

CLARICE MARASCHIN, HELENIZA ÁVILA CAMPOS AND LÍVIA SALOMÃO PICCININI

Real estate market dynamics and urban
structure: case study of high-income
area in Porto Alegre-RS, Brazil

Clarice Maraschin is an Architect and Urbanist with PhD in Urban and Regional Planning – Federal University of Rio Grande do Sul (UFRGS) – Professor at the School of Architecture and Graduate Program in Urban and Regional Planning – UFRGS. clarice.maraschin@ufrgs.br

Heleniza Ávila Campos is an Architect and Urbanist with PhD in Geographical Sciences – Federal University of Rio de Janeiro (UFRJ) – Professor at the School of Architecture and Graduate Program in Urban and Regional Planning – UFRGS. heleniza.campos@yahoo.com.br

Lívia Salomão Piccinini is an Architect and Urbanist with PhD in Urban and Regional Planning – Federal University of Rio Grande do Sul (UFRGS) – Professor at the School of Architecture and Graduate Program in Urban and Regional Planning – UFRGS. liviapiccinini@hotmail.com

ABSTRACT

In the production of the urban space distinct and yet complementary initiatives of the main agents may be observed in the land use and occupation patterns, which are intertwined with socio-spatial transformation processes, market investments and the regulatory framework that guide the structuring of the cities. Drawing from the case study of Porto Alegre (RS), Brazil, this paper advances the discussion on some aspects of the relation between the real estate market dynamics and the socio-spatial urban structuring focusing on a particular area on the city's eastern-central axis traditionally occupied by high-income dwellers. The area is well integrated within the radiocentric urban pattern and is located on a watershed, which is one of the main structuring elements for the study area and which goes from the historical city center (the west end of the axis) up to Shopping Center Iguatemi area (the east end of the axis). The research draws on bibliographic research and statistical data on the incorporation of new buildings from the annual reports of the Rio Grande do Sul Building Industry Association (SINDUSCON-RS) for the period 2008 to 2010. The market agents role and the resulting urban land use and occupation socio-spatial process are discussed. Furthermore, the real estate market concentration and land prices increase are analyzed, especially in higher-income dwellers areas. The study concludes that despite the apparently intense dynamics of new developments at a local scale there is a relative stability throughout the years on the kind of appropriation of the urban land pattern along this axis, in comparison to the global scale of the city.

Keywords: Real estate market. Urban structure. Land use. High-income dwellers. Porto Alegre City.

This article discusses some aspects of the relation between the real-estate market dynamics and the socio-spatial urban structure, using the appropriation of the city of Porto Alegre eastern-central axis by higher income groups as a case study.

The phenomenon related to the real-estate interests and investments concentration in that specific portion of the city has occurred more intensely during the last 40 years, according to studies that address the theme¹. It has influenced upon land use and occupation city structure. This condition reveals the strong network action by agents linked to the real-estate capital, among other aspects, as well as the government auxiliary role, both for the execution of urban infrastructure, and for defining regulatory parameters for new developments implementation in areas celebrated by their notable valorization.

The case of Porto Alegre central-eastern axis seems to evidence a progressive investments renovation and reassurance of a high status character, generating a deep economic separation and causing socio-spatial impacts². This axis is located on the watershed that begins in the historic center and is largely integrated to Porto Alegre's radio centric urban system, having in the opposite side the Iguatemi Shopping Center as one of its main structural elements. Actually, this shopping center development in the 1980s increased the investments potential on the city's central-eastern axis. Moreover, it was encouraged by the interventions for the III Perimetral expressway construction in the end of the 1990s.

This work seeks to reflect on this process, using primarily bibliographic research to present the urban evolution starting on the 1970s, and secondly, analyzing statistical data gathered by the research carried out by SINDUSCON-RS.³

This paper consists of four sections: the first part discusses the agents' roles and the land use and occupation socio-spatial processes resulting from the real-estate market actions, notably in the Brazilian metropolises; the second part presents a brief study on the eastern axis occupation process in the context of the city of Porto Alegre since the 1970s; the third part presents some data, reinforcing the real-estate concentration argument and the land price increases in areas occupied by higher income population groups; and the final part discusses the results obtained and their implications for the understanding of the urban structuring process.

1. (Cabral, 1982; Maraschin, 1993).

2. We must emphasize that this axis is not the only high income class vector in the city. Porto Alegre also presents another sector to the South, more linked to the Guaíba Lake shores; nevertheless, this is more fragmented and less consolidated.

3. SINDUSCON-RS (Construction Industry Union) is an entity that publishes annually the real Estate Census, categorizing the new properties supply universe in different neighborhoods of the city of Porto Alegre.

Real-estate Market and urban structure: agents and socio-spatial processes in land occupation

The juxtaposition of different land uses (commercial, residential and industrial, among others), as an urban space characteristic, represents forms of appropriation or territorialization, effected by distinct social groups, directly and indirectly involved in these uses. Gottdiener (1993) considers urban forms as eventual products resulting from the dialectic articulation between action and structure, and not only as manifestations of more generic social forces. This articulation is capable of revealing both the adaptability of those spaces to the users group's necessities and interests, and also the social inequalities – which happen in ghettos and some environments, segregated from the cities dynamics.

