres both those of the major cities that smaller ones and even in these last have produced, on the one hand, urban sprawl – large urban extensions at low or very low density, the often illegal “villetttopoli”, to quote Marcello Vittorini, – and, secondly, the emptying of the historical centres, which, only in the belt areas of large urban areas, were repopulated with families of immigrant workers, however, turning them into modern ghettos.

Dynamics that, in fact, have accentuated the degradation phenomena, social before of the buildings. So, we can identify and classify the weaknesses and the strengths of the historical centres, small and not.

**Table 1. Weaknesses of historical centres**

- Abandonment by the traditional inhabitants;
- Tertiarisation extreme (in the most dynamic urban centres, also included in economic and tourist circuits) / abandonment of economic activities (traditional and not, in the less important and marginal centres, marginalized also with respect to primary mobility streams);
- Economic disequilibria (related, for example, to the excess or shortage of tourism and its related activities);
- Incompatible or critical vehicular mobility (if not exist one compatible with the characteristics of the historical centres discipline of traffic);
- Buildings and public space degradation (if the first case it can be linked to poor intention or ability of building owners to invest in the maintenance and restoration, the second is linked instead to the lack of interest by the community, also represented by the city administration, to maintain or redevelop streets and squares);
- Reduction of public service facilities (directly dependent on the decrease population living in the historical centre);
- Replacement of traditional inhabitants with new (often immigrants, attracted by the availability of low-cost housing);
- Social degradation and lack of sense of belonging (direct consequence of the substitution of traditional with new inhabitants that were in fact “forced” to establish themselves in the historical centre, degraded, due to the lower cost of living; residents who, however, do not recognize themselves in the place which they live and who does not “cure” as their own, up to turn it into a scenario for possible tensions between different ethnic groups);
- <i>Gentrification</i> (it is always a process of substitution of traditional with new inhabitants coming from social groups with more economic opportunities, that by acquiring the buildings at low prices - including for sellers - start up a parallel process of transformation and upgrading of the housing stock and, as a result, of the urban fabric; process which, however, can trigger an increase in property values such as to determine the expulsion of the inhabitants with lower income and consequently the social transformation of the historical centre).

**Source:** Elaborated by the authors

**Table 2. Strengths of historical centres**

- Intrinsic urban quality (the historic urban texture, product by ancient knowledge combined with the action of time, brings together elements of urban quality rarely found in other contexts of the contemporary city);
- Quality of the minor importance housing stock (in the historical centres not only the “nodal” buildings – churches, palaces, specialized buildings, etc. – have unquestionable characteres of architectural and construction quality, but also those of the minor architectural heritage, that “poor”, both in terms of construction techniques and aesthetic values);
- “Human scale” dimension (the historical centres were born and have always developed following strict rules about their growth, based on human needs - and obviously not on the car);
- Overall environmental quality (especially in the small centres, the relationship between city and territory has always focused on a great respect for the nature and the landscape – the main sources of livelihood at least until the industrial revolution –, thus giving rise to extraordinary urban “insertions” in contexts of high environmental value without causing fractures in the urban-rural continuity).

**Source:** Elaborated by the authors

All this constitutes the assets of available resources for a revitalization process of small historical centres. Process which, however, is only possible thanks to the start of a careful policy about the revival of living in these urban contexts that could address by determination and corrects the cultural “distortions” that have led to expulsion of the population, attracted by new, ephemeral and unsustainable settlement models.

### The “modulation of protection”

In accordance with the principles established in the Charter of Gubbio, the “modulation of the protection”, one of the two main factors of evolution in the decades-long debate on urban renewal, is based on a scrupulous historical-critical analysis aimed at defining a more accurate regulations which wants to prevent to “freeze” the historical centre.

It is expressed through a set of rules of “appropriate behavior” that provides for the maximum protection of that part of the historical heritage also minor maintained substantially unchanged until today both form and function (compared, for example, the situation documented by the historical maps, as the Gregorian Cadastre in 1835) and, at the same time, while respecting the value of historical memory, it enables more freedom degrees in recovery – until allow controlled transformations – of those buildings of the minor heritage that, in the past, have been subject of sensitive transformations for which today only maintain a value of “urban imprint”. Thereby without to stop the course of history.

For the first time, the “modulation of protection” was applied for the design of the Recovery Plan for the historical centre of Formello,<sup>1</sup> in 2008<sup>2</sup>.

#### *The Recovery Plan 2008 of the historical centre of Formello (Rome)*

The general objective of the Recovery Plan was the redefinition of the role of the historical centre in the context of the territory of Formello, a municipality with more than 10,000

<sup>1</sup> Is a Italian town and commune in the province of Rome, located at southwest of the Monti Sabatini. It includes some of the archaeological sites associated with the former Etruscan city of Veii, north of the village of Isola Farnese, south of Formello. Settlement in the region declined after Veii's destruction in 396 BC. In the 11th century it was a possession of the Roman Basilica of San Paolo fuori le Mura, and was probably fortified in the same period.

<sup>2</sup> The Recovery Plan of the Historical Centre of Formello was drawn by a working group pertaining to the (then) Department of Urban Studies (now Department of Architecture) of the Roma Tre University. The group consisted of: Mario Cerasoli (project manager), Giorgio Piccinato (scientific director), Giulia Naspi (technical secretary), Walter Barberis, Chiara Micalizzi, Francesca Perugia, Carla Salamanca.

inhabitants on the northern border of the City of Rome, aimed at not only physical renewal but also at the recovery of its socioeconomic, cultural and identitarian aspects.

“Formello place of art and culture” was the slogan adopted by the Plan to summarize the renewed idea of the historical centre.

