



# **CITIES IN TRANSFORMATION RESEARCH & DESIGN**

**Ideas, Methods, Techniques, Tools, Case Studies**

edited by Marco Bovati, Michele Caja, Giancarlo Floridi, Martina Landsberger

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# **Cities in Transformation Research & Design**

Ideas, Methods, Techniques, Tools, Case Studies

edited by

Marco Bovati, Michele Caja

Giancarlo Floridi, Martina Landsberger

scientific supervision

Adalberto Del Bo, Ilaria Valente

VOLUME II

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## The Regeneration of Public Housing Neighbourhoods. The Example of Tor Bella Monaca in Rome

Domizia Mandolesi

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### *Regeneration as a Best Practice in the Transformation of European Cities*

As part of the more general examination of social housing, a growing phenomenon in the majority of Europe's leading cities, a determinant role is being assumed by interventions of urban regeneration<sup>1</sup> linked to the requalification of large public housing estates. Countries such as France, Germany and the United Kingdom began implementing policies of regeneration back in the 1970s, achieving, even with diverse strategies and orientations, an integrated approach focused on three principal objectives: physical renewal; integration and social security; the identification of economic strategies. These strategies move beyond simple building maintenance, adopting radical modifications that manage to change not only the image of highly deteriorated neighbourhoods, but also the lifestyle and behaviour of their residents. All of this has an influence on the broadest urban and territorial dynamics and introduces innovative and sustainable solutions at the scale of the dwelling unit, the building and the neighbourhood, with positive repercussions on the overall quality of habitat. At a time of crisis such as the one we are currently experiencing, social housing, intended as an integral part of planning policies, may play a decisive role in re-establishing a direct relationship between the forms and methods of physically organising urban space and the social structure of the contemporary city<sup>2</sup>. As in many other metropolitan European contexts, France has also been witness over the past twenty years to the spread of serious social and urban problems resulting from the deterioration of many social and public housing projects constructed during the 1970s and '80s.

Of particular interest is the research made by the *plus* group on behalf of the French Ministry of Culture and Communications<sup>3</sup>. The results can be found in a feasibility study that evaluates diverse alternatives to the demolition of four residential complexes in different parts of France. The use of more or less "heavy handed" methods when dealing with existing buildings, rather than simply demolishing to rebuild, may offer, in addition to economic advantages that must be evaluated in each specific circumstance, a means of recognising the value of the sedimentation of social and cultural instances linked to the resident population and its position in the vaster urban context, looking beyond the obvious conditions of physical deterioration and objective degradation. This constitutes a

<sup>1</sup> The term "regeneration" is utilised in lieu of "requalification" to underline the radical nature of the transformations brought about by this kind of intervention, based on three principal operations – addition, subtraction and reconfiguration – in order to restore new life to a building or urban structure.

<sup>2</sup> Cf. G. Franz, F. Leder, eds, *La riqualificazione delle periferie residenziali*. Firenze: Alinea, 2003.

<sup>3</sup> The results of this research can be found in Frédéric Druot, Anne Lacaton & Philippe Vassal, plus. *La vivienda colectiva. Territorio de excepción*. Barcelona: Gustavo Gili, 2007.

necessary practice, according to the French group, that operates within a perspective of environmental, social and economic sustainability, capable of substituting the obsolete principle of the “throw away” with that of “recycling”, to be extended from everyday objects to buildings and the urban context.

An analogous philosophy guided the imposing actions undertaken during the 1990s by the reunified German Government, including an investment of more than Euro 50 billion for the requalification of the *Plattenbauten*. Since 1999 the United Kingdom has also pursued programmes of intervention in existing social housing estates, work case-by-case to identify design guidelines for improving their liveability, socio-economic conditions and architectural and urban quality, in addition to guaranteeing a social *mixité*, reinforcing local residents’ sense of identity and belonging and, more in general, creating sustainable neighbourhoods, suitable to contemporary lifestyles. A leading example is that of Park Hill in Sheffield<sup>4</sup>, where the requalification project worked at different scales: that of the flats, defining different sized units; that of the building, with interventions to modernise energy systems and substitute façades, including the modification of their composition and the introduction of colour; and, at the scale of the neighbourhood, through the redesign of open spaces.