Each part of the city interacts with the others, this interaction varying in terms of nature and intensity. This connection can be expressed empirically through vehicles and people flow. In the contemporary society, the city absorbs and evidences the materiality of these relations through profound and rapid socio-spatial changes. In turn, those changes involve the redefinition of the space-time equation embedded in the decision-making dynamics, in capital investments, and in dominance and territorialization practices; or else, in the city's construct according to the informational-technical-scientific society forms, characteristic of this stage of capitalism (Santos, 2004).

In the urban spatial structuring process, different centralities emerge and develop, gaining or losing importance along time. The urban centrality is an attribute that a given area, sector or region of a city, reveals through the concentration of activities that promote movement and circulation. This attribute results from and is promoted by the free market economy dynamics. Some city spaces present the appropriate environment to materialize it, be it for its accessibility and articulation with structuring road axes; be it for their location in relation to other city sectors; be it, yet, for uses and activities diversity occurring in those spaces. In this sense, considering the city as an articulated system of objects and actions (Santos, 2004), central spaces are not defined as such only because of their geographic position, but as related to their accessibility and land use competition, and the role they play in the parts and the whole articulation.

Traditional downtown areas, identified by equipment, activities and services concentration, begin to compete with new centralities as a result of the functional decentralization process. These new centralities originate from new concentration nodes, with singular characteristics linked to the place specificities and to the uses population give to it; they are defined as sub centers (Corrêa, 1997). As a matter of fact, contemporary cities present a dynamic, multi-polarized or poly-nucleated socio-spatial composition, in a hierarchic configuration

that represents different roles in the city context. Centralities stimulate the dissemination of spatial practices in which different agents produce the city; in other words, space-defined actions through which the most diverse projects by the most different social agents become feasible. They are characterized, therefore, as spaces that concentrate and disseminate activities, investments and informational, capital, people, and goods movements.

As a dynamic phenomenon in permanent interaction with other city structuring processes, the centralities promote the differentiation of spaces. Thus, centralities may occur within certain city sectors – a traditional central area, for example, with a relatively homogeneous land use and occupation pattern – or along circulation axes. In this case, it defines a linear centrality that will present distinct characteristics along its extension, as a result of influences of each neighborhoods it intersects. As parts of the city, these sectors or axes constitute dynamic components that change over time. Those changes are a recurrent phenomena in cities and are named spatial processes. They evidence the symbolic, economic and social attractiveness and importance of such centralities.

In terms of the urban space production and consumption dynamics, it occurs by means of different (production and consumption) agents with asymmetric power (economic and normative) and peculiar capacities of planning and developing strategies for the implementation of particular plans. Corrêa (1997) identifies the main agents in the production of urban space: the means of production owners, the land owners, the real-estate agents, the State and social groups excluded from the formal market.

Urban space production agents perform in an articulated form, through strategies and actions networks, progressively redefining the urban dynamics (Trindade Júnior, 1998). This plurality of individuals, converging to the same type of action, is mentioned by Gottdiener (1993). He uses the word network in the sense of a “web” to describe the confluence of generic determinations and local actions related to the urban land appropriation. Those networks, in turn, represent frontlines for spatial restructuring. The involved agents do not always present the same level of strength, but they perform as instruments for their own interests through coalitions, turning their actions feasible.

Specifically, in the case of real-estate promoters, they constitute a group of agents that partially or totally carry out entrepreneurship operations, financing, technical studies, property's construction or physical production and commercialization or transformation of goods-capital in money-capital. The real-estate market is one of the main vectors for the structuring of formal residential land use in large Latin-American cities, presenting specificities that transform it in a private market, in comparison to other markets in the capitalist economy. According to Abramo (2007), this market's three main distinctive characteristics are: the territorial immobility of the real-estate product, its high individual value and its long period of depreciation.

The immobility hinders the eventual reallocation of this good, which is produced on a specific locational base, to a different market-locale (neighborhood, city, nation). The property's high individual value imposes the stakeholders' future familiar income compromising, because the acquisition of a real estate property involves, in general, a familial financial obligation decision. And the long depreciation period, around 70 years, is a factor that regulates in short and medium terms the return of the served stakeholders to the market, conditioning, therefore, the housing demand to the demographic phenomena (Abramo, 2007, p. 44).

In large Brazilian cities, the real estate market is highly segmented in terms of the demand's purchasing capacity. This acquisition capacity segmentation and demand solvency is an expression of the wealth distribution inequality in the real estate market. The way real estate capital found to disengage from those market's structural restrictions was by establishing the demand's segmentation, allowing a reduction of developments' risks and uncertainties, mainly drawn to higher-income groups. From the demand's point of view (single family units), the real estate market segmentation guarantees a relatively homogenized socio-spatial distribution in residential areas, establishing a form of land use and occupation different from other city sectors. In other words, in a socioeconomic rationale, a segmented residential supply structure promotes, in socio-spatial terms, a segmented spatial structure (Abramo, 2007). This segmentation translates, among other aspects, in higher-income groups spatial segregation, which is true for all large Brazilian metropolises (Villaça, 2000).

