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# **ARTICLES**

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## FUNCTIONAL CENTRALITY AND EFFECTS ON METROPOLITAN RECONFIGURATION

**Amalia Vahí Serrano**  
**Virginia Rodríguez Díaz**  
**Claudia Hurtado Rodríguez**

Departamento de Geografía, Historia y Filosofía. Universidad Pablo de Olavide. Sevilla  
avahser@upo.es

The population and activities increase on urban areas in the last 20th century and the first decade of the 21st century is evidence around the planet. It is an expansive growth of generalized character that has come from the hand of multiple social, economic and environmental factors linked to historical development. In this context, urban growth, with its increasing demand for space and power, has resulted in the metropolitan scale identification, with new scenarios and actors in which the presence of services has been imposed spatially to the rest of the economic activities. The metropolis of 21st century undergoes a conformation and distribution functional according to which recognize the new nodes and areas of centrality in lathe to major facilities that attract not only capital and investment, but also on commuting

This article presents the significance of addressing the metropolitan city phenomenon, incorporating the complexity of scales and the role of the elements that interact, managing the authors look and analysis toward the great centres of activity in the new urban development. The incorporation of different scales, sectors of activity and hierarchies, have the treatment of data and subsequent analysis require approaches daring but firm and objective, able to involve solutions for new conflicts on the nodes, networks and mobility..

Areas and urban agglomerations have singular processes and transformations although direct partners are detected numerous cases consistent guidelines, such as the fact that certain services (for example, shopping, trade or health care to certain levels), rely on peripheral sites at the level of the central city and indirectly to the road mesh that supports the mobility of Metropolitan scope. Decode their patterns and relationships helps to understand certain patterns of growth and functioning in the metropolitan areas, which in turn can lead to approval or review of urban management undertaken, from monitoring and evaluation. In short, it is minimizing raised tensions in these areas, hence the interest of this article.

These processes are clearly identified given the interest in the search for solutions to some of the major problems occurred (multiplication of everyday movements and consequent excessive motorization, loss of environmental quality, inadequacy of soils to applica-

tions that are using, etc.). In General, Europe also echoes the evolution followed, as many of its reports and publications manifest (see EU Transport White Papers, Green Paper on urban mobility,...). Really interest and research on these issues has a not very long stroke and emerge almost in simultaneous processes precipitated by the evolution of the population, economic activities and the occupation of soils.

While it is true that there are no official delimitation in our country, at the time applied criteria by public institutions. We find some samples in Statistical Atlas of the Urban Areas in Spain (Housing Office; 2007); the Observatory of the Metropolitan Commuting and Mobility, etc. based on the size and spatial criteria ending does not satisfy the need for cohesion demanded by the own affected areas. Throughout the 2000s, progress on the criteria of delimitation of the metropolitan areas and the work methodology, in line with those used has been made and used in other countries of the developed countries (Feria, 2004; Casado, Coombes, 2005).

The need to resolve this issue is not something trivial, since so increasingly insistent and pressing, is detected a demand by Governments for relevant areas to cope with the dimension less than the provinces and regions. The results of recent research have allowed to trace with precision map of metropolitan areas in Spain, according to a complex methodology proven and recognized (Borruso, 2003;) Feria, 2008; Salom, Albertos, 2010). Contrasting criteria and in accordance with available sources, Spain recorded 46 metropolitan areas with a registered population of 31.745.459 inhabitants. This figure contains two significant facts: represents 67.27% of the Spanish population, and the total surface of the areas reached 14% of soils from the territory of the State. Spain is the fourth most populous country in Europe (behind Germany, France and United Kingdom), although their population density is behind all the Central European countries and others from southern Italy or Portugal.

On the threshold of the second decade of the 21st century is identified a variety of size (population and extension) and dynamic (markets, daily mobility, land use,...) of the Spanish areas. This diversity and complexity thicken the knowledge and information about the Metropolitan changes in our country, and in consequence today are known relevant search results on the genesis, variations and implications from interdisciplinary perspectives (Feria, Albertos, 2010) on which it is necessary to deepen. In accordance with this, the metropolitan, (demographic, though not in exclusive) characterization contributes to proposals of territorial and urban planning that does not escape planning services (Vinueza, 2012). On this basis of diversity and complexity of the analysed reality, article aims to identify the role and scope carrying large equipment in metropolitan settings in this country.

The delimitation of large centres functional activity, the urban backbone delimitation of large functional activity centres as urban backbone is inserted into a comprehensive conception of the Metropolitan complex reality, to detect is that these elements are often incorporated into planning ignoring or underestimating their abilities to set up new urban spaces or reformulate the existing. The spaces developed in Spain are successive phases of expansion which intensified in the second half of the 20th century. With differentiated and character in multiple directions according to the cases, the real estate market prompted a centrifugal growth unprecedented by joining parts, sectors and localities (formerly distinct), and all through processes of *suburbanization* and *peri-urbanization* that have given rise to the metropolitan development. The role played by certain activities through its location and dimen-

sion has not gone unnoticed in recent times, when the effects of that Metropolitan dynamics have made feel. In that sense are unavoidable references analysis that for cases of Madrid or Barcelona have made some researchers, primarily focused on industrial, commercial activities and distribution (Méndez, Gutiérrez Puebla) among others. The fundamental premise of this text located at the great centres of activities as inducers, in part of commuting and other mobility causes, and therefore as partners within the planning in the resolution of tensions and answers, at least of the housing market, the communications infrastructure and transport services.

