

From Home to Territory: a matter of Scale

An introduction to future challenges in Mass Housing Estates

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Abstract

As in most European cities, the outskirts of Barcelona were the scene of the construction of Mass Housing Estates (“Polígons” in local terms) during mid-twentieth century. Between 1929 and 1955 the Polígons of Barcelona were very rapidly developed as response to the extremely high demand of housing. But they were built in a context where the available resources were extremely scarce. The result of these unfavourable conditions was an important number of deprived neighbourhoods with many precarious conditions. These estates were not, in most of the cases, intended to last over the years. But they did.

After forty years of service, the living conditions in some of these districts were so out-dated that urgent and clear actions were necessary on the obsolete housing stock. Based on an analysis of the renewal plans and projects some conclusions are obtained. They allow a certain classification of the diverse regeneration strategies applied in these areas. We can generally state that the regeneration of housing estates involves:

- *Evaluating the physical conditions of the housing stock and consideration of the requirements for its rehabilitation.*
- *Improving the local urban conditions of these neighbourhoods by providing new community facilities, proper open spaces and internal accessibility.*
- *Their integration in the metropolitan system where they are located. by considering new paradigms for environmental balance and by reconsidering their role at a metropolitan scale.*

Keywords: Mass Housing Estates, Urban Renewal, Heritage, Urban Planning, Territorial Planning.

Renovating the estates: three considerations

It is often said today that the oncoming city will be the one built on the already urbanized territory. This confirms a new approach to Urban Planning, more attentive to regenerating existing urban fabrics than extending the urban growth. Within this context, Mass Housing Estates (MHE) and their renovation become an issue of great importance. Being one of the 20th century's genuinely characteristic forms of growth, their accelerated obsolescence demands profound reflection on strategies and intervention in these neighbourhoods.

By Mass Housing Estates we refer to those that were conceived to provide housing on a massive scale, in conceptual accordance with the general principles of the functional city established by the Athens Charter. Consequently, they prioritise functional segregation and urban specialisation as well as the standardisation of the housing unit, in accordance with health considerations such as sunlight and ventilation. Frequently addressed to social classes with limited resources, their conception as an urban product is based on economic efficiency and therefore the adoption of project criteria such as the unitary nature of operations, locations on low-cost land, low levels of urbanisation and standard housing types. From the management viewpoint, these interventions are mostly promoted by the public administration and projects are developed and constructed on a very short timescale. Morphologically, housing estates are characterized by the serial and repetitive composition of the isolated building which, with low occupancy, frees up a large quantity of open space (fig. 1).



Fig.1: Aerial view of Vahr See, in Neue Vahr New Town, Bremen. The estate was design by Ernst May. Säume and Haffeman were committed with the landscape design.

The construction of the modern residential project by means of housing estates took on enormous relevance during the mid-20th century, between the interwar period and the end of the 1960s. From 1945 to 1965 alone, three-quarters of the urbanized surface area in Europe was allocated to exclusively residential use. It is this period that witnessed the appearance of mass housing projects interpreting the criteria of the Modern Movement and all of its derivations. It requires a contemporary reading for its interpretation.

Renovating the estates: three considerations

Nowadays, having overcome ferocious and, on occasion, justified postmodern criticism, we find ourselves able to evaluate these projects appropriately. This evaluation can be done on three levels of interpretation:

- Social problems deriving from the progressive ageing of the population, endemic marginalisation associated with geographical isolation and, in some cases, the consolidation of these areas as receptors of successive waves of immigration to cities.
- Problems with housing stock, linked to obsolescence in terms of the physical form and building typologies which are over 50 years old and which, on the one hand, represent evident constructional pathologies and, on the other, were designed according to surface area and comfort standards which no longer meet current housing requirements.
- Finally, problems of a lack of urban integration in the immediate environment and the metropolitan area where these estates are situated. Many deficiencies are found in terms of urbanization and community infrastructure, as well as a lack of parking space and defective maintenance and monitoring of public space.

The character of Mass Housing Estates and the urban problems associated with them are surprisingly common within the diversified European context. Over three years we have analysed more than 20 urban regeneration projects for paradigmatic Mass Housing Estates in six different countries: Holland, Germany, France, Great Britain, Italy and Spain.