In this sense, it is important to emphasize Smolka's (1992) contribution on the study that relates real estate market dynamics with the spatial mobility of families in the municipality of Rio de Janeiro. His study suggests the existence of a complex and dialectic relation between the families' demand and the real estate market. This relation was established in a clearer and more effective form for the higher-income group segment, and identified a close link between the higher income families' mobility and the spatial distribution of new properties (apartments) drawn to this income level in the city (Smolka, 1992, p.14). Real estate capitals may be attracted to new areas due to the high-income stakeholders' moving ability; or, in turn, may attract (shift) new demands due to the locational level of the new products' supply.

Krafta (1999) analyses the real estate market from a point of view of the supply's production, defining it as a process in which agents seek profitability. The author is based on Harvey's theory of unequal development (1985), which suggests that the advantage of a new location over another may be seen as a source of surplus value, as in an analogy of the technological innovation for the industry. The urban space production is considered equivalent to any other goods production, being the industries in a constant search for new technologies in order to increase productivity and/or diminish production costs. Once this goal is achieved, concurrent firms rapidly adopt them. In the case of real estate agents, they need to promote the creation of new locations in order to achieve an extra profit: land is purchased in peripheral and less attractive areas

and, once developed, it is sold as part of a new real estate product, with prices similar to traditional neighborhoods'. Other developers immediately follow the discovery or creation of new locations, and such advantage tends to disappear. Through constant innovation (creation of new locations) it is possible to obtain high profitability, activating the real estate activity. On one side, centrifugal forces (repulsion) are identified in the continuous search for new locales that allow profit increase. On the other, centripetal forces (attraction) are seen in the market competition that guide developers to share the development of new places. Both forces enact as one, generating an urban form based on a limited growth of development islands, which continuously in the urban fabric (Krafta, 1999, p.51).

Individuals will take advantage of a new location as a source of profit (investors) or as a place for living (dwellers), if they can afford it. Thus, it is clear that not all individuals will be able to take advantage of the prosperity islands, at least while innovation generates high profit to investors. From the moment some of the aspects that attracted investments begin to decline (reduction in the availability of low cost plots, for example), that place may become unattractive to investors who will search for other locations.

The investor may also change the profit-making strategy by altering some of the buildings' characteristics offered in areas of high investment potential, be it for their landscape values, be it for its insertion in the city, or yet by the existence of equipment and services that make the area distinctive from others in the city. Therefore, it is possible, for example, to increase density and/or reduce housing units square footage, making a larger occupation feasible, which tends to reflect on the target-public type in new developments.

Moreover, the city's expansion beyond a specific distance may promote the economic viability of the buildings' substitution; in other words, the utilization of plots with a more central location through the demolition of existing buildings. In such cases, the buildings' aging process and/or their functional obsolescence ally with the advantages of the plots location. However it must be emphasized that the renovation may happen even without the buildings' physical decay. To be lucrative, the renovation implies that the former uses are substituted for others that will provide density increase and/or a substantial increase of capital per unit (Wheaton, 1982).

According to Corrêa (1997), the State also enacts, articulating the urban space producer agents network, through activities such as providing infrastructure, regulations and laws structuring with urban regimes for the city, beyond the lower income housing production. This action may reinforce, or prevent, the real estate capital and other agents that occupy city spaces.

Therefore, urban space structures itself playing with attraction and repulsion forces. The progressive search for new locations yet to be explored reveal the centrifugal forces, inducing urban sprawl and fragmentation. In turn, centrip-

etal forces induce developers to share a new location development, generating agglomeration.

The reflections briefly pointed out above allow evidencing the underlying logic of many processes in course in large contemporary cities, such as: sprawl, fast development islands, and redevelopment, among others. The next section will present as a case study the urban reality of Porto Alegre.

Porto Alegre's high-income central-eastern axis constitutional process

Porto Alegre constitutes a job and services polarizing node, concentrating most of the administrative activities of the State of Rio Grande do Sul. Located in the shores of Guaíba Lake, Porto Alegre has a population of 1.409.351 inhabitants (IBGE, 2010), and a territorial extension of 497km². The proximity with Guaíba Lake performed historically as a strong investments magnet, which originated its radio-concentric urban pattern structure, and defining its port zone and the area involving the city's commercial and provisioning activities as focal elements. It evidences that its spatial structuring process was strongly marked by the natural site's characteristics.

