Requalification of Housing Suburbs: Urban Project for Covilhã

Ana Virtudes¹, Yasmin de Nadai², Caroline Silveira³, Luan Goulart⁴, Luana Garbini⁵

¹University of Beira Interior, Covilhã, Portugal
²Federal University of Paraná, Curitiba, Brazil
³Federal University of Santa Maria, Cachoeira do Sul, Brazil
⁴Franciscan University, Santa Maria, Brazil
⁵Mackenzie Presbyterian University, São Paulo, Brazil

virtudes@ubi.pt

Abstract. This article has a graphic and illustrative sketch of the urban requalification project for the suburban neighbourhood of Covelo, in the surroundings of Covilhã, in the interior of Portugal near to the border with Spain. It was carried out for a subject of Urban Planning of the University of Beira Interior during the mobility program with Brazilian universities. It is a low-density residential suburb of single-houses typology. The methodology applied in a first phase includes an analytical research of the area features, supported by field visits, sketch maps and municipal documents that regulate the processes of edification, urbanization and urban requalification. The second phase included the preparation of visual maps that allowed the construction of a set of conditions, weaknesses and potentialities of the area, considering its characteristics and morphological elements. In the third phase, an urban diagnosis was elaborated showing the failures of integration of this suburban neighbourhood at the urban network of Covilhã, with a massive presence of urban voids, low quality and scarcity of public spaces, undersized streets structure and lack of commercial attractiveness. In the fourth phase, the urban design solution aimed to create democratic spaces for meeting and leisure, based on concepts such as permeability, accessibility, readability, diversity, flexibility, identity and ownership of the local community, residents and visitors. The requalification project aims to clarify the public and private realms of the spaces and the creation of an environment where everyone can experience the individual and the collective within the same neighbourhood. The propose is a long-term development and should be considered in phases as the community grow. It aims to allow the neighbourhood expansion, restructuring the street network and, after that, the following steps like implantation of a small business centre. It is believed that the result is an attractive proposal for the local and that, through the urban design project, citizens will be invited to take ownership of the new public area while creating a more healthy community, with a sense of collective responsibility for its maintenance.

1. Introduction
As a result of the activity carried out in the discipline of Urban Planning, in the Architecture course at the University of Beira Interior, in Portugal, this article is formed, with the objective of analysing, documenting and proposing a project of urban scale for the Covelo neighbourhood, located in the city of Covilhã. This suburb is the result of a sequence of several disconnected urban developments, poorly planned along to...
many years. Thus, this article intends to report the development process of the requalification project proposal and explain the discussions that involved the study in order to understand the needs of the case study area. It should be noted that, due to academic purposes, the elaborated project deals with only a section of the neighbourhood, however much the analysis considers the whole (Figure 1).

Based on Paulo Peixoto’s [1] concepts, the actions of requalification and rehabilitation have a multidisciplinary character and a self-explanatory meaning in themselves, when applied in urban operations. Understanding the origins of these key words in urban planning is essential for the intervention process in intensely or moderately consolidated areas, such as the case study. Therefore, for a clearer understanding of the reasons and directions of the proposal for the Covelo suburb, it should be emphasized that this is a process of requalification since the term “rehabilitation” automatically recognizes the need for restoring degraded elements and to give them the dignity of their lost qualities [2]. While the rehabilitation is directed at the building, this proposal aims to act on consolidated surroundings, requalifying the public spaces that are only a consequence of a poorly planned urban design, but with physical and social characteristics in operation.

2. Features of Intervention Area
The intervention area is located in the housing suburb of Covelo (Figure 2), in the city of Covilhã, district of Castelo Branco (Portugal), a region near to the border with Spain. The area has a low-medium density (by the number of residences) when compared to the city [4], and extends for about 11,63 ha, of which approximately half refer to urban voids, about 5,88 ha.

![Figure 1. Location map of the intervention area in Covilhã, Portugal [3]](image1.png)

![Figure 2. Covelo suburb in Covilhã, Portugal](image2.png)
Away from the city centre, Covelo has a middle class standard, bordering the rural environment and suffers from the lack of public facilities, leisure and services and the predominantly irregular and disconnected layout in urban morphology terms. What hinders mobility within the suburb for both motorized vehicles and for pedestrians and cyclists, since there are no sidewalks in some streets and in others there are not enough space and adequate infrastructure?

Such characteristics combined result in determining factors for the impoverishment of social relations, which should give life to the public space and, instead, represent a set of subdivisions with the feature of an intramural society. 61 buildings were mapped (Figure 3) within the intervention area, adding up to 21,892.20 m² of built area, referring only to housing, with a predominant typology of 2 floors single-houses. Buildings for commercial uses or services were not found in the study perimeter.