Based on our analysis of these projects, relating them to the different urban renovation programmes and policies they are framed within, we have reached a series of conclusions that, if nothing else, at least allow us to classify and categorize the diverse regeneration strategies applied in these areas. We can generally state that the regeneration of housing estates involves:

- Evaluating the physical conditions of the built stock and requirements for its renovation in terms of habitability. All projects establish strategies, which may range from complete demolition to their conservation as elements with historical and architectural value, via partial demolition, remodelling or selective substitution.
- Improving the internal urban conditions of these neighbourhoods in relation to new community facilities provision, characterising open spaces and improving internal accessibility.
- Their integration in the metropolitan area where they are located. Originally built in isolated locations far from the city centre, many housing estates today enjoy a privileged location within contemporary metropolises. The growing metropolisation process suffered by our cities over the last 50 years, closely linked to the construction of new infrastructures, has generated conditions which bring a new accessibility to what were originally very isolated elements. This, as well as considering new paradigms for environmental balance in territorial planning, requires a reprogramming of housing estates on a metropolitan scale.

These three considerations are constant for any plan of integral renewal of housing estates, and its analysis is unignorable when attempting to comprehend any action for their integrated regeneration (fig.2).

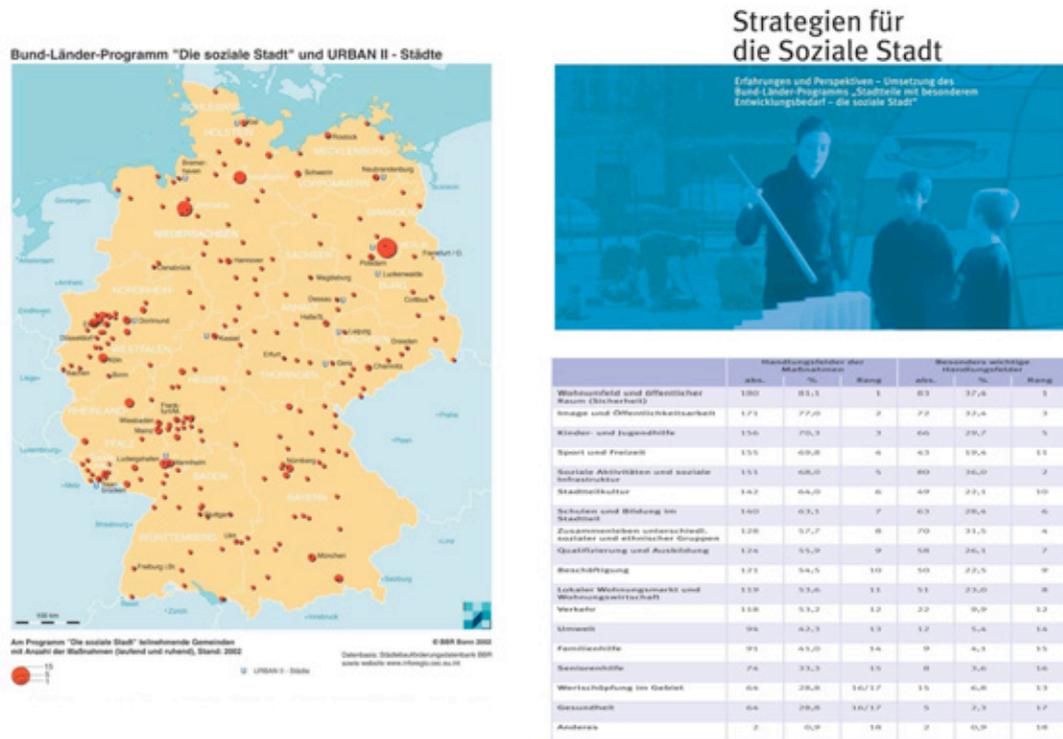


Fig.2: Germany: Federal Program for “Neighbourhoods with special difficulties-Soziale Stadt”. In 87% of the renewal plans public space actions were programmed.

Habitability: Material legacy and its heritage value.