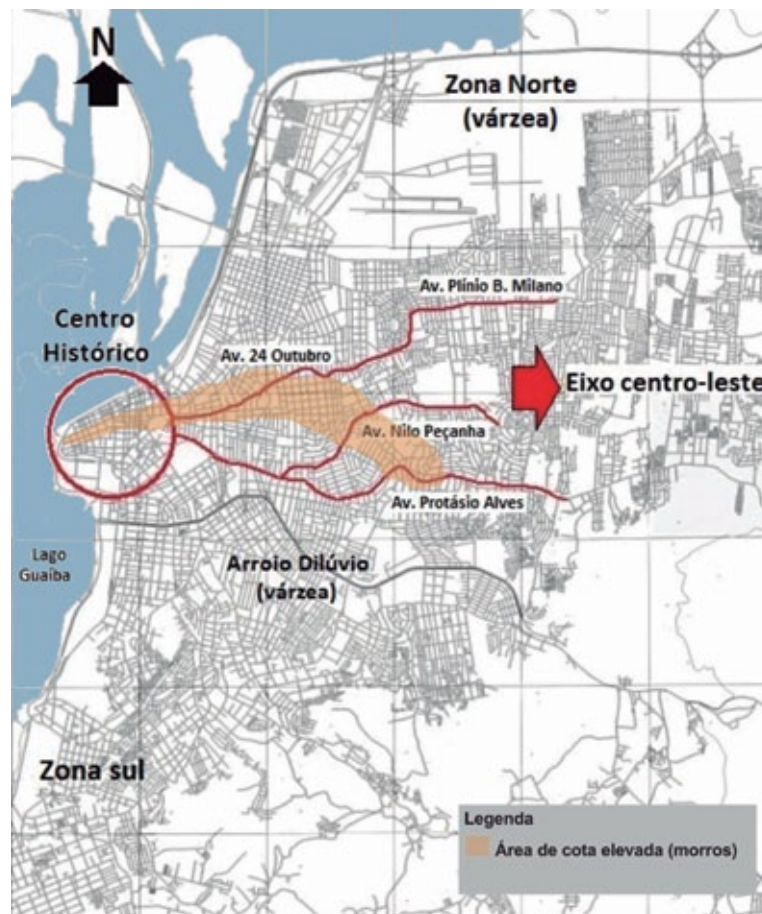
Villaça (2001) analyses the generic form of a city as a mix of concentric circles and sectors of a circle, based on Hoyt's (1939) sectorial model. Villaça observes that Porto Alegre had only 180 degrees of land to develop, and the north portion of its territory concentrated, from its origins, the most important regional road connections, resulting in a low-income industrial-railroad-neighborhood axis in the northern strip. The higher-income groups, initially settled in the downtown area, had moved out, looking for an important urban quality: the elevated sites located in the central-eastern direction (Villaça, 2011). Guaíba Lake shores, although valorized, did not come to structure a clear high-income sector in the southern direction. Figure [1] illustrates these important geographic aspects that marked the city's structuring process; it also demonstrates the central-eastern axis defined in the surroundings of some important radial avenues, such as Vinte e Quatro de Outubro, Nilo Peçanha and Protásio Alves.

In a study that analyses the residential uses spatial distribution in Porto Alegre during the 1970s, Cabral (1982) verifies that the high-income layers had already defined a tendency for spatial concentration originating in the urban center and moving toward the city's eastern direction. This concentration evidences the site's natural attraction role, but also reinforces the importance of the urban infrastructure and of the symbolic and cultural aspects consolidated in those areas along time. The *radial contiguity* factor was important in the structuring of high income residential uses in Porto Alegre, following a prestige axis through pre-existing crystallizations (Cabral, 1982, p.211). This radial growth process

FIGURE 1

Main geographic features
in Porto Alegre's spatial
structure.

Source: Based in Cabral,
1982, p. 132.



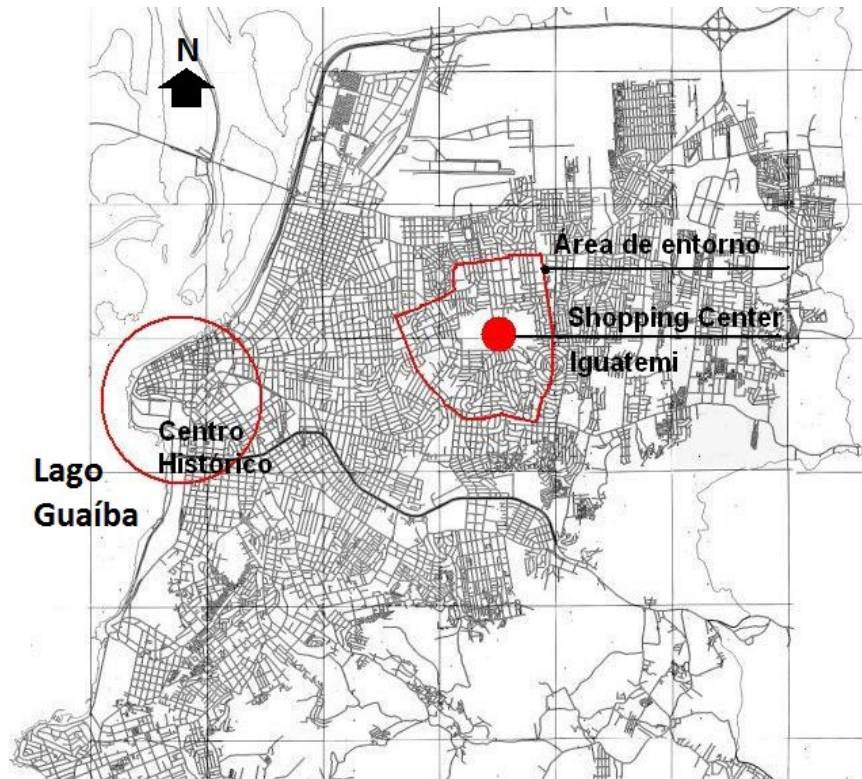
of high-income residential areas in Porto Alegre was neither homogenized nor continuous along time. Uncountable situations configured a competition for the valorized urban land. In the 1970s, it was observed that high-income groups were settling on the fringes of the city, and the neighborhoods of Chácara das Pedras and Três Figueiras defined the limits. From this point on, a sudden fall in the average income level is observed, followed by a likely eviction of lower income class groups by the higher-income ones (Cabral, 1982, p.161).

