

Interactions between Infra-structure and Urban Fabric

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This article analyzes the interaction between infrastructure and built urban fabric.

The quality of urban space together with the mobility in spaces that comprise it and with different types of traffic supported, prevents segregation and confers diversity to the city spaces clearly influencing the morphology and urban growth.¹

The development of infrastructure in time shall be considered as an important parameter in creating solutions for the future. The article produces this analysis through case studies in the cities of Lisbon and Barcelona. In this context were analyzed two seemingly disparate situations. The case studies are the evolution of the 2^a Circular in Lisbon and the Ronda de Dalt in Barcelona and their influence on the surrounding urban fabric.

Since the Plan Groer 1938-48, the 2^aCircular changed its profile and integration into the urban fabric. At first it was a link to the airport and to the highway north. Due to its metropolitan characteristics today, with new circular external routes replacing in part in its function, the 2^aCircular can now become an urban boulevard.

In Barcelona, the process concerning the circular routes (circular set defining the "Olympic Ring", 1992) led to worries about the adjacent suburban fabric, from the Plan Cerdá up to contemporary solutions, in order to reconstruct continuities through places poly-functional integrated in a permeable urban fabric.

The possibility of achieving a more functional interaction and connection between the pedestrian traffic, bicycle traffic and road traffic is feasible, as exemplified in Barcelona, as long as they are conceived and designed as a continuous urban matrix and not as isolated elements. Today it is impossible to separate the centre and periphery, making it imperative to plan and develop them

¹ Solá-Morales i Rubió, Manuel de (1993) *Les formes de creixement urbà*, Edicions UPC, Barcelona.

together and extended mobility systems.² So the combination of the morphology of the existing urban fabric with the design of future infrastructure becomes imperative.

The methodology applied in the morphological analysis, starting with the Ronda de Dalt as reference, allowed to reflect on guidelines and practice in combining urban design objectives for building new places of connection, feasible in the situation discussed in Lisbon.

The tendency to combine the concern for the quality of public space with the effectiveness of road network in the internal and external connections, allowed Barcelona to simultaneously improve the coherence of the urban fabric, in particular by making timely interventions intersections true squares and parks, which contribute to a functional and beneficial articulation of the integrated traffic system. This integration requires alternative ways of handling traffic and interaction between its different types and modes.

It is necessary to describe morphologically the public spaces so that they can add identity to these new places. The close interaction with qualified space morphology is reflected in the production of qualified urban space in their surroundings.³ Thus it is possible to foster a positive and functional morphological evolution through urban morphological elements, and consequently the surrounding urban fabric.

We conclude that:

a) it is possible to establish a profile and intervention interaction between the 2nd Circular and Ronda de Dalt, whose profile resembles. If the Rondas of Barcelona take a role in relieving the central city, the 2^a Circular also has that role but presenting itself (with the completion of CRIL) in a final phase where its transition to route of the urban nature calls for the recovery of its own criteria of Public Space;

b) these cases should above all seek to produce design solutions with different characteristics of the current, more flexible, allowing a more accessible and constant update in an adaptive morphology of values of continuity and urban landscape. These solutions should thus take into account the space-time factor;

² Herce, Manuel (2009) *Sobre la movilidad en la ciudad*, Editorial Reverté, Barcelona

³ Lamas, José Manuel Ressano Garcia (1993) *Morfologia urbana e desenho da cidade*, sl: Fundação Calouste Gulbenkian, Lisboa.

c) urban space has become more complex. To prevent the organizing concept of urban traffic from conflicting with urban design, so that both tend to contribute to a city most comprehensive of its most extended and more liveable, it is no longer possible to separate urban design from road infra-structure projects.

Keywords: Infra-structure, Mobility, Urban Morphology, Urban Fabric

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