Comprehensively, these projects demonstrate the convenience and the economic, social and environmental sustainability and effectiveness of strategies for the enlargement and regeneration of the existing. The transformations almost always involve the architectural image of the buildings, with additions and/or subtractions of volumes, the internal distribution of the flats, new energy systems, the integration of services and public spaces, in particular landscaping to improve the overall quality of the environment. The proposals are generally radical with respect to the conditions of the original structures. This is partly because in the majority of cases the driving force behind the entire operation, in addition to physical deterioration and the modernisation of energy systems, is the desire to change the characteristics of urban and residential spaces to create *mixité* and to resolve serious issues of marginality and the refusal or abandonment of an area by its residents.

*The Italian Situation and the Proposal for the District of Tor Bella Monaca in Rome*

As with the European contexts described above, in Italy the intense expansion of residential fabrics over the past fifty years, with planned public interventions on the one hand and spontaneous construction on the other, have created diverse forms of dysfunction and economic and social imbalances within the metropolis. To stem the tide of these problems, it is necessary, also in Italy, to adopt

<sup>4</sup> Park Hill is a council housing estate in Sheffield, South Yorkshire, England. It was built between 1957 and 1961. In 1998 it was given Grade II listed building status, making it the largest listed building in Europe. Following a period of decline, the estate is being renovated by the developers Urban Splash.

policies and strategies of regeneration for transforming the existing based on models of sustainable development. The regulations of the new *Piano Casa*<sup>5</sup> and the reduction of polluting emissions from domestic facilities and the consumption of energy, stimulated by the implementation of Italian Legislative Decree 2005<sup>6</sup>, represent important occasions for activating a new phase of requalification works at the vast scale.

The research of the *HousingLab*<sup>7</sup> belongs within this framework of new opportunities. This laboratory is part of the DIAP - Dipartimento di Architettura e Progetto at the Sapienza University of Rome. The objective of its research is the promotion of models of territorial growth based on the need for “self-limitation”, intervening within the existing through actions of layering, densification and grafting. For some time now, the *HousingLab* has confronted studies, projects and research focused on questions related to the instruments, procedures and strategies of design to be implemented for the requalification of urban fabrics (spontaneous and planned) in peripheral and marginal areas of large cities, and in reference to the city of Rome. Rome boasts a large heritage of social housing estates, realised above all after the World War II, that define entire parts of the city. The entities responsible for their management have invested only sporadically, through interventions focused only on resolving emergencies and in the absence of any comprehensive strategy. This has determined a physical, functional and also a social and economic deterioration that has generated problematic situations and the marginalisation of entire districts.

One of the lines of research of the *HousingLab* group is thus focused on the regeneration of public housing complexes constructed after the 1950s. In particular, the group is working on the definition of guidelines for interventions to transform the existing based on a model of contemporary housing that is both shared and economically, energetically and socially sustainable. This means identifying case studies selected from among public housing projects constructed prior to the 1980s that, beyond their particular qualities, also present analogies in their built and urban characteristics, as well as their critical elements (i.e. the deterioration of buildings and open spaces, formal monotony and uniformity, the safety of open spaces, the use of similar materials and techniques of prefab-

<sup>5</sup> With a series of regulations that vary from region to region, the new *Piano Casa* housing plan offers incentives, by allowing increases in volume, to projects for the requalification of existing residential housing, both public and non-public, wishing to proceed with enlargement works.

<sup>6</sup> With Ministerial Decree n. 26 June 2009, which established the guidelines called for in a 2005 Legislative Decree, the entire Italian territory was subjected (even with a significant delay that will result in heavy sanctions should the country be unable to reduce its polluting emissions by 19% by 2012) to obligatory presentation of energy certificates for both new and existing dwellings (cf. “Dossier Energia”. *Costruire*, 316, October 2009).

<sup>7</sup> *HousingLab* is part of the DIAP - Dipartimento di Architettura e Progetto at the Sapienza University of Rome. Exploiting experience consolidated over time working with the theme of dwelling, the *HousingLab* examines urban regeneration, typological innovation and environmental sustainability. The work group is comprised of Alessandra De Cesaris (director and scientific coordinator), Domizia Mandolesi (scientific coordinator) and Maria Teresa Aprile. Contacts: via Flaminia 359, 00196 Roma, Italy +39063210230, fax +390632101250, housinglab@uniroma1.it, <http://w3.uniroma1.it/housinglab>.

rication) for which to develop design hypotheses coherent with pre-established objectives of regeneration.