Maraschin (1993) analyses the changes that occurred in the extreme of this higher-income sector, caused by the implementation of a shopping center (Iguatemi) in 1983. Iguatemi was the first regional type shopping center in the city, directed toward a medium and higher income class public. Back then the area where Iguatemi was located was a large urban void, literally the “backyard” of three neighborhoods, which had constituted its urban life clearly facing the main avenues. The first parcel divisions in the surroundings occurred around 1930. Until then, the area was practically rural, occupied by ranches and dairy farms.

FIGURE 2

Porto Alegre: location of the historic center, of do centro histórico, do Shopping Center Iguatemi and its surrounding area.

Source: Based in Maraschin, 1993, p. 17.



Maraschin (1993) develops a real estate valorization analysis in the area around Iguatemi (shown in Figure 2), surveying plot prices along the 1980-decade. The results show the occurrence of a real estate valorization in the area, having the monthly valorization rate (based on the dollar) increased more than three times in relation to the prices practiced before the shopping center event. The second major finding in the study was the increase on the inhabitants' average income level around Iguatemi, after the commercial equipment implementation. This increase was a significant and fast one, when compared to the rest of the city. In this sense, the analysis pointed to the expansion of the central-eastern axis drawn to higher-income groups, as shown in Figure [3].

The last relevant aspect of the study refers to the physical and spatial changes that occurred in that area after the shopping center's construction. The research observed a "leap" in the urbanization of its surroundings with the creation of a new centrality; this was not foreseen by the municipal urban planning, and it may be linked to the great accessibility that emerged in the area. The work evidenced, in that moment, that higher income groups essentially performed the residential occupation, and the real estate market was the main agent of these transformations that concentrated in the many existing open spaces. The appearance of distinct typologies (towers), until then not found in that place, implies also in the landscape transformation, which quickly became vertical. One may infer a densification process that occurred in the area, especially along the main roads.