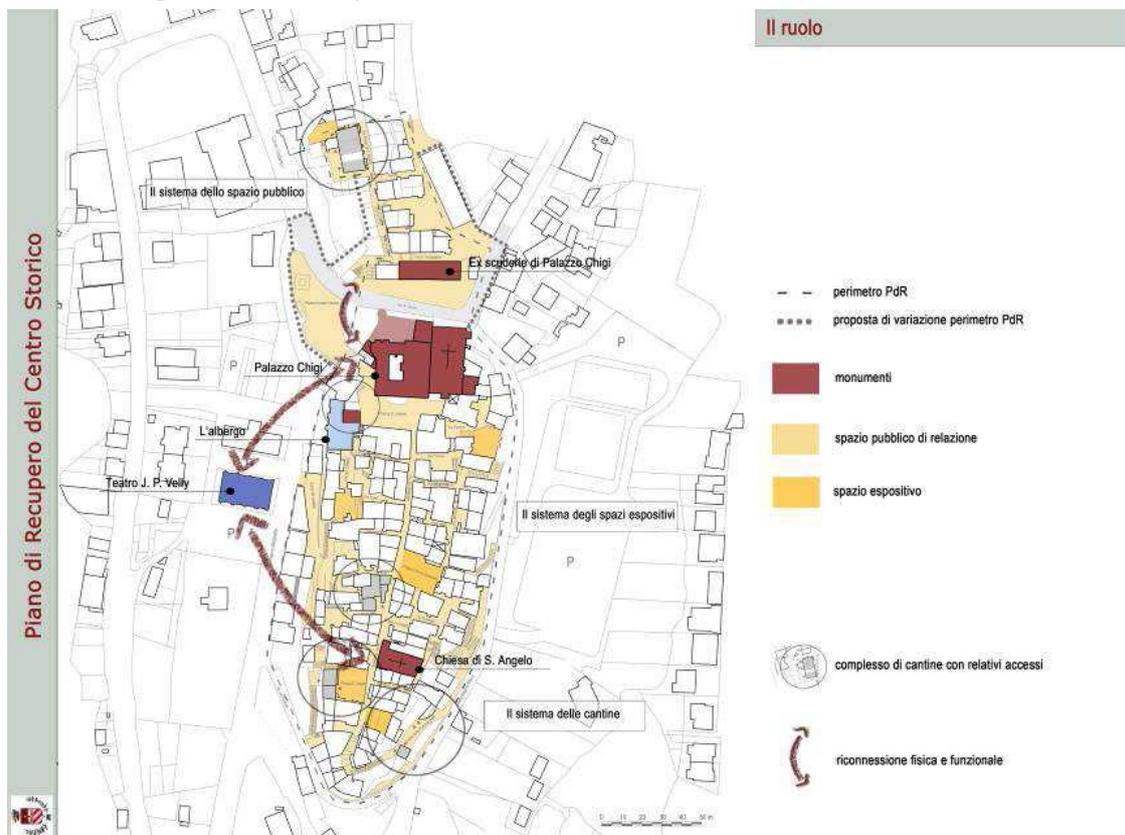
Three the key issues of the Recovery Plan:

- The re-definition of the “role” of the historical centre;
- The identification of invariants of the plan;
- The “modulation of protection”.

According to the scenario suggested by the Plan, the historical centre would be to acquire a new, integrated and equilibrated role, due to a “measured wealth” of allowed and recommended functions and uses, compatible with the presence of the residence in its different forms, and that would strengthen the (old) territorial landmark role.

By this manner, it is guaranteed the use – in a contemporary key – of the historical centre, the only way to ensure the preservation and protection and to hand down so as intact as possible the historical and testimonial values of this territorial resource. The “role” of the Historical Centre [Figure 1] is linked to the presence of the Palazzo Chigi, seat of Agro Veientano Museum, its Stables, the churches San Lorenzo Martyr (and its Oratory) and of San Michele Archangel and the J.P. Velly Theater, special buildings that are put in relation through the network of streets and alleyways of the historical centre, that will form the renewed scene of the historical centre.

**Figure 1. Recovery Plan for the historical centre of Formello. The role**



Source: Cerasoli (2014)

The Recovery Plan also identified the “invariants”, elements, belonging to both the public space that the built heritage, whose protection is considered essential. The “invariants”, defined as “those elements, indispensable to ensure the achievement of the objectives of the plan, which are the cornerstones of the action of urban, architectural and representative integrity protection, of the historical centre”, are:

- The remains of the ancient and sixteenth city walls;
- Piazza San Lorenzo (core of the historical centre) and its scenic backdrop;
- The public space of relationship (streets, squares, alleys);
- The monuments (Palazzo Chigi and its former stables, the Church of St. Lawrence Martyr, the Oratory of San Lorenzo, the Church of San Michele Archangel);
- The buildings of minor heritage with high value testimonial (those who have maintained substantially intact the typological and construction characters);
- The high testimonial value parts of buildings, still legible and recognizable (moldings, ornaments, coats of arms, stone portals, etc.);
- The outer margin of the historical centre in its scenic appearance;
- The twentieth century housing complex built in Borgo Sant'Angelo.

The classification of buildings and areas and the regulatory system, based on clusters of categories of intervention and allowed uses, are at the heart of the “modulation of protection”.

In particular, the Recovery Plan identifies the following nine classes:

- a. *Monuments*. They are those “nodal” buildings, cornerstones of the ancient urban fabric, with remarkable and undisputed artistic or historical value, already subject to specific protection and inserted in the special lists as architectural heritage.
- b. *Buildings with special historical, artistic and documentary interest*. They are those buildings, important examples of urban history, which have preserved the original typological, morphological, and construction characters and which maintains substantially unaltered their architectural and artistic qualities.