An initial consideration for verifying interventions and design solutions focused on regenerating public residential heritage was offered by the *Competition for the Requalification of the Tiburtino III District in Rome*, organised by Ater in 2010<sup>8</sup>. This project was used to define a number of strategies and hypotheses, beginning with the critical conditions of the neighbourhood and the requirements of the competition brief. In particular, the strategies hypothesised, at the urban scale and that of the individual unit, can be summarised as:

- the redesign of open spaces with a particular focus on accessibility and the integration of new public services;
- the reorganisation of parking areas as “active spaces”;
- the redefinition of building volumes with new connections at grade and the addition of a new crowning layer;
- building redesign, with a focus on energy systems, and the creation of new façade systems;
- forecasts for diversified unit sizes for new users, such as the elderly or students.

However, the most important opportunity for developing a *corpus* of guidelines capable of constructing useful references for cases of analogous intervention presented itself with the experiments in the district of Tor Bella Monaca, a public housing area in the south-east periphery of Rome, for which the municipal administration has recently presented a proposal of demolition and reconstruction.

The fruits of a Zoning Plan approved in 1980 and realised between 1982 and 1984 based on a special procedure of tendering in concession to a consortium of companies, TBM represented a model neighbourhood in relation to the procedures adopted and the speed of its realisation: only two years to construct social housing units for some 28,000 people, based on three typologies: linear, tower and courtyard structures. The entire development occupies 188 hectares, 51 of which are given over to landscaping and 29 to services. At the outset, as the inhabitants recall, the sensation was that of being deported from central areas to be confined in what, at the time, constituted the limit between city and countryside. In 1995, thanks to the efforts and battles waged by the citizens themselves, the neighbourhood began to come alive, acquiring a number of local services, high schools, sporting facilities and a large theatre, in addition to a system of infrastructural connections with the Tor Vergata University and Hospital, with the area of the Castelli Romani, the large office complex of the Banca d’Italia and Enea. Today the neighbourhood is a consolidated and to some degree resolved part of the city of Rome. Many of its residents are strongly tied to the

<sup>8</sup> The results of the design competition, organised by Ater Roma, the Territorial Agency for Residential Construction in the Municipality of Rome, were published in M. Annese, B. Del Brocco, eds, *Catalogo del Concorso internazionale di progettazione PASS Progetto per abitazioni sociali e sostenibili Tiburtino III*. Roma: Gangemi, 2012.

area and recognise the advantages of a model of settlement that, dominated by tall buildings, offers a notable panoramic view across the Roman countryside and the possibility to exploit open spaces at grade for landscaping and public space. Tor Bella Monaca thus constitutes a case study of particular interest for its history, its urban position, its environmental qualities, its archaeological pre-existences and the presence of a community that has grown over the years, partially as a result of the fights to improve living conditions in the district.