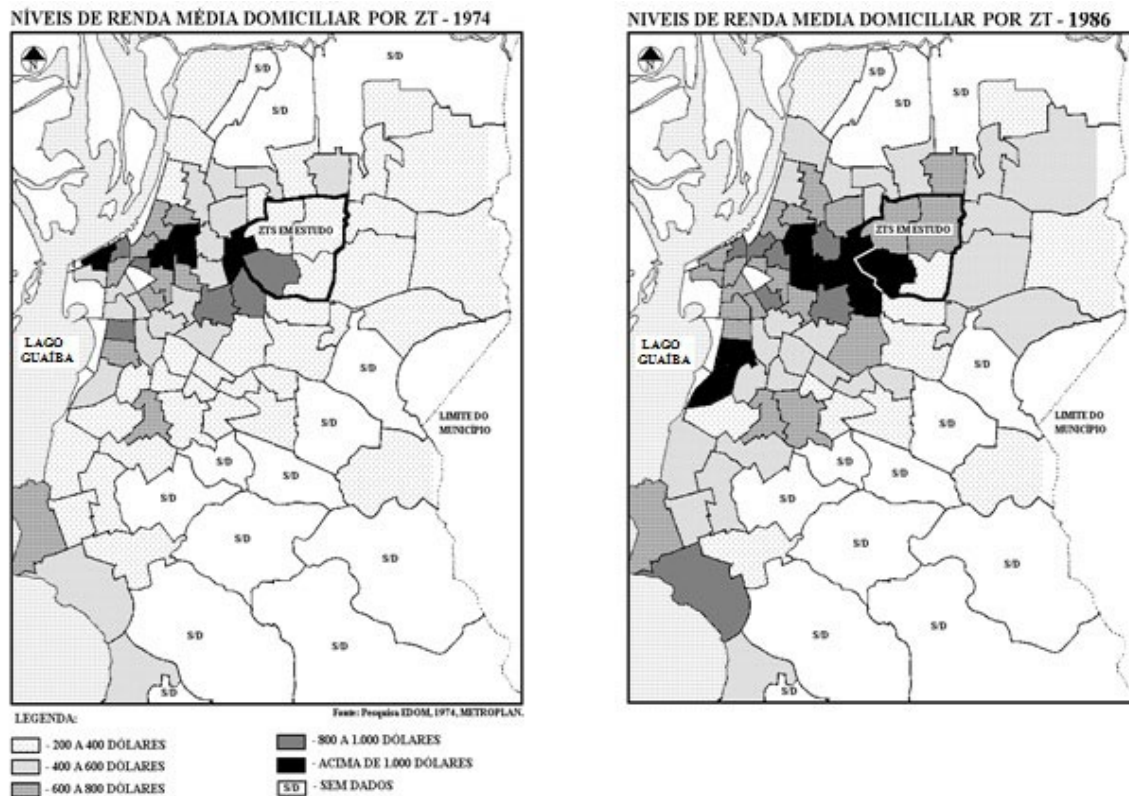


FIGURE 3

Change in the population's socioeconomic profile around Shopping Center Iguatemi⁴.

Source: based in Maraschin, 1993, p. 83 and 84.

This shift in the area's occupation also had repercussions on the land use and occupation codes level, which went through many redefinitions. Since 1999, the Environmental and Urban Development Master Plan (Plano Diretor de Desenvolvimento Urbano e Ambiental - PDDUA) has defined an extensive part of this central-eastern axis as a Centrality Corridor. One may perceive a legal institutional promotion of tertiary uses and the centrality tendency being enforced in that moment. The public sector action was therefore toward intensifying tendencies that were already promoted by the city's own dynamics.

4. The basic data are originated in the surveys of the type origin-destiny carried out by the metropolitan governance agency (METROPLAN) in 1974 and 1986. Those surveys divide the city in Traffic Zones (ZTs), that is the grouping of the censitary sectors.

Real estate market recent dynamics in the central-eastern axis: the III Perimetral surroundings

Within the dynamics that occurred more recently in the central-eastern axis, this article focuses on the role played by the real estate market in a more consolidated sector of the axis, after the building of the expressway III Perimetral.

As mentioned before, Porto Alegre constitutes a radio-concentric road structure, formed by several radial avenues and three perimetric expressways. The III Perimetral consists of a strategic arterial road, not only for the urban space, but also for the metropolitan region, since it articulates the northern (Salgado Filho airport) and southern (residential area in expansion) sectors of the city, bypassing downtown. The implantation of the III Perimetral occurred during the years 1997 to 2007, and the Inter-American Development Bank (IDB) and Social and Economic Development National Bank (BNDES) financed its construction. This avenue was structured over several pre-existing roads, which were widened, and had an exclusive bus corridor and landscape treatment. It consists of an linear axis with an extension of 12,3 km and distinct socio-spatial aspects for each neighborhood it crosses.

The delimitation of the area analyzed in this study involves a sector in the III Perimetral surroundings, part of the central-eastern axis, that consists of six neighborhoods: Auxiliadora, Bela Vista, Boa Vista, Mont'Serrat, Petrópolis and Três Figueiras, as shown in Figure [4].

FIGURE 4

Identification of the six neighborhoods analyzed in the city of Porto Alegre.

Source: Edited by the authors based in http://www2.portoalegre.rs.gov.br/portal_pmpa_novo.



Neighborhoods	Population (inhab.)		Growth (%)	Density (inhab./hectare)	
	2000	2010	2000/2010	2000	2010
Auxiliadora	9.985	9.683	-3,03	121,77	118,09
Bela Vista	9.621	11.128	15,66	104,58	120,96
Boa Vista	8.691	8.750	0,68	54,32	54,69
Mont'Serrat	10.236	11.236	9,77	129,57	142,23
Petrópolis	35.069	38.155	8,80	105,31	114,58
Três Figueiras	3.657	4.070	11,29	34,50	38,40
Porto Alegre	1.360.590	1.409.351	3,58	28,93	29,97

FIGURE 5

Population, growth and demographic density in the neighborhoods analyzed (2000/2010).

Source: Prefeitura Municipal de Porto Alegre (PMPA, 2012) based on IBGE census. Available in: <<http://www2.portoalegre.rs.gov.br>>.

The six neighborhoods comprised in this sector present singular economic and demographic characteristics. They stand out in terms of the overall urban dynamics in Porto Alegre. Figure 5 presents the demographic data related to these neighborhoods.

The studied neighborhoods' total population increased from 77.259 inhabitants in 2000 to 83.022 inhabitants in 2010, which represents approximately 6.4% of Porto Alegre's total population. Bela Vista was the neighborhood that had the highest demographic growth (15.66%), followed by Figueiras (11.29%) and Mont'Serrat (9.77%). The latter presented the highest demographic density (142.23 inhabitants/ha) in 2010.