For these first two classes, the Plan provides the maximum protection, but also allowing different uses than currently. In these cases, the action can be taken mainly by the Conservative Restoration and Renovation, with authorization from the Superintendence of Architectural Heritage.

- c. *Buildings which retain parts of particular historical, artistic and documentary interest*. They are those historic buildings that have maintained the testimonial value and its urban role, however, despite having transformed their original morphological and typological characteristics, and that have architectural or artistic parts of significant value.

In this case, the Recovery Plan allows to intervene either by Restructuring, with no increase in volume or floor area, then Conservative Restoration and Renovation.

- d. *Buildings with testimonial value in the context of the historic urban fabric*. They are those “minor” historic buildings when the original typological and morphological characteristics have been transformed, while having maintained the testimonial value and its urban role.

For buildings of this class, although the intervention through the Restoration and Conservative Restoration is always allowed, is allowed the intervention by Restructuring, with the possibility of increasing the floor area without increasing the volume of the building. In such - limited - cases,

the intervention may allow “replace” the existing building with a “new” building of equivalent volume, but must employ construction materials of the local tradition, and if necessary, use contemporary construction technologies. The goal of the plan is to continue to allow – not force – the natural process of transformation of those buildings that have already been subject to such a type of transformation.

e. *Buildings not contemporary with the formation of the historical urban fabric, compatible with it.* They are those buildings not contemporary with the formation of the historical urban fabric, realized mainly after the end of World War II, which are, however, well integrated into the urban context.

For these buildings, the Plan leaves wide margins of intervention that can arrive, even to the demolition and reconstruction of the building, while maintaining the same volume, height and alignment on the public space, but being able to increase the floor area.

f. *Buildings not contemporary with the formation of the historical urban fabric, incompatible with it.* They are those buildings not contemporary with the formation of the historical urban fabric but not well integrated into the urban context.

For these buildings the Recovery Plan provides the only ordinary maintenance, without any possibility of transformation. Also recommend their relocation, presumably as part of various integrated policies, that Municipal administration must implement.

g. *Paved public spaces destined to circulation and parking, carriage able eventually with restrictions* (local roads; surface public parking);

h. *Public pedestrian paved areas;*

i. *Public green spaces* (equipped garden; green areas; etc.).

The final effort in the drafting of the rules of the Plan was to establish a regulatory apparatus that, while presenting an “official” planning language, was easily understood by everyone, even non-experts.

In particular, the elaborate P.6 “Statement to individual buildings”, anticipating the contents of a possible GIS or a web page dedicated to the Recovery Plan in the municipal website, summarizes, in synoptic form, all the regulatory requirements for each building unit - uses and interventions allowed in the first place.

The clarity of the rules - accompanied by the clarity of the drawings and documents - constitutes one of the fundamental elements for the respect of these and conscientious sharing of the plan's objectives.

Finally, the Plan dedicates wide space to the arrangements for implementing and the “policies” to be put in place for the implementation of the project contents of the Plan, which go from the public works program to the provision of guarantees by the Municipal administration for the granting by local banks of loans aimed at restructuring and the recovery of real estate to the private owners.

By means of a maximum management operability logic, the Plan was also accompanied by guidelines for the intervention on the public space – with the aim of guiding the municipal offices responsible for the planning, design and execution of the works involving the public space and areas free of the historical centre – and by the indication of appropriate implementation policies that the Administration has agreed to follow and implement.

## New technologies and historical centres?

Today, the “*new technologies*” give us more opportunity for ensure a sustainable future to the historical centres and on this issue a research, provided by the Department of Architecture of the University Roma Tre, is in progress<sup>3</sup>. The general objective of this research is investigate the possibilities and perspectives aimed at increasing the “attractiveness” of the minor historical centres through a “healthy combination” of urban intervention criteria - precisely from “modulation of protection” (Cerasoli, 2010) -, restoration of buildings and use of the new technologies both at “urban” level (in the logic of “small-smart-cities”) then at buildings level (energy efficiency, domotics, etc.).

Then, which can be the opportunities offered by new technologies?

Following the “smart” strategies used in contemporary urban contexts, we have identified some key fields:

- Improvement of the public transport management and private mobility (infrastructure monitoring systems, traffic, park, etc.).
- Possibility of reducing commuting (teleworking, horizontal part-time, etc.) and transforming of mobility patterns (reduction of “unnecessary” mobility);
- Reduction of pollutants, improving urban environmental quality, intelligent lighting, etc.;
- Improvement of the offer and quality of services (public and private) to citizens (and tourists);
- Urban energetic micro-autonomy (micro / mini production plants, recycling plants, etc.).
- Improvement of the quality of housing (recovery / regeneration, energy efficiency, home automation, etc.).
- Remote monitoring of buildings and public spaces (status of the built heritage conservation, dynamics of transformation, hydrological risks, protection from accidental events, etc.);
- Government participated and intelligent; collaborative management of urban transformation processes (e-government, smart-economy, e-learning, etc.).

A city is “smart” when it is able to improve the quality of life of its citizens valuing the context in which they live, condition that can be easily applied even to the historical centres.

Already in 2010 the ENEA - National Agency for Energy and the Environment, along with other academic and industrial partners, has launched a project, “City 2.0”, for the realization of the prototype of an urban infrastructure based on the public system lighting in which they are integrated a traffic monitoring system, an electric vehicle fleet control system, a mobile detection system of environmental quality, an urban interactive communication system between citizens and public administration centred on the cultural heritage and the territorial cultural processes and finally on a “smart city” platform.