Some of the Mass Housing Estates we have analysed are, from a disciplinary viewpoint, singular and paradigmatic elements which, apart from being highlights of architecture and town planning history, are also representative of a certain way of constructing the modern city. They, therefore, form part of the cultural legacy of a period in urban history.

Conservation of the modern residential project is one of the challenges of contemporary society. The architecture of mass housing estates was born out of scarce technological resources and designed to have a limited lifespan. Reasons for their conservation are, from a material viewpoint, difficult to justify. Some recent initiatives denote a change of attitude in this matter. From the declaration of some housing estates as UNESCO heritage to the holding of specialist congresses on the conservation of modern architectural heritage, we can state that a new awareness has appeared which is sensitive to conserving the modern legacy. We find ourselves for the first time attributing the adjective “monumental” to the architectural and material legacy of the 20th century (fig. 3).

Establishing measures aimed at conservation, by means of heritage catalogues or declarations, is a recent phenomenon when it comes to Mass housing states. One very significant example is UNESCO recently declaring some modern Berlin neighbourhoods as heritage of cultural interest (fig.4). This leads to mechanisms being established for the regulation of their conservation and possible transformation, significantly affecting the fulfilling of the functional requirements for which they were originally designed.

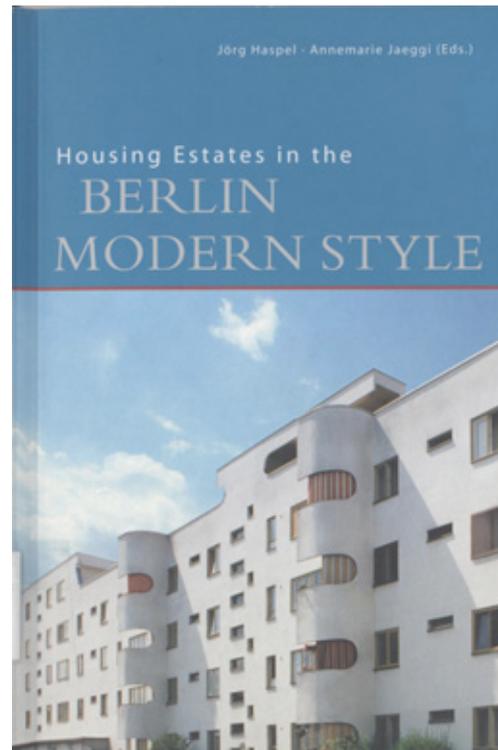
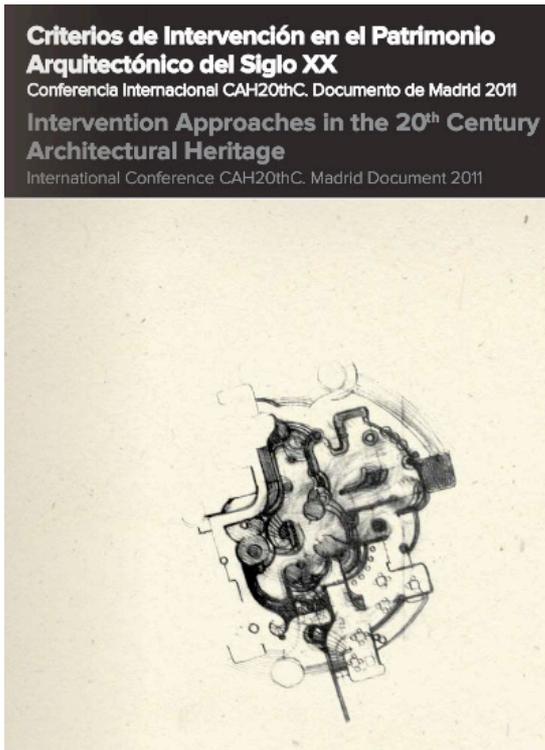


Fig.3 (left): International conference “Intervention approaches on the XXth Century Architecture Heritage”, ICOMOS, Madrid 2011. The conference presentation states: *“The lack of recognition and identification and the lack of technical knowledge and public affection suffered by the 20th century architectural heritage is acknowledged, and the speed of change and growth that characterizes contemporary societies make this sector of architectural heritage especially vulnerable and threatened. Many of its most remarkable and admired works have already disappeared in the last decades. It is a heritage in danger, and it is timely to consider whether existing heritage management guidelines and processes need expansion to meet the needs of the architectural heritage of the twentieth century, particularly in regard to approaches to interventions”*

Fig.4 (right): Cover of the publication released on occasion of the World Heritage declarations of six housing estates in Berlin, 2008. The estates are: Falkenberg, Schillerpark, Britz, Carl Legien, Weiss Stadt i Siemenstadt.