From the average monthly income point of view, those neighborhoods concentrated a population with high-income, in comparison to the rest of the city. Figure 6 maps the population's average income in 2008, focusing with more detail in the northern portion of the city.

In Figure [6], the red and orange hues represent incomes up to six thousand Reais, which encompasses a target profile for affordable developments. The blue and violet hues identify incomes above six thousand Reais, constituting a target group for medium and higher end properties developments (Freitas, 2011).

In order to analyze the recent real estate activity in those neighborhoods, data of the Census of Porto Alegre Real Estate Market gathered by SINDUSCON-RS, and relative to three years (2008, 2009 and 2010), was used. Regarding prices of the properties available, the Real Estate Census established eleven ranges of values, from 1 (lowest value) to 11 (highest value).

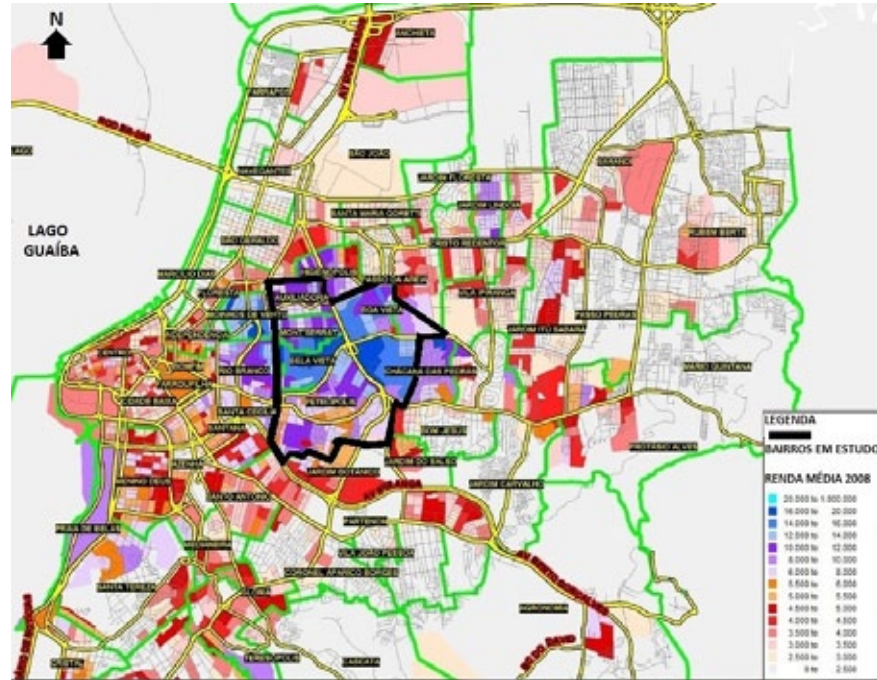
Figure [7] presents a table with the results of new properties available in the studied neighborhoods, classified by value ranges. For the analysis of these data, the study carried out by Freitas (2011) is used as a reference; the properties are categorized in pattern types: Economic (between levels 1 and 5) and Medium High (between levels 6 and 11)⁵.

5. This classification represents, for the year 2010, the value of R\$ 300,000.00 as a breaking point between the affordable pattern in relation to the medium high.

FIGURE 6

Average income by censitary sectors (in Reais), estimated for 2008.

Source: Freitas, 2011, p. 55.



Values range	1	2	3	4	5	6	7	8	9	10	11	Total*
Local												
Neighborhoods (total 3 years)	55	5	127	195	427	566	705	312	193	184	344	3.113
Porto Alegre (total 3 years)	2.745	1.245	3.335	2.766	2.187	1.661	1.920	1.025	700	456	660	18.700
Percentage over total	2,0	0,4	3,8	7,0	19,5	34,0	36,7	30,4	27,5	40,3	52,1	16,65

FIGURE 7

Distribution of new units offered by values range in the studied neighborhoods (2008, 2009 e 2010).

Source: SINDUSCON-RS (2008, 2009, 2010).

*Only the properties with information regarding their value ranges were considered.



The table shown in Figure 7 evidences the importance of the studied neighborhoods as places that concentrate new real estate developments targeted to medium and higher class groups. The analyzed neighborhoods concentrate 16.65% of the total amount of new properties available in the city in the years 2008 to 2010. One may observe that out of the 12.278 affordable properties (sum of ranges from 1 to 5) offered in Porto Alegre in the last three years, only 809 are located in the studied neighborhoods, which means, 6.6%. On the other hand, out of the medium and high-end 6.422 properties available in the city (sum of ranges from 6 to 11), 2.304 are located in the studied neighborhoods, or else, 35.9%. When only the higher value range is considered, the six neighborhoods

concentrate 52.1% of the available properties. The value ranges that stand out proportionally along the entire period of the study, are above level 5, which reveals a tendency for buildings in the higher level of the affordable pattern, and more intensely in the medium and high-end pattern ranges. The value scale from 1 to 4 has little significance in the region.