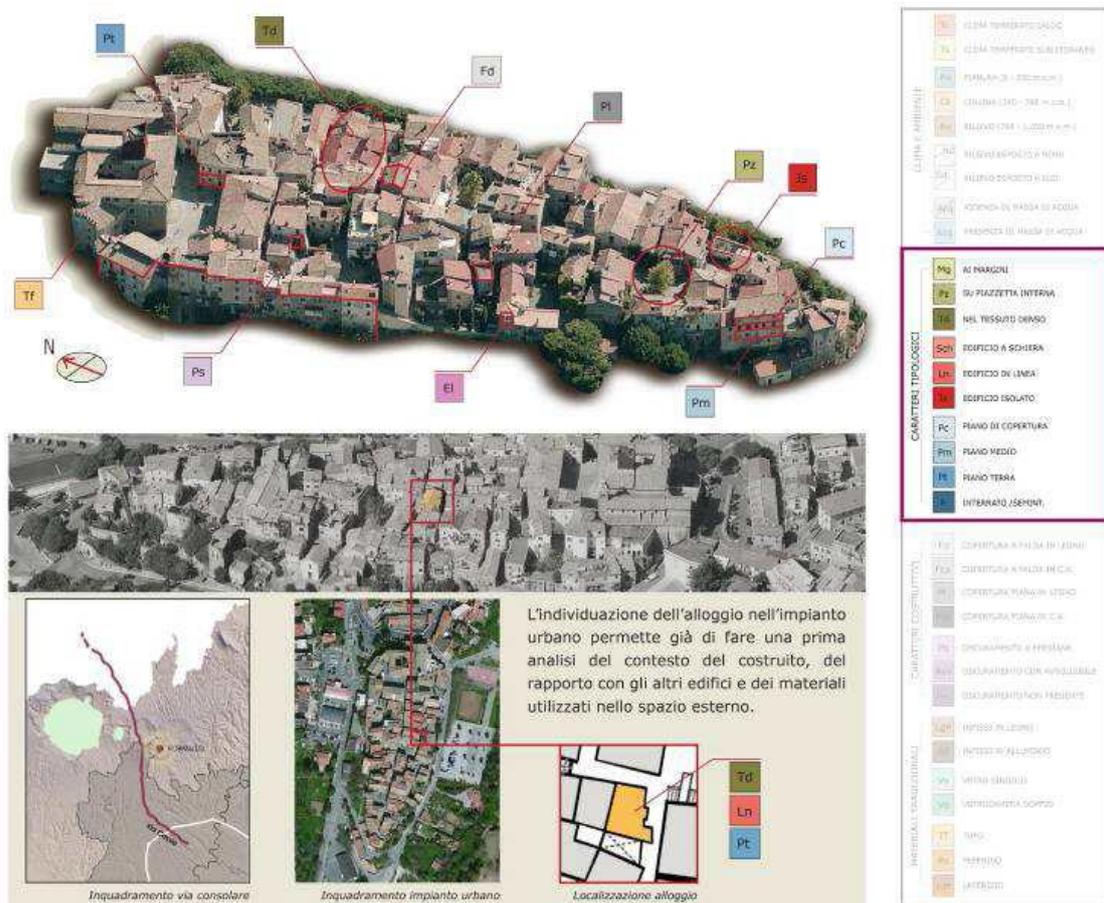
In 2012, the project has led to an interesting proposal of application, called “Smart-Ring”, for the historic centre of L'Aquila, the city seriously affected by the earthquake of April 2009.

The pilot projects “smart” for some minor historical centres are several. Among these we can mention those for Chiari (Brescia), Tavagnacco (Udine), Oriolo Romano (Viterbo), Baronissi (Salerno). On the basis of these experiences, we can report two interesting experimental studies: the “Manual for the energy retrofit of the buildings of the Historical Centre of Formello (Rome)”, by Veronica Piacentini (2013) [Figure 2] and “A Smart Project for the Historical Centre of Sutri<sup>4</sup> (Viterbo)” by Franco Marzal Diaz (2014, published on ACE Journal) [Figure 3]

<sup>3</sup> The research is coordinated by the Author. Collaborated: architect Veronica Piacentini.

<sup>4</sup> Is a town and commune in the province of Viterbo, about 50 kilometres from Rome and about 30 kilometres south of Viterbo. It occupied an important position, commanding as it did the road into Etruria, the later Via Cassia: Livy

**Figure 2. Manual for the energy retrofit of the buildings of the Old Town of Formello (Rome)**



Source: Veronica Piacentini (2013)