3. Urban Requalification Project

3.1. Methodological Approach

In this project was used a methodological approach organized in four steps. The first phase was an analytical research about the urban project implementation, evaluating municipal planning and building rules which are compulsory on this place, making visits in loco to the area in order to prepare urban mental maps [5]. These maps are the materialization of the collected ideas and perceptions obtained in the field. The second phase deals with the data compilation obtained by the SWOT analysis - Strengths, Weaknesses, Opportunities and Threats [6]. It considers the physical-social characteristics and morphological elements of the case study area. In the third phase, the matrix data is interpreted and an urban diagnosis is made, which points out the design strategy needs of the place. Connection problems and lack of urban continuity were identified between the urban fabric of the city and this suburban neighbourhood. Additionally, there is the recurrent presence of large urban voids, low-quality public areas which basically are what is residual from the design of the single-house plots, undersized streets structure and general low attractiveness, both for merchants and for the residents themselves.

Finally, considering the poor standards of public spaces, locals prefer to limit themselves to the private environment of their houses and generous plots size (with garden, swimming pool or barbecue) and avoid the community spaces outside. In the final phase, the concepts for the urban requalification project are defined to achieve the goal of creating democratic spaces for meeting and leisure with adequate infrastructures [7].
3.2. Urban Diagnosis

The urban diagnosis previously carried out revealed the need to connect this suburb with the city in terms of attractiveness and to make it a community that goes beyond several disconnected urban developments. Consequently, the creation of an address where people feel invited to take advantage of the public spaces, the sense of community and a strong urban identity, take ownership and experiencing it, has guided the proposal for urban requalification.

In this context, three principles were defined to help to achieve the project’s objectives: creation of healthy public spaces, mobility improvements and street safety. It is important to note that, although the proposals are inserted within a partial intervention polygonal to the area, their impacts were measured to have the effect of urban acupuncture, that is, a punctual requalification with effects that extend positively to Covelo as a whole.

Some authors emphasize that green areas become a reference point for every region where they are inserted, as they are strongly associated with recreational functions, such as walking, playing, contemplation, as well as socializing among the people who frequent them. Thus, it was observed that the empty squares or several urban voids would be a great potential to give Covelo a green structure with good social and physical qualities. As a result, there will be an increase in the frequency of people in the public spaces and physically active behaviours.

When dealing with the mobility system of the intervention area, it was important to think about how the streets connect with their surroundings. The city centre is about 2,20 km from Covelo neighbourhood. So, the streets must allow easy access to public transport that connects both areas and facilitate mobility within the area in different ways. Seeking to elucidate the current streets situation, a positive (urban fabric of the buildings) and a negative (urban structure of the streets) map was created that makes the problem of under-dimensioning and tortuosity of street profiles visual. Thus, in order to guide the proposed changes, some criteria of special attention were scored, such as the definition of main streets, the continuous flow or easy access to cars, buses, pedestrians and cyclists. As well as the connectivity of the parts that make up the area and the continuity of the streets’ layout, allowing for possible future expansions. From here, it was proposed to readjust the streets according to the parameters established by National Planning Ordinance nr. 216-B/2008, in parallel with the definition of the new street axis for public transportation and the design of a new street with the objective of defining a central path, following an existing layout improvised by the residents. Furthermore, a pattern for the sidewalks was determined in order to facilitate and encourage pedestrian walking and a cycling path to promoting the use of bicycles and soft mobility ways within this neighbourhood, facilitated by a smooth terrain. To this end, the cycling path was designed and defined that runs through attractive stretches and that can be connected with the rest of the city in a future urban soft mobility project.

Finally, in order to fulfil the safety requirement in the requalification project, it was studied what actually reflects on people the feeling of being safe in an open environment, such as streets, parks and squares, without the need to implement physical barriers in the public spaces. The literature shows that the more people on the streets walking on the sidewalks, the lower the number of criminal acts, a situation called “eyes on the streets”. Strategies that create symbolic barriers and strongly defined areas of influence also articulate with increased street surveillance to create a space that can be controlled by its residents. Even more, the habit of positive and diversified social activities also encourages residents to take ownership of the space and take advantage of natural surveillance.

Social control of access also contributes to maintaining a safe environment, discouraging the offender by increasing the risk of being caught, for example, channelling circulation to different exits / entrances through sidewalks, expressive lighting and correct afforestation. Another interesting theory regarding the security of public spaces is that addressed by the literature. According to
these authors, the theory of broken windows can be summed up in the idea that if a window in a building is broken and does not get repaired quickly, the tendency is that soon other stones are hurled at the other windows and eventually start to destroy the building by complete. In this sense, this project sought to design spaces that attract eyes at different times of the day, such as local services that operate during business hours and others at night, in which case the gastronomic trade is proposed has a great attraction for a diverse set of natural watchmen in the area.