Maintaining habitability in these neighbourhoods while also guaranteeing endurance of the material value that make them susceptible to being conserved requires very accurate strategies in which it is essential to find the correct balance between elements that constitute the identity of the whole public sphere and those which guarantee habitability of private space.

The strategy of conservation must necessarily be linked to renovating and improving these neighbourhoods. It is therefore necessary to carefully consider actions that reflect a dual commitment: on the one hand, conserving the value of these projects as a whole cannot compromise habitability conditions; on the other, any renovation, when necessary, cannot have the consequence of disfiguring the architectural value of the buildings.

With regard to the first assessment, we can say that the value of these projects is often found in the open space, its planning and the compositional relationships the buildings establish with one another. It is about, as Bruno Taut calls it, habitable exterior space. This is the specific characteristic element of MHE and, what is more, the most notable thing about the daily experience of these neighbourhoods. Actions carried out to improve and recover these spaces are very unlikely to deteriorate the habitability of domestic space. By contrast, they do tend to improve the conditions of public space on the housing estates, in both functional (accessibility) and formal (landscape) terms.

The second commitment accepts renovation under the condition that the architectural attributes of the buildings are not disfigured in any way. What often happens is that certain original elements cannot be reproduced today, either for technological reasons or due to the demands of habitability standards. In these cases, the need arises to substitute the buildings in their entirety.

The question deriving from this is: can the buildings be substituted without modifying the relationships between them? This is a question of enormous interest, as although most urban fabrics admit the selective substitution of buildings without affecting town planning conditions, any alteration in building order in planning isolated buildings can notably affect the composition of the whole (fig.5).



Fig.5: Algemeen Uitbreidingsplan van Amsterdam, Cornelis van Eesteren, 1939. In red, areas where densification policies were implemented during the 80'.

The demolition and substitution policy is the most significant one from both a quantitative and qualitative viewpoint. In quantitative terms, demolition, or remodelling in the Catalan context, has clearly been the predominant form of action. Qualitatively, this type of intervention has meant an enormously important morphological change in the neighbourhoods in which it has been applied (fig.6).



Fig.6: Sheffield Park Hill, a paradigm of brutalism in architecture. Built in 1961 it was designed and conceived together with Hyde Park Estate, which was demolished in 1983 and replaced by a single housing development.

The physical degradation and consequent social devaluation of these neighbourhoods have been arguments with which to justify demolition policies. Very common in the UK and France, demolition actions assume a particular meaning in the geographical context of what is the old East Germany: generalized demolition is not only the result of the physical and social degradation of housing estates but also the accelerated loss of residents from them. This phenomenon, described under the term “shrinking cities”, resulted from a process of deurbanisation following mass migration to West Germany after the fall of the Berlin Wall (fig.7).



Fig.7: New Town Leinefelde, in the former German Democratic Republic. The specific pre-fab building system –plattenbau- makes feasible the deconstruction processes of these estates. Above, the building process in 1963. Below, deconstruction in 1998.

In Barcelona, the greatest investment in housing policy, whether new buildings or interventions on established urban fabrics, has been dedicated to remodelling the MHE. In all cases –Baró de Viver, la Pau, Habitatges del Governador, Barri del Polvorín, Eduard Aunós, Sant Roc, Sant Cosme, Trinitat Nova, Via Trajana- the resulting new neighbourhood has very little in common with the estate that has been demolished.

Urbanity: Improving the internal conditions of neighbourhoods.