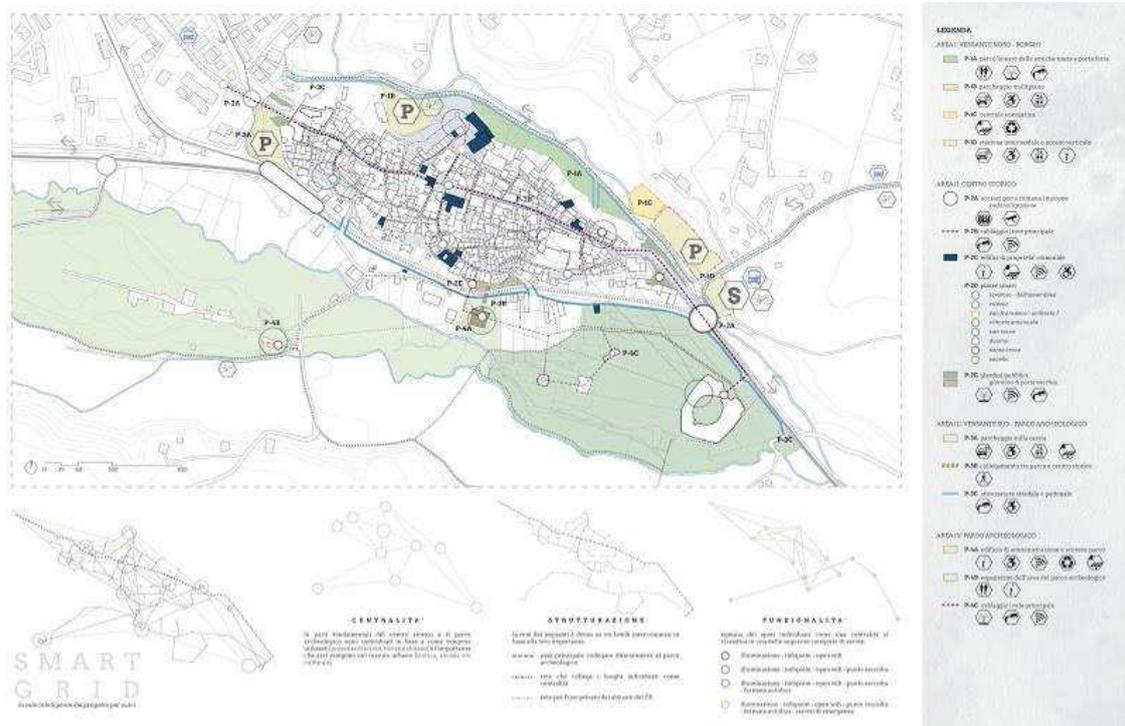
Today, we are carrying out the definition of an operational “protocol” that can be called “Historical Small Smart City” and that goes to concern the following priority action areas:

- Mobility (pedestrians, public-private transport; on-demand transportation);
- Public space (lighting, paving, urban furniture, heat dissipation, protection against atmospheric events, ...);
- Services and public facilities (distribution and intelligent equipment, network services, ...);
- Smart-economy (tourism, manufacturing, services, .....);
- Safety (natural events, criminal events, ...);
- Participation (city on-line);
- Smart-environment (energy needs, mini energetic production, waste collection and recycling, unified technological networks, fiber optics, wireless ...);
- Heritage buildings (recovery and energy efficiency, compatible retrofit, domotics, ...).

The “smart” way is perhaps the greatest opportunity available to revitalize the minor historical centres and ensure them a future.

describes it as one of the keys of Etruria, Nepi being the other. It came into the hands of Rome after the fall of Veii, and a Latin colony was founded there; it was lost again in 386 BC, but was recovered and recolonized around 383 BC.

Figure 3. A Smart Project for the Historical Centre of Sutri (Viterbo)



Source: Franco Marzal Diaz (2014)

Other projects with different kinds of consideration for improving the live conditions of the historical centres are some of developed for the Centre of Land Policy and Valuations (CPSV)<sup>5</sup> of the Technical University of Catalonia, for example, PATRAC, ITACA, REACT or City Sense barriers.<sup>6</sup> These projects have worked based on the premise that diagnosis of the accessibility and other currents topics in heritage sites or towns is a complex task due to the different pre-existences, not only historical, but constructive, normative and of use, among others and requires a great quantity of data of high accuracy (Biere and Egusquiza, 2010) In this sense all are contributed developing new methodologies of diagnosis<sup>7</sup> and ICT implementations to improve concepts as universal accessibility, urban energy and resilience in different historical centres of Spanish small historical towns.

### The academic experience on historical centres

In the general framework of these theoretical and experimental previous considerations, the authors, during academic courses 2013-2014 and 2014-2015 developed a Research seminar

<sup>5</sup> <http://www.upc.edu/cpsv/index.htm>, Technical scientific unit created in 1986, since 1997 officially recognized as a Specific Research Centre of the UPC.

<sup>6</sup> Accessible Heritage: I+D+i for a culture without barriers; Environmental Intelligence for Heritage accessibility; Resilience, Accessibility and Sustainability for Historic and City without barriers, tool for the evaluation and visualization of accessibility in public spaces, based on TLS GIS and GPS technologies.

<sup>7</sup> Considering than traditionally used methodologies are sustained in carrying out verifications of normative aspects, not considering the singularity of the heritage and generally are little visual and intuitive.

on *Recovery of the historical centres* for students of the *research Master's degree in Land Management and Valuation* of the Technical University of Catalonia (UPC). The idea was, once time explained an important volume of theoretical concepts, than the group of students must introduce in the future analysis and proposal for each case of study.

The original idea was that introduce to the students in the problem of develop a "Master Plan" proposal for an Historical Centre in a Small historical town close to Barcelona (in Catalonia), considering all the theory concepts introduced during the seminar and the particularities of each small town selected. The process involved from the selection of the cases till the definition of action guidelines and the elaboration of the Master Plan Proposal.

### *Objectives*

The general objective in each case was the development of a *preliminary hypothesis for a "Master Plan"* for a minor recovery historical centre, and specific objectives were:

1. Conduct an analysis of the previous General Plan, evaluating the delimitation of the historic centre, as well as any alternatives proposed by this recovery.
2. Conduct a technical-legal assessment of the Special Plans, catalogue, etc.
3. Conduct an assessment of possible previous interventions, from a critical perspective.
4. Develop a "Master Plan" proposal in the framework of the current planning structure and existing instruments in the Catalan and State legislation.

### *Simplified methodology*

In a first stage three case studies are selected, among which one of these is selected to elaborate the Master Plan proposal. The case's selection criteria are:

- That the city is above 1,900
- With a degraded or abandoned historical center, that needs an intervention.