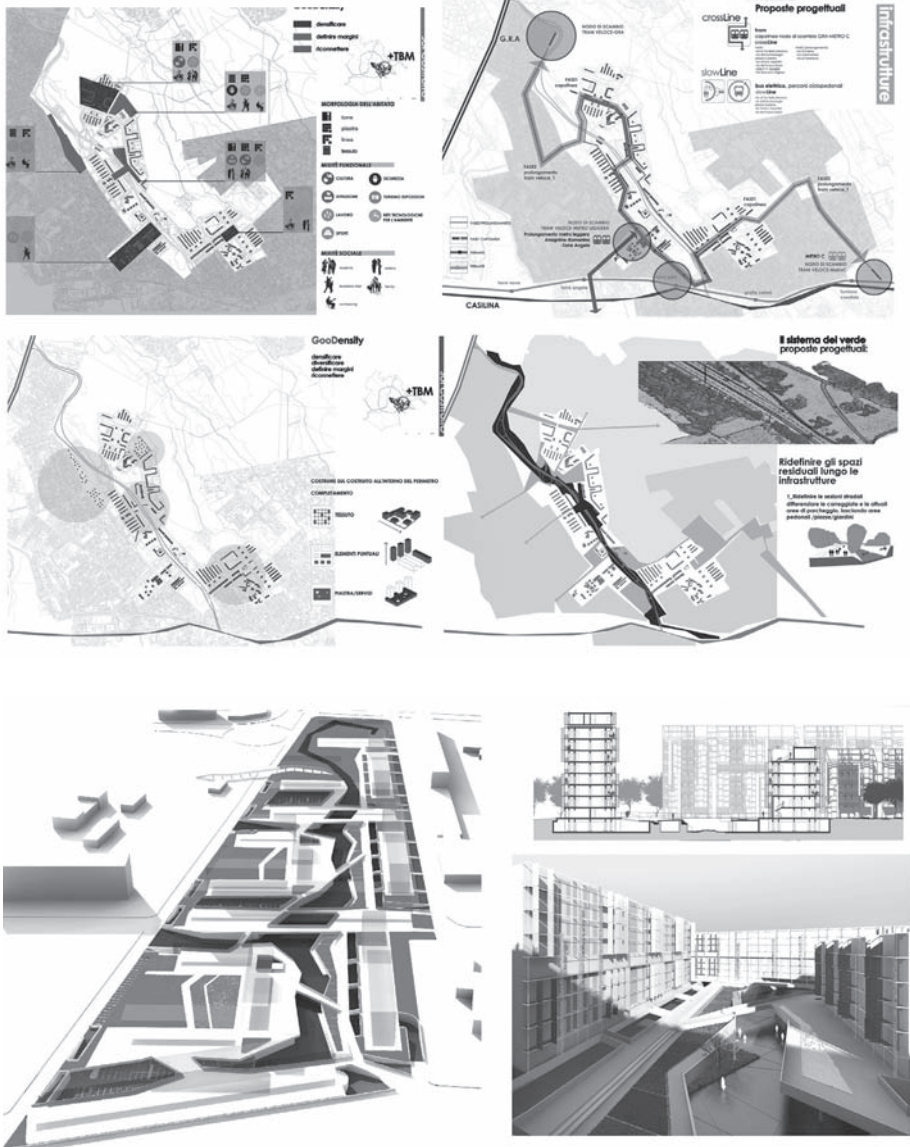
The problems of Tor Bella Monaca, today, are less the result of its construction, and more that of other aspects linked to its management and the socio-economic conditions of its residents. In particular, the most serious and evident critical elements of this neighbourhood are the result of: the elevated concentration of lower classes and subjects who risk turning to crime, for example ex-prisoners and unemployed youth, who are not offered suitable support or possibilities for employment; the dispersive nature and conditions of abandonment of its open spaces, a condition that does not favour the formation of spaces of cohesion and services, above all for the young and the elderly. Beginning with these premises, in addition to the vast literature examining European experiences, the *HousingLab* group, rather than proceeding with a *tabula rasa* of demolitions, chose to deal with the existing, seeking new values and meanings through the activation of an integrated process of built, urban and landscape regeneration in the neighbourhood. The *HousingLab* thus developed an alternative proposal<sup>9</sup> to that presented by the City of Rome, as a means of opening up the debate and demonstrating that renovations are more suitable and economic than demolitions-reconstructions, a process that, behind the alibi of “cleaning up”, merely creates another *tabula rasa* of more virgin territory.

The evaluation of these critical elements and the opinions of its residents, the evident potentialities of the neighbourhood, including the quality of its existing and planned public connections that make it part of a network involving the rest of the city and particularly the centre of Rome, the value of the landscape and environmental context in which it is inserted, have all strengthened the conviction that it is possible to transform Tor Bella Monaca into a model neighbourhood of sustainability. The analyses and verifications of social and welfare conditions and the physical and environmental conditions of the neighbourhood's built and open spaces, revealed a number of primary working themes, based on which to elaborate hypotheses for the transformation of the district, considering its economic, social and environmental sustainability as a general criteria common to all of the themes identified.