Apart from their architectural value, it must be said that housing estates are above all urban fabrics with a very specific functional requirement: providing residents with conditions for habitability. Like any other fragment of the city, residential neighbourhoods must be continuously renovated in order to meet this requirement. And this has been done by means of individualised processes in housing stock, whether through the substitution of buildings, their rehabilitation and interior transformation or maintenance and conservation operations. But this has also been done by means of actions on public space on an urban scale with reurbanisation work and functional reorganisation –for instance, creating pedestrianized areas- or the construction of new public facilities (fig.8).

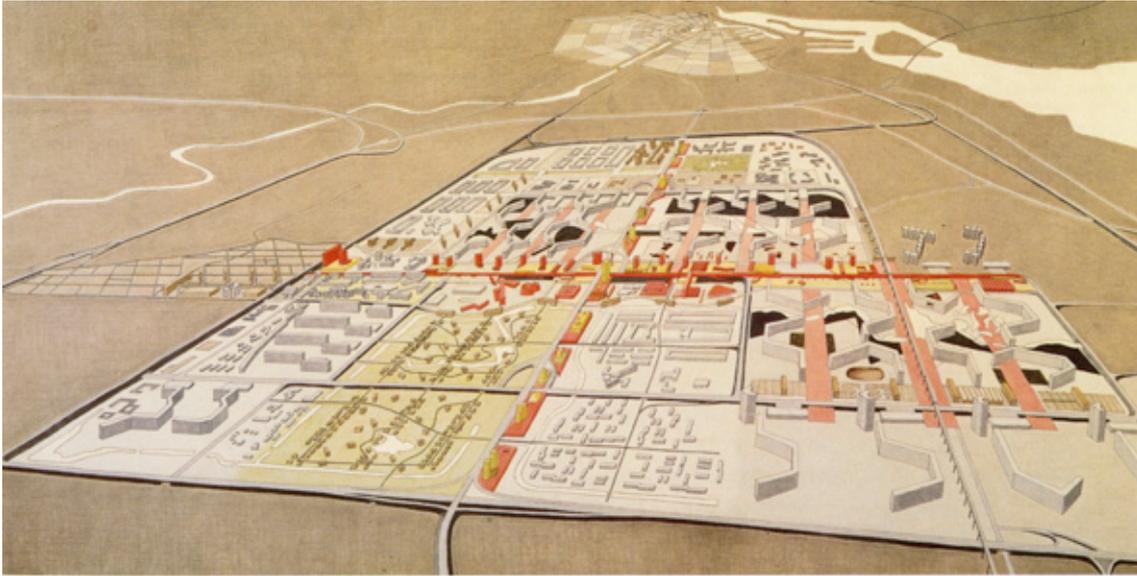


Fig.8: Proposal of the Office of Metropolitan Architecture (OMA) for Bijlmer estate in Amsterdam. The intervention considers the intensification of activity along main axis and the functional specialization of in-between space by placing new community facilities.

The individual analysis of each case has led to individualised policies being implemented which, when added together, have defined a changing trend over the years. The first actions providing facilities, urbanisation and exterior rehabilitation have made way for the more complex processes of urban densification, selective substitution, diversification of use and, in some interesting experiences, changes in the definitions of public and private domains of space (fig.9).



Fig.9: Ground floor treatment in Leinefelde. Above, previous situation: the buildings are detached from the public space level by half underground storey where storage and technical installations are located. This solution makes difficult the relation between housing and ground level. Below, adopted solution: first public space fringe becomes private.

Among all of these actions, the most relevant are certainly those which have intervened on spaces in-between buildings. Open space is obtained via the conceptual genesis of MHE designed according to the isolated building layout. The result was the construction of neighbourhoods in which there is a large abundance of open space that guarantees healthy conditions, but in which its attributes –planning, identity and functional programme- are not clearly defined. This is how, via the interpretation of open space, most of the deficits presented by MHE on a local scale can be detected: lack of formal definition, undifferentiation and low levels of urbanity:

Lack of formal definition: selective substitution and urban morphology

Selective substitution operations are those that, more than simply replacing obsolete elements, turn into opportunities to diversify the residential typologies and introduce new activities to these housing estates. The most interesting aspects to consider in this type of actions are delimiting the areas for intervention and scheduling the timeline of the substitution process. From the point of view of the relationship with the existing urban fabric, selective replacement operations may opt to maintain the morphological order or substantially modify it (fig.10). The former strategy is usually based on preserving the system of existing open spaces and substituting buildings but not significantly altering the residential typology. The latter, by contrast, involves a radical change in both the structure of open spaces and the architectural typology.