The basic aspects that the analysis document must contain are:

- Presentation of cases of work, for the preliminary three cities.
- The criteria for the choice of the selected case for development.
- An analysis of the existing General Plan, evaluating the delimitation of the historical centre, as well, as any alternatives proposed by this recovery.
- A technical-legal assessment of the Special Plan, catalogue, etc.,
- Conduct an assessment of possible previous interventions, from a critical perspective.
- Identify and assess critical / opportunities aspects offered / as through the old town. That is, without neglecting aspects that go beyond the territorial limits of the "centre" or the city that has an impact on the activities of the latter.
- The goals hope to achieve with the proposal.
- The "Master Plan" proposal for the historical centre.

This "Master Plan" proposal should consider:

1. Territorial Framework, containing analyses and explanation of the relationships of the centre with the rest of the city and territory.
2. Strategy and Policy, explaining the conservation strategy, maintenance and transformation

- and pursued the criteria and mechanisms that arise for those.
3. Determination of the elements, areas, activities, or other aspects of the plane invariant. It is the determination of everything that is subject to maximum protection.
  4. Classification of buildings, for the purpose of “modulation of the protection.”
  5. Definition of Mobility System (traffic, classification of streets and roads, pedestrian areas and limited traffic, parking, public transport, etc.)
  6. Key Projects. (Public / private / joint intervention, characteristics of interventions)
  7. Regulatory structure of the Plan (city code, index, diagram, the essential content).

### *The proposals; Berga and Valls*

Below the main premises and the processes of work are presented, for the case of both groups of students during the two first years of the seminar; 2014 and 2015.

After making a preliminary analysis of three towns, each group of students selected the case of work, Berga<sup>8</sup> [Figure 4 A.] and Valls<sup>9</sup> [Figure 4 B.] respectively, considering its historical characteristics, urban and cultural heritage value, its state of disrepair, the shortcomings of its urban planning and its potential for future development.

**Figure 4. Overviews of the towns**

**A. Berga**



**B. Valls**



**Source:** Picture made by students during the development of the works (2014 & 2015)

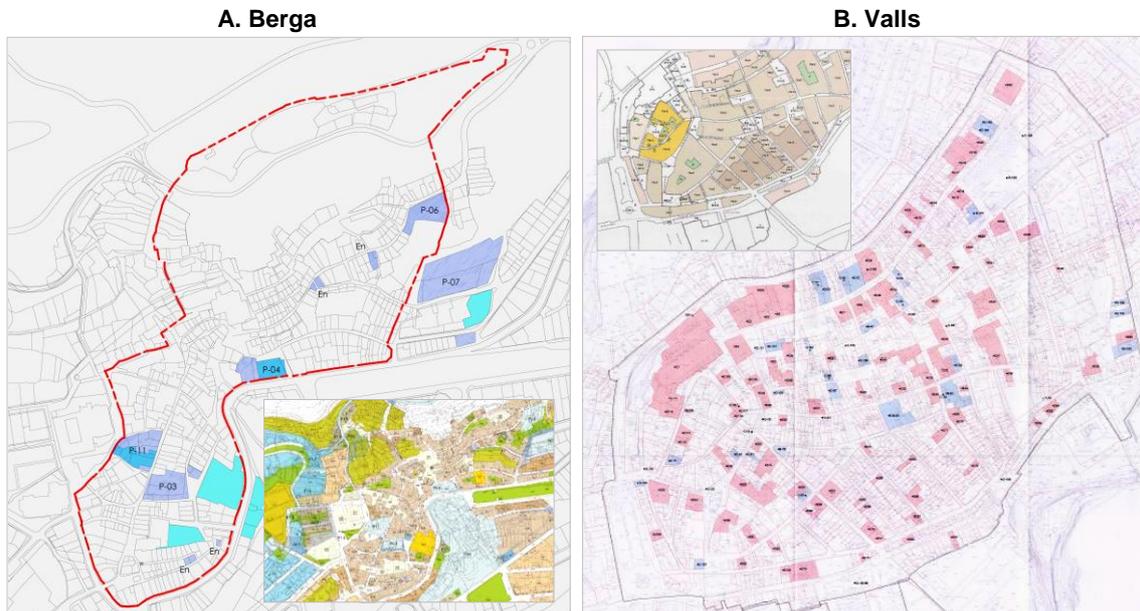
Probably the most important during the stage of previous studies is the simultaneous analysis of potentials, shortcomings and failures of current general planning (POUM in Berga and PGU in Valls) and others derivate Plans and specific regulations,<sup>10</sup> through a documentary study in depth, and operational issues in each case, which were detected in a hard work *in situ* consistent in visits, which allow to know the reality of both cities. In both cases the delimitation of the historical centre and the identification of protected buildings were included in current Plan [Figure 5], but not were considered real measures to improve the problems in the buildings.

<sup>8</sup> Is a Spanish municipality in the province of Barcelona, capital of the region of Bergadá. Has an area of 22.54 square kilometres and its old town been built in the 1360s.

<sup>9</sup> Is a Spanish town in the province of Tarragona, capital of the Alt Camp region, located in the area of “Campo de Tarragona” next to the river Francolí. One of the buildings of more interest is the Roman-Gothic church of “Sant Joan”, dating back to the sixteenth century.

<sup>10</sup> *Urban Ordination Municipal Plan*, it's the instrument of comprehensive spatial planning of the city of Berga and in the case of Valls is the *General Urban Plan*. In addition were studied *Special Urban Plans*, *Urban Improvement Plans*, *Catalogues of assets*, different technical regulations, etc.