The proposed park must operate 24 hours a day without restrictive gates, avoiding creating a safe space for residents to observe suspicious activities. The appropriation of space can be encouraged by socio-cultural activities carried out in a square with diversified equipment for all ages and the headquarters of a neighbourhood cultural centre, creating a sense of territoriality in its residents. The infrastructure project must be complemented with adequate lighting and the spaces designed with aesthetic appeal, creating a feeling of quality among residents and increasing the prospect of maintaining public spaces on a regular basis.

4. Urban Requalification Proposal

The scope of the urban requalification proposal permeates the precepts of continuity between spaces, readjustment of the streets’ layout, reduction of urban voids by proposing new uses to them, creation of meeting and permanence areas and proximity to local commerce. It is intended to promote the attractiveness of the area, both for residents and visitors (Figure 4).

4.1. Streets System

A new dimensioning was proposed for the streets’ profile, following the measures established by already referred National Planning Ordinance nr. 216-B/2008 [10]. Therefore, the majority of streets (with the exception of a single stretch in which consolidated buildings did not allow the widening of the street without the demolition of existing buildings), were standardized in 9,70 m, with 6,50 m for cars lane and 1,60 m for sidewalks in both sides.

In this sense, one of the streets that intersects the neighbourhood in its central area and delimits the area of intervention has a problem of attractive potential versus limiting physical form. As it is in a centralizing axis of the neighbourhood, this street has become important for the new dynamic proposed. However, the irregular shape and great narrowing in its final stretch prevented the formation of a collecting street with two car lanes. The solution was to create a street that is organized in two different profiles, both with a lane for cars in the most natural sense of entry into the neighbourhood,
however, with different profiles of sidewalks. The first section is what will make the sidewalks, in addition to being walkable, also habitable, articulating with a proposed small commercial centre, on one side of the street, and with the green park on the other. While the second, due to the buildings already consolidated along to the alignment, will have the minimum dimension for the cars traffic and the pedestrians on the sidewalks (Figure 5).

![Figure 5. Sections of the commercial route at the beginning (a) and at the end (b) of the street](image)

Due to the narrowing of the profiles of existing streets, parking spaces were not provided in all car lanes. As is currently the case in this area, causing conflicts between parked and circulating cars, and between these and pedestrians. It is possible to park only in the places determined by the streets’ restructuring project, which includes a parking lot of 4.351,02 m².

Seeking to facilitate access to public transportation within the neighbourhood and encourage its use by residents, the bus line has been redesigned and new stops have been proposed. The idea is to circulate inside the streets with adequate profiles to receive a large vehicle and take a less tortuous path, compared to the current route. In this sense, the new route has stops at strategic points, such as close to the shopping centre, at the entrances to the green park and at points of higher concentration of residences (Figure 4). Therefore, it contributes to making access easy for the entire local population and for the expectations of floating people, including commuters.

Even more, the proposed streets system includes the already referred bicycle path that crosses the neighbourhood (Figure 6). It permeates the continuity between meeting and leisure areas, with the possibility of continuing towards the city centre. This bike path emerged as an inevitable proposal for urban requalification, bringing the project closer to both, the concept of soft mobility and the creation of a healthy suburban residential area.

![Figure 6. Final Proposal for the Urban Requalification of Covelo, Covilhã](image)
4.2. Commercial Activities
The proposal to implement a strip mall (Figure 7) arose from the need to create a centrality in the neighbourhood and to give life to the public spaces, attracting looks and movement. To do so, the project defines that there will be 1,648.65 m² for a street mall in the centre of the neighbourhood, composed of 14 wooden modules of 8.00 m x 10.00 m each, with a ceiling height of 6.00 m, which may have a mezzanine. The dimensions of these modules were defined in order to foresee the growth of this area by the insertion of new plots and by the attraction of city residents to visit this new mall on the street. Of these, 50% are used for gastronomic commerce and the remainder for vicinal commerce. In addition to attracting the public, the objective is to attract new businesses and consolidate the possibility of meeting among residents or people from other parts of the city, who may come to the new establishment.

![Figure 7. 3D models of the proposal for the Strip Mall](image)

4.3. Public Spaces and Facilities
The definition of public spaces was based on the intention of creating green areas that encourage contact with nature and outdoor activities. As well as spaces that create opportunities for cultural interaction between residents, awakening feelings of belonging and responsibility in what concerns the public realm (Figure 8). The solution for a Public Green Park (Figure 9) emerged as the crucial point of the proposal, to encourage a healthy and social life within the neighbourhood, with the opportunity to occupy a large void in a block of approximately 15,000.00 m². The project proposes the implantation of a park that branches into the central area of Covelo, spill out onto the sidewalk at different points and invites passers-by to discover the green space inside, contacting with nature. The project proposes hiking trails, bicycle paths, kiosks and spaces for contemplation, either facing a water mirror, or in the shade of a tree canopy (Figure 10).