The importance of the III Perimetral opening for the six neighborhoods lays on strengthening tendencies of real estate valorization already in course, as shown in table data on Figure 7, illustrating the situation after the opening of the expressway. In another simultaneous process, a new regional accessibility condition, brought with the Perimetral, created opportunities of real estate redevelopment in its immediate surroundings. Dadda (2010) observes that, in this stretch of Perimetral (which cuts the six neighborhoods studied), a total landscape renovation happened during and after the construction of the road. Being historically an area with residential prevalence, the author verifies that the tertiary sector is occupying the traditional space of family mansions that existed in Dom Pedro II and Carlos Gomes avenues, as shown in Figure [8]. Some of these mansions were transformed in spaces for events, banks, night-clubs, and restaurants. Others were totally or partially destroyed to give space to commercial buildings, hotels and other developments drawn to a medium and higher-income target groups (Dadda, 2010, p. 38).

FIGURE 8

Reminiscent of residences sharing space with new buildings in Av. Carlos Gomes (III Perimetral).

Source: Dadda, 2010, p. 40.



The new occupation pattern also demonstrates a clear increase in the constructive density, as well as, in the case of buildings reuse, a visible increase in the amount of invested capital, as pointed out by Wheaton (1982).

Final remarks

The above-developed analysis intended to describe the constitutive process of a sector in the city of Porto Alegre as a preferred place for higher-income classes occupation. We did not intend to affirm this sector's total homogeneity in the socio-spatial appropriation perspective, but a distinguishable preference for higher-income class occupation can be observed.

The study evidences, in the case of Porto Alegre, the geographic site's important role in the initial attraction for high-income groups, given by the presence of topographically elevated areas with interesting views and good environmental quality. The occupation process develops and gets more consistent after public and private actions reinforced their initial qualities. Therefore, these quality areas are valorized both for their concrete aspects (natural agreeability, distance and equipment), and for the cultural and symbolic aspects (prestige elements and social status symbols).

This work also demonstrated a moment of prevalence of higher-income segments in the real estate market, during the competition among different social groups for the surroundings of Iguatemi Shopping Center appropriation, in the 1980s. The shopping center presence promoted the reduction of high-end real estate investments uncertainties, which then were able to keep moving forward. Such fact illustrates the dialectic relation established between the real estate market and the high income groups demands (Smolka, 1992): the real estate market, while defining areas for high investments, also moves toward the demand, already demonstrated by the pre-existing occupation.

Finally, the article focused on a more consolidated sector in the axis, composed by six neighborhoods, for which the opening of III Perimetral, concluded in 2007, constituted a consolidation factor for income concentration and functional diversification. The analysis demonstrated that the studied sector still represents a strong role in the real estate investments' attraction for medium and high-income patterns. The data on the real estate activity evidenced that those neighborhoods are consolidated as noble and high-status places. While, from one side, there was a continuity process, other renovation processes in the immediate surrounding of the III Perimetral were also observed. Along this expressway, there was an increase of constructive density, a presence of high-end tertiary uses, demolitions of traditional single family houses, as well as the presence of new attractive uses linked to the new accessibility level of the road.

Despite the evident transformations' dynamics at the local scale, the relative permanence over the years of high-income groups type of appropriation on this axis may be observed, considering the city's global scale. In this global scale pattern constitutional process (high income central-eastern axis), its dynamics was partially planned top-down (public sector and other investor's groups), and partially self-organized bottom-up (action that the diverse agents types were taking along time, in a decentralized way and following their own criteria).

This situation reveals the complexity of the urban dynamics and the formation of its socio-spatial patterns, and at the same time, also poses challenges both for the comprehension and for the planning and controlling of those processes.

Acknowledgments

We are thankful for the support by FAPERGS – Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul, through the Auxílio Recém Doutor (ARD) granted to Prof. Clarice Maraschin (Process # 11/1759-8).

References

- ABRAMO, Pedro A. Cidade Com-fusa. A Mão Inoxidável do Mercado e a Produção da Estrutura Urbana nas Grandes Metrôpoles Latino-americanas. *Revista Brasileira de Estudos Urbanos e Regionais*, v. 9, n. 2, pp. 25-54, nov. 2007.
- CABRAL, Gilberto F. *Distribuição espacial dos usos residenciais do solo – o caso de Porto Alegre*. Porto Alegre, PROPUR, 257 p. (Masters Thesis) – UFRGS, 1982.
- CORRÊA, Roberto L. *Trajatórias geográficas*. Rio de Janeiro: Bertrand Brasil, 1997.
- DADDA, Mariana A. III *Perimetral: adensamento técnico, mudança de paisagem e impacto no cotidiano da zona norte de Porto Alegre*. Trabalho de Conclusão (Undergraduate in Geography). Porto Alegre: UFRGS, 2010.
- FREITAS, Thiago C. de. *Modelo de desenvolvimento monocêntrico urbano: estudo de caso para Porto Alegre de 2005 a 2010*. Trabalho de Conