

RECENT TERRITORIAL DYNAMICS IN THE BARCELONA METROPOLITAN REGION

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Studies on urban phenomena towards the end of the 20th century and beginning of the 21st century have a strong tendency to focus on metropolitan components. The major socio-economic transformations in the world at present are not taking place in isolated urban nuclei, but rather in territories defined by the interrelations between various cities of varying sizes and profiles. The metropolitan phenomenon has become the spatial expression of globalisation (Belil, 2003), and so it follows that, in the words of Méndez (2009), they have become privileged observatories from which one can analyse present day urban and social reality. Many of the studies by Sassen and Castells tackle the crucial role of major metropolises from different methodological perspectives in the process of economic growth, and these have not been in vain. Furthermore, in this process territory has been perceived as an essential economic growth factor in recent decades (Florida, 2008; Salom, 2010).

Many metropolitan areas and Barcelona is no exception, have been created around mature central cities with high-density populations and a very distinctive urban hierarchy. However, as of some decades ago the peripheral growth of metropolitan systems has ceased to take on homogenous and subordinate forms and functions. Various American and European metropolises are witnessing a substitution of the old monocentric and hierarchical layout for one which is more polycentric and reticular (Filion et al. 1999; Ferrao, 2004; Méndez, 2009). The features which optimise the territorial dynamics of these polycentric metropolises are being researched from various social science perspectives on the basis of population redistribution, land use and mobility models.

The changes in territorial dynamics reflect changes in the economic base of the cities, and often entail territorial relocation. While at first economic activities were located in traditional urban stretches of major urban nuclei in metropolitan areas, for some years now they have been established in more or less isolated peripheral spaces and in medium or small size urban nuclei which are well linked to the metropolitan centre (Crevoisier and Camagni, 2002; Muñiz and García López, 2010). To this process of decentralisation one can add the parallel concentration dynamics of new activities, known as central functions (Caravaca y Méndez, 2003) or knowledge, information and communication activities which form agglomerations located in the centre of the major metropolitan areas (Cuadrado and Del Río, 1993).

The Barcelona Metropolitan Region (BMR) is a dual urban model (Miralles-Guasch, 1998; Marmolejo and Roca, 2008). Although the peripheral areas are taking on a more important role, quantified in terms of population and economic activities, the centre also acts as a intensive capital inner city for economic activities and is very active in cultural and social terms. This is a dual model for which it is not uncommon to find a fragmented administrative map, with an urban morphology which alternates between the compact and the sprawling city, uneven population densities and economic activities that begin to link to territories and knowledge economies.

These varying densities across the Barcelona metropolitan areas reveal two forms of urbanisation and land use. In the metropolitan centre, Barcelona and its urban continuum, there are urban areas which are compact in form and complex in terms of functions, which is the result of technical and political policies which favour a city with dense and continuous urban spaces. To this we can add a homogenous and mixed distribution of urban functions, which means that across the city there are no spaces set aside for a single function, be it commercial, residential or industrial. In contrast, the land use model in the metropolitan periphery (Muñoz, 2006) is characterised by zone functionality, urban fabric discontinuity and low population densities –more in the second belt than in the first, and with the exception of historical nuclei in medium-sized cities (shown in figure 1).

As regards the distribution and development of economic activities in recent years, one can draw similar conclusions to those for the population. There is a displacement process of economic activities towards outlying municipal zones, in search of better conditions and accessibility, although Barcelona and the municipalities of the central metropolitan nucleus still continue to show a great degree of economic dynamism. This process begins with industrial activities to which one can add more recently the tertiary sector, commerce and also education and health centres. However, as pointed out by Marmolejo and Roca (2008), there is also a model of compact siting, re-centralising and concentrated of activities related to information and knowledge management which further underlines this dual urban model.

The two previously mentioned urban models (metropolitan centre and its peripheries) translate into two distinct mobility models, according to the various modes of transport used. The high urban densities and the greater offer of public transport in Barcelona and its urban continuum are determining factors to explain why public transport is used most here, with figures of around 30 % on a working day and 20 % weekends/public holidays. This fact, along with the high figures for people who travel on foot (almost half), has a bearing on the low use of private transport modes in this central BMR area. A contrasting tendency emerges as we move further away from the metropolitan centre, where there is greater reliance on private transport to the detriment of public transport.

A view of the BMR urban and mobility models would be incomplete without including the resulting costs these entail, particularly for society and the environment (Miralles-Guasch, 2002). From among those mobility-linked costs for society and, in turn, for the territory, the most important are those related to travel time and traffic accidents. The three transport modes which make up the mobility model break down as follows from shortest to longest average time spent travelling: non-motorised, 15 minutes; private transport, 21 minutes; and public transport is greater than 37 minutes. The distribution of these modes at a territorial level reveals that public transport is the mode which varies most: the further we

move from the city of Barcelona, the longer the time spent travelling. This an issue related to public transport availability, where the offer is much more extensive in terms of services, frequency and intermodality in the metropolitan centre –especially in Barcelona– compared to the peripheries.

These differences between the different means of transport, when associated with the cost on the environment result in different urban and mobility models entailing different environmental dysfunctions. This uneven distribution is also a distinguishing factor between the centre and the metropolitan peripheries. With the growing use of private transport in daily travel and an increase in the distances travelled, transport energy consumption has increased in recent years. The BMR Mobility Plan (*PDM*, 2005) envisaged a 10.48% increase in transport-related fossil fuel energy consumption for the period 2004-2012, with an annual increase of 1.2%, and also proposed a 5.8% reduction in energy consumption per inhabitant for the same period.

In short, the metropolitan dynamics in the Barcelona Metropolitan Region not only represent an expansion of certain activities, but also a re-definition of the centre and its periphery. This is a re-definition which requires a multivariable analysis where the population, economic activities, housing typology, mobility models and costs for the society and the environment can help to define these dynamics. Added to the perspective of a complementary analysis of these variables and processes in the centre and metropolitan periphery.