![Figure 8. Linear Green Park proposed](image)
The second area proposed for public use seeks to make room for those who wish to expose their talents or participate in collaborative activities. It was called The Cultural Plaza (Figure 9), and it is a revitalization of an existing space, but previously with low quality and unattractive equipment, under-utilizing its social potential. The proposal includes the creation of diversified elements of urban furniture for all age groups, and spaces for outdoor workshops.

5. Conclusions
The requalification proposal shows itself as an example of the application of several urban theories that argue in favour, not only of the quality of the public space, but also of the life that will take place in it. The intervention was focused only on a certain part of Covelo suburbs. However, the intention of the presented proposals was to create a positive effect on the entire neighbourhood, stimulating its occupation in an orderly, mixed and healthy way for its inhabitants and visitors. The result, although not put into practice, is understood as satisfactory in order to invert the addressed problems and a first view of what may in the future become a qualified growing suburban neighbourhood.
Reinforcing identity and a sense of community were the key concepts that guided the urban proposal. Keeping its characteristics as a residential neighbourhood and single family homes, the new approach endows Covelo with a collective sense of responsibility towards the public space, which will make it more alive.

Finally, there is the hope that this project will contribute to inspire local authorities, who have a pivotal responsibility to guarantee the conditions of safety and sustainability of residential areas, and thus, draw the attention of municipal government entities so that they can serve as subsidies for the realization of improvements in Covelo. These actions could be made in order to follow a detailed local plan, stimulating the neighbourhood’s growth scale in a responsible and healthy way.

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References
[1] C. Fortuna, and R. P. Leite, Plural City: New Urban Lexicos (in Portuguese: Plural de Cidade: Novos Léxicos Urbanos). Coimbra: Edições Almedina. p. 16, 2009.
[2] Calasap apud SIRCHAL – Site International sur la revitalisation des centres historiques des villes d’Amérique Latine et des Caraïbes (1995); The Urban Conservation Glossary, de Neil Grieve (s. d.), tutor na Universidade de Dundee no curso de pós-graduação de Conservação Urbana Europeia; CriDaup (s. d.) – Criação de uma Rede Informativa para a Documentaçaçã o de Arquitectura, Urbanistica e Planeamento. [Online] 2019 [Accessed 03 sept. 2019]. Available at: https://estudogeral.uc.pt/bitstream/10316/80281/1/Requalificacao%20urbana.pdf.
[3] Google maps. Intervention area in Covilhã, Portugal [Online] 2020 [Accessed 22. 03. 2020] Available at: <https://www.google.com/maps>.
[4] INE, Annual Statistis of Centre Regional (in Portuguese: Anuário Estatístico da Região Centro 2012). Lisbon: Portuguese National Statistics Institute. p. 33, 2013.
[5] K. Lynch, The Image of the City. The MIT Press, 1960.
[6] A. Humphrey, SWOT Analysis for Management Consulting. SRI Alumni Newsletter. SRI International, United States of America, 2005.
[7] I. Bentley, A. Alcock, P. Murrain, S. MsGlynn, and G. Smith, Responsive Environments: A Manual for Designers. [S. l.]: MPG Books, 1997.
[8] J. Lerner, Urban Acupuncture (in Portuguese: Acupuntura Urbana). [S. l.]: Record. P. 128, 2003.
[9] A. C. N. Cassou, Environmental Features: use frequency of phisical activity level in parks ans public squares of Curitiba-PR (in Portuguese: Caracteristicas ambientais, Frequência de utilização e nível de atividade física dos usuários de parques e praças de Curitiba-PR. Curitiba. 130 p. Dissertação (Mestrado em Educação Física) – Federal University of Paraná, 2009.
[10] National Planning Ordenance NR. 216-B/2008, 3º of March. Portuguese Republic Diary n.º 44/2008, 1º Sup., S. I de 2008-03-03, Lisbon, n. 216-B, p. 1372-(3) a 1372-(5), 21 out. [Online] 2019 [Accessed 06 sept. 2019] Available at: https://data.dre.pt/eli/port/216-b/2008/03/03/p/dre/pt/html.
[11] J. Jacobs, The dead and Life of Great American Cities. Penguin Books, 1961.
[12] O. Newman, Creating defensable space. EUA: Center for Urban Policy Research Rutgers University, U.S. Department of Housing and Urban Development Office of Policy Development and Research, 1996.
[13] P. Cozens, New urbanism, crime and the suburbs: a review of the evidence. Urban Policy and Research, v. 26, n. 4, 2008.
[14] T. D. Crowe, Crime prevention through environmental design: applications of architectural design and space management concepts. Boston: Butterworth – Heinman, 2000.
[15] G. L. Kelling, and C. M. Coles, Fixing Broken Windows: Restoring Order And Reducing Crime In Our Communities. 1. ed. [S. l.]: Touchstone Books. p. 336, 1998.