<sup>9</sup> The proposal for the regeneration of the neighbourhood of Tor Bella Monaca in Rome by the *HousingLab* at the DIAP Sapienza Rome, was elaborated as part of a study seminar on the theme organised by a group of researchers from the Departments of seven Italian Faculties of Architecture, coordinated by the *HousingLab* and under the scientific direction of Marta Calzolari. The results have been publicly presented on many occasions: INARCH Rome in November 2010 and April 2011; EIRE in Milan in June 2011. A brief synthesis of the work was presented in D. Mandolesi, “Demolire o rigenerare? Il caso di Tor Bella Monaca a Roma”. *L'Industria delle costruzioni*, 420, 2011.



## 2. ARCHITECTURAL AND URBAN REGENERATION



1. HousingLab, M. Calzolari (director and scientific coordinator), A. De Cesaris, D. Mandolesi, M.T. Aprile, *Proposal for the regeneration of Tor Bella Monaca in Rome*, 2010-2011. New building systems to densify the neighbourhoods and creating a social *mixité*; reorganisation of infrastructural networks; new design of green areas

2. HousingLab (D. Mandolesi, L. Paglialunga, A. De Cesaris) e G. Di Giorgio, *Proposal for the regeneration of Tiburtino III in Rome*, 2010. Overall plan, section and view of the design solution



One of the themes regards the reorganisation of infrastructural networks. While the infrastructural road and transport networks, existing and planned, as mentioned, appear efficient and capable of guaranteeing proper connections with other parts of the city, the system of connection within the neighbourhood and with the adjacent *borgate* is highly insufficient, and pedestrian movement nothing short of impossible. Streets and parking occupy vast spaces that can be redesigned, integrating them with new road and pedestrian connections, introducing a new system of internal transportation that connects with other parts of the neighbourhood, services, facilities and the sprawling city that surrounds it. Connected with the issue of infrastructure is the necessity of reorganising public open spaces, whether they are used as landscaping or as urban spaces, as public squares, meeting points, pedestrian or bicycle paths and crossings. This is now one of the most serious problems in the neighbourhood. The large quantity of these areas, difficult to manage or maintain and with undefined uses (according to our studies, just under 40% of the total of open space) is abandoned to physical deterioration, becoming inhospitable and “unsafe”, while, opportunely transformed, even through the realisation of new constructions, services and manufacturing structures, may constitute an important resource for the neighbourhood. This implies the necessity of re-thinking the ground and with it the restructuring of the ground floors of its buildings, now primarily used as residential space. The unavoidable presupposition, finally, of not broadening the urban perimeter to avoid further consuming the *agro romano*, and at the same time the need to profoundly transform the neighbourhood guided the research towards the choice to densify by “building atop the built”.

In fact, the presence of large voids, together with the role assumed by the neighbourhood in the urban sector, consents a hypothesis of building operations, utilising the diverse positive experiences of project financing to realise public and private instruments, designed to increase:

- spaces for work;
- social, cultural and tertiary services for the neighbourhood and the vaster urban area;
- residential units for a mixed users.

Another highly incisive choice is constituted by interventions designed to renovate existing buildings, in order to improve their energy performance and their architectural quality. In fact, it is our belief that it is acceptable to proceed with the demolition and the substitution of buildings within consolidated urban structures only in exceptional cases and only after attentive structural and economic evaluations.

In synthesis, the proposal for the regeneration of Tor Bella Monaca in Rome, limiting demolitions to the most serious cases of structural deterioration, may be linked to three primary strategic actions:

- *building atop the built*, restoring façades, plant systems and dwelling units, renovating ground floor levels to contain new functions, realising new ty-

- pologies and services in order to densify the current fabric, at present too rarefied to acquire an urban character, and creating a social *mixité*;
- *redesigning the system of infrastructures and open spaces*, improving internal connections within the neighbourhood and integrating them with the city, creating new public spaces and landscaped areas;
  - *identifying strategic functions, primarily tertiary or cultural*, at both the local and the metropolitan scale.

Through interventions such as those described above we believe it is possible to trigger a profound transformation of the neighbourhood that, connected with important parts of the city, such as the Tor Vergata University and Hospital and the future centrality of the Romanina, what is more exploiting its position within the *agro romano* and the consequent environmental potentialities, may generate new and improved living conditions for residents, reducing phenomena of social segregation and insecurity, with positive effects on the entire urban system.

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