Fig.10: Urban renewal proposal for Sachendorf-Madlow. The plan establishes two main strategies: housing stock improvement and selective removal of obsolete buildings. Their physical conditions, as well as urban management requirements, will be the criteria for opting between both strategies.

Undifferentiated repetition: identity and morphology of open space.

One of the arguments frequently used to criticise modern city has been the lack of formal control over public space. This has been the result of the undifferentiated repetition of buildings as a dominant compositional resource in planning these neighbourhoods. Many intervention operations have highlighted this criticism and proposed a radical change in building planning systems, with a sudden move from the isolated building to the enclosed block (fig.11). The enormous contrast between these two planning systems has significantly degraded the spatial reading of these neighbourhoods. In some cases, however, interventions have sought formal control of the space by maintaining the open building planning system. The continuity of the spatial layout of this urban fabric leads to the understanding of how they are read and experienced, thereby converting them into actions that reinforce the urban identity of these neighbourhoods without denying their origins (fig.12).



Fig.11: Marzahn Ost-Hellerdorf, Berlin. Above, the particular urban morphology of this estate resulting from the repetition of super-blocks. Below, new centrality intervention around metro station Hellersdorf. The newly resulting public space refers to the traditional arcaded square.

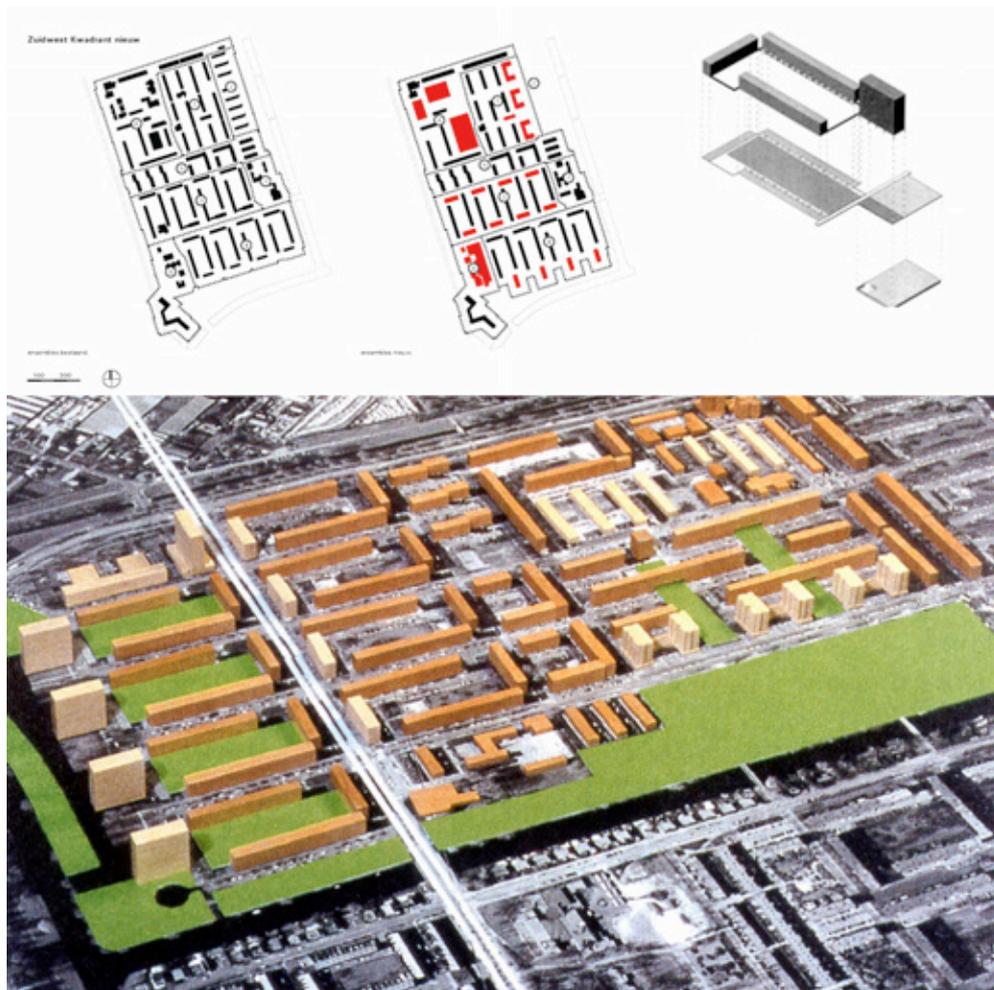


Fig.12: Urban Renewal Plan of Zuidwest Kwadrant, Osdorp, Amsterdam. The demolition and replacement of some buildings is proposed by considering the compositional layout of the whole estate.

Urbanity: from increased density to intensified use (fig. 13).

Increasing urbanity in MHE has also become a constant goal in urban renewal operations. The instruments for achieving this have been increased density and diversification of uses and activities. Critical evaluation of this strategy must contemplate the integration of this new constructed mass within the urban fabric.

In the specific case of the city of Barcelona, a series of actions were implemented during the 1980s and 1990s with the aim of urban improvement and integration by means of reurbanisation and re-equipping neighbourhoods with facilities. These actions use PERI (Detailed Special Plans for Inner Urban Renewal) as planning framework and urbanisation projects as instruments for direct action. The effects of these diverse strategies can be most clearly evaluated in Nou Barris district: integration of the diverse fragments within a whole by means of improving and urbanising interstitial spaces, improving accessibility by means of public transport, urban densification via social housing operations with associated commercial uses and the incorporation of new facilities.