**Figure 5. Analysis of the General Plan in both towns, current plan, catalogue and protected buildings in Berga and protected buildings and zones in Valls**

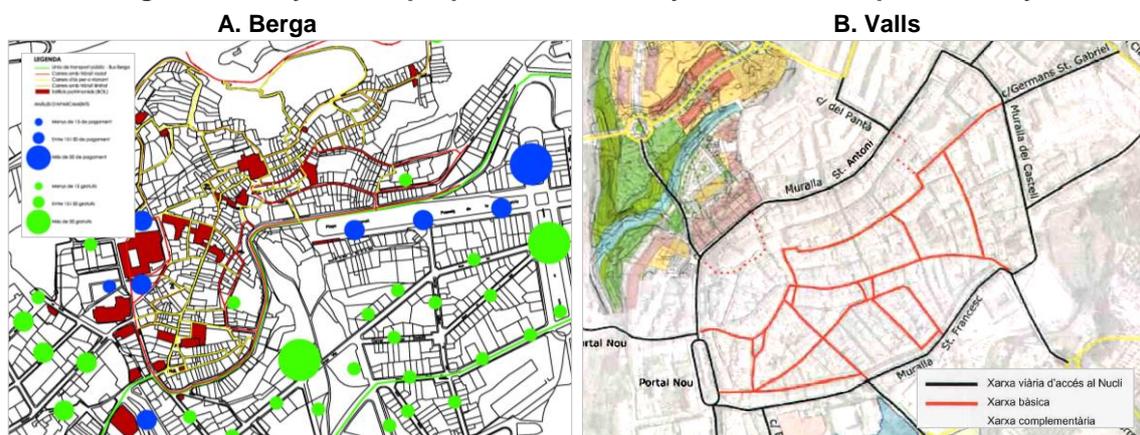


Source: Analysis of the urban regulations made by students during the development of the works (2014 & 2015),

In the case of Berga the students detected “a deteriorating city with narrow streets and generally a housing stock, little preserved. Historic center is easily identified by the situation of the old walls, of which few traces remain of the ruins.” Another important element of field work has been contact with the local population, which has allowed, in the words of students “obtain relevant information, such as visitors, is more difficult to perceive.”

In both cases the students detected the problematics in different urban topics, including the characteristics of road network, streets, accesses and slopes, as well problems of traffic, urban mobility and transports, evaluating malfunctions and generating strategic proposals. In Berga considering different types of streets and specific locations of parking, and in Valls, generating a stratification of streets in levels; basic, of access to the centre and complementary. [Figure 6]

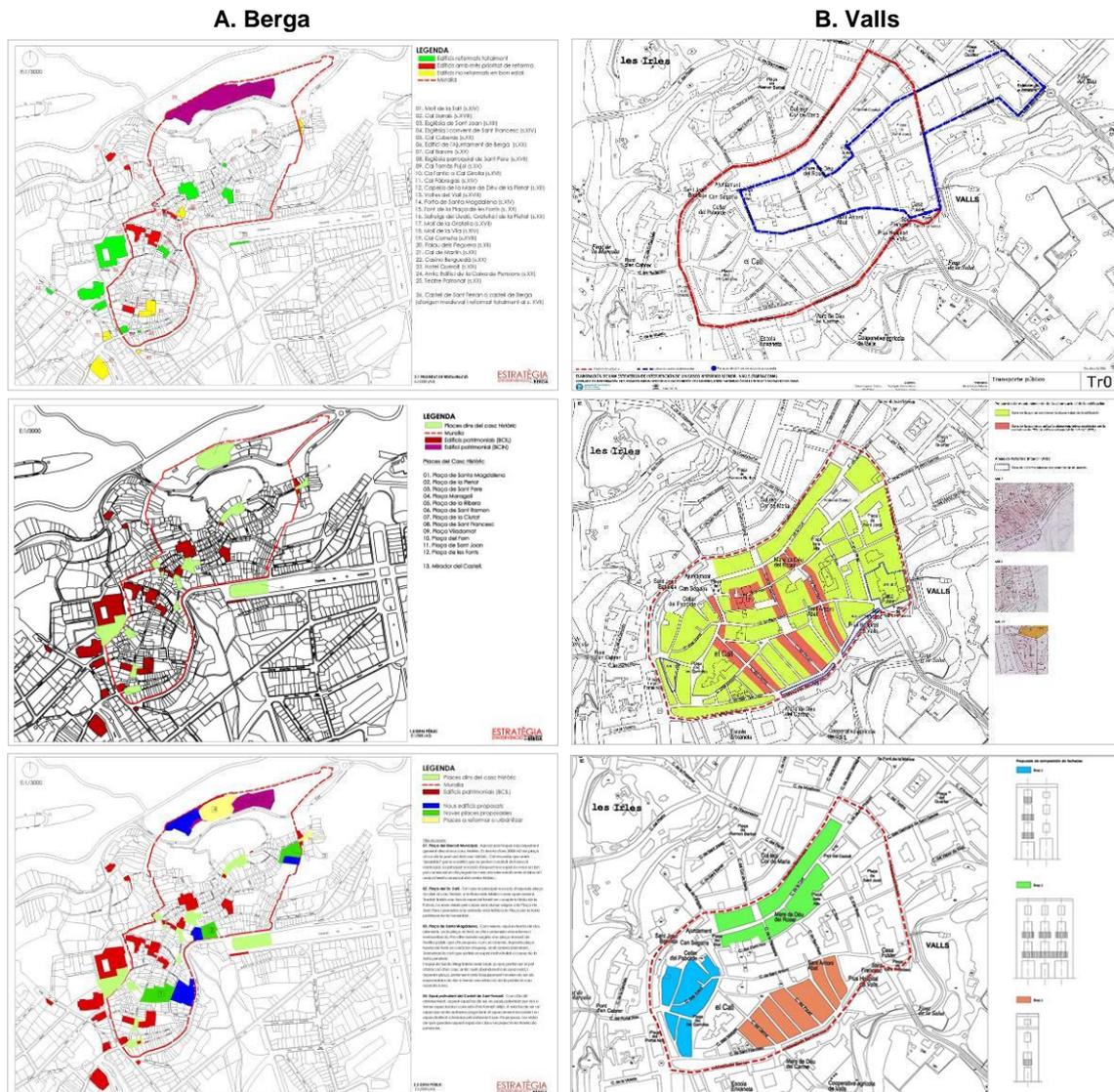
**Figure 6. Analysis and proposal of streets system and transport mobility**