In the supra-local scale patterns of frequent mobility of the population lead to redesign the overall systems and certain services with the consequent guarantee of - at least - proximity and accessibility. The opportunity provided by these changes, at the service of urban growth, served to reorganize the provision of certain equipment, contributing at the same time to resize the commercial offer, with sizes of establishments over the traditional and a spatial organization connected to the new needs that were emerging (Vahi, 2007). Gradually, the health and education were being subsumed by the socio-political model that opened the services to a greater number of people with private ownership entered into competition with the public, and from there went to the construction of hospitals and universities that demanded large plots in accordance with the offer that was intended to ensure. Simultaneously, the earlier and precedent industrial estates were giving way to productive areas of new generation and urban criteria (typological diversity of estates and business centres/parks,...), with the consequent emergence of intermodal transport and the logistics centres. New version of productive areas (from 80s in Spain) lavished to the point of other new estates and parks frequently breaking urban and environmental rationality (at least from planning perspective). The hand of the companies themselves (or sometimes induced by external factors such as the University, Public Administration Offices,...) there were new developments by incorporating the keys to innovation and research for the improvement of quality in processes and products, something that led to the endowment of spaces of centrality converge where entities involved in R+D+I and interested in sharing synergies resources and opportunities on the same space with the consequent reduction of costs. Very synthetically, it can be said that were born so much of technological parks in Spain.

The identification of these nodes, active centrality spaces, *Urban Peripheries* and what we call *Metropolitan Territory* (Vahi, 2007) entails the task of disaggregating uses and elements integrated in them as well as deciphering its role on the supra-local or municipal urban functional system and above all, interpret the scope of the strengths and weaknesses that emerge from complex dynamics. From the scientific perspective, the objective should be to determine the minimization of threats or mark channels of opportunities which of the great centres of activities (G.C.F.A. Spanish acronyms) to the Metropolitan reconfiguration from the complexity of *strategic environmental assessment*. Given increased travel that have investigations around the productive spaces in our country, and the relative lower incidence of these on daily mobility, we focus the attention in large shopping centres and other services as the public facilities of higher level as Colleges, Hospitals, Goods Transports Centres,...

The spatial dynamics observed in the Spanish metropolitan areas shed enough information to verify the relationship between users and services, some of which have developed locational strategies associated with the size of the offer and, necessarily, of the spaces

they occupy. Such is the case of the functional activities centres, than in any of the types addressed (trade, health, University, technology, logistics) provided next to the satisfaction of the demand for which are created, some conflicts or tensions on the territory on which it is necessary to deepen the perspective of planning and consistency. These centres have been anchored to the layout of large infrastructures of transport and communications, so these functional centres. are not understood if they are not basically associated with the first level road networks. The great centres of activity not only exercise its function as specialized services they accuse an inevitable role in the scheme of the metropolitan urban mobility, something that requires improvements that facilitate the functioning of these centres and the operation of the networks.

Therefore the research on which this article is inserted raises under a systemic approach the integration of the elements involved in the metropolitan area. Research on the G.C.F.A. started with an exhaustive and thorough identification of elements from the difficult balance of criteria of diversification and uniformity that present. That is why the article raised part of the procedures contained in a methodology of which other tests are not known so far.

The comparative analysis of behaviours of G.C.F.A. types, location and areas, will allow to detect trends more or less based zoning for each of the types, over the central city, the first or second Metropolitan ring/crown, or both, as well as determine the inducing role of these centres on the appearance of linear elements such as fast roads and expressways, communications networks, intermodal transport central stations, etc.

Likewise, databases will be tested and union of layers with information relating to the system of settlements (hierarchy of centres of population, urbanization disperses...) leading, on the same line, to recognize the dialogue of the G.C.F.A. with the elements that surround them, if they are inductors or the result of a planning and a gradual demand.

The dimension of the project, the typological diversity of the object of study and casuistry in which join the great centres of activity do not prevent advance knowledge of these elements, their dynamics and the role on the whole of the urban and metropolitan reality. The character of centrality that have moved to the outskirts and metropolitan territories, makes the G.C.F.A. object of observation as that adopted a strong role along with other uses of soil, to processes of urban growth and, ultimately, to the complex daily mobility. The provision of general systems, including the communications infrastructure occupy prominent place are also contained in this complex scheme of Metropolitan reality that demands permanent attention and review/renewal of urban policies on lessons learned.