Fig.13: Richting Parkstadt-2015, urban renewal plan for the Westelijke Tuinsteden. The conditions for urbanity are analyzed in the garden cities of west Amsterdam, concluding that the atony of this area of the city is the consequence of the overwhelming homogeneity of the neighbourhoods. The proposed interventions seek the differentiation of the urban fabric according to three main categories: mixed urban fabric (high density and mixed uses), urban fabric directly related to the street (medium density and predominant residential use) and urban green (low density and exclusive residential use). The differentiation among these three categories is reinforced by the regulation of basic urban parameters such as floor area ratio, range of uses or street pattern design.

Territorial integration: future challenge.

As we have already said, the origins of MHE can be found in the need to provide a fast and economic response to sudden demand for housing in large cities. This fact has conditioned their location, as in all cases locations were sought in order to minimise the repercussions of land cost on the operation. The chosen sites were often peripheral areas, not connected to the existing urban fabric and with deficient accessibility. This order of decisions established the bases for the geographical marginalisation of housing estates for many years (fig.14).



Fig.14: Mass Housing Estates around the first periphery of Barcelona were originally distant from the city centre. With the construction of the Rondes during the first 90' these neighbourhods become areas with an extraordinary metropolitan accessibility.

However, the metropolitan area is a very different place today from the city in which these neighbourhoods were built more than half a century ago. The construction of new infrastructure, the diversification of activities and an increased conscience regarding large-scale environmental balance have introduced very substantial changes in the way our metropolitan areas are understood. MHE, originally isolated, monofunctional, with poor accessibility and placed in environmentally rundown areas, have become habitable environments with a high potential for territorial accessibility situated in a very diversified functional mosaic and close, in some cases, to non-urbanised areas which are perceived increasingly more as reserves of environmental value to be protected from urbanization (fig. 15).



Fig.15: Urban Greenstructure Plan, Overvecht-Utrecht, Anne Beer, 1996.

Once improvements have been assumed on a neighbourhood scale and criteria established for balancing constructed heritage with its capacity for transformation, all that remains is to relocate these neighbourhoods in their metropolitan environment. Territorial planning which provides a programme to integrate infrastructure, activities and environment would certainly have the capacity to give these housing estates new value, transforming them into privileged residential environments with the enormous attraction that history has denied them until now.