Source: Analysis of the urban regulations and proposal made by students during the works (2014 & 2015)

In general the process developed by the students group finished with a complex proposal, based in the different studied topics, as is presented in Figure 7 for Berga; degrees of priority buildings to intervene, new catalogue of protection and new buildings and public spaces, and for Valls; transport structure, volumetric regulation of buildings and facades composition proposal.

Figure 7. Main Master Plan proposals for both towns



### Final comment

The most important conclusion of this experience has been that if the complexity of the historical small centres is explained in deep to students, including technical and theoretical tools of analysis and intervention, is possible that the processes of a Master Plan proposal developed in real cases as Formello and Sutri, can be reproduced and adapted to different realities and context, considering not only analysis methodologies, but also techniques applied with rigor and obtaining appropriate to the needs of minor historical centres results. This can be seen in both

very complete, complex and adjusted to reality developed proposals, Berga and Valls.

## Acknowledges

The authors acknowledge the serious and committed participation of students of the Research Seminar on *Recovery of the Historical Centres* of the research Master's degree in *Land Management and Valuation* (UPC) of 2013-2014 and 2014-2015, during respective editions of this academic experience: *Dalina Guzmán, Nacho Huguet, Valeria López, Brenda Merlos, Jordi Pont, Anna Razquín, Cristina Checa, Melina Rodríguez, Shi Jie* and *Josep Solé*.

## References

- AA.VV.** (1995), *Il Ghetto di Roma. Progetto di recupero urbano ed edilizio*. Edizioni Kappa, Roma.
- AA.VV.** (1973), *L'intervento pubblico nei centri storici. Problemi sociali, giuridici, economici, architettonici e tecnici*. Edizioni di "Edilizia Popolare". Anno XX n. 110 gennaio-febbraio.
- Aristone**, Ottavia; **Palazzo**, Anna Laura (2000), *Città storiche. Interventi per il riuso*. Edizioni Il Sole 24 Ore, Milano. ISBN: 88-324-4146-2.
- Biere** Arenas, Rolando y **Egusquiza** Ortega, Aitziber (2010), *Herramienta para el diagnóstico de la accesibilidad en entornos de patrimonio histórico, en base a escaneado láser y realidad virtual: Acc3De 1.0*. In: "ACE: Architecture, City and Environment", 25 June 2010, 5 (13): 61-90. ISSN: 1886-4805. Available in: <http://hdl.handle.net/2099/9199>
- Cerasoli**, Mario y **Biere**, Rolando (2014), *Propuesta y material docente Seminario de Investigación Recuperación urbanística de los Cascos Históricos menores, entre "modulación de la tutela" y nuevas tecnologías*. Barcelona, 03/2014.
- Cerasoli**, Mario; **Rizzo**, Biancamaria (2013), *Il futuro tecnologico dei centri storici*. In: Mario CERASOLI (a cura di), Libro degli Atti del 9° Congresso Città e Territorio Virtuale - Città Memoria Gente. Roma, 2-4 ottobre 2013. Roma TrEpress, Università Roma Tre. Roma, 2015. ISBN: 978-88-97524-15-1.
- Cerasoli**, Mario (2010), *Il recupero dei centri storici: la "modulazione della tutela"*. In: Planum, p. 1-10, ISSN: 1723-0993.
- Coletta**, Tiziana (2006), *La conservazione dei centri storici minori abbandonati. Il caso della Campania*. Tesi di dottorato in Conservazione dei beni architettonici, Dipartimento di Storia dell'architettura e restauro, Università "Federico II" di Napoli. Available in: <http://www.fedoa.unina.it/id/eprint/2879>
- Fabbi**, Marcello (1983), *L'urbanistica italiana dal dopoguerra a oggi. Storia, ideologie, immagini*. De Donato Editore, Bari, 1983. ISBN: 88-326-4175-5.
- Falini**, Paola (a cura di) (1986), *Il recupero rinnovato. Esperienze e strategie urbane degli anni '80*. Edizioni Kappa, Roma.
- Gabrielli**, Bruno (1993), *Il Recupero della città esistente. Saggi 1968-1992*. Etaslibri, Milano. ISBN: 88-453-0608-9.
- Piacentini**, Veronica. (2013), *Strategie di retrofit energetico di edifici storici dell'area metropolitana di Roma*. In: Mario Cerasoli (a cura di), Libro degli Atti del 9° Congresso Città e Territorio Virtuale - Città Memoria Gente. Roma, 2-4 ottobre 2013. Roma TrEpress, Università Roma Tre. Roma, 2015. ISBN: 978-88-97524-15-1
- Valeriani**, Enrico (a cura di) (1987), *San Paolino alla regola. Piano di recupero e restauro*. Quaderni dell'assessorato per gli interventi sul centro storico del Comune di Roma. Edizioni Kappa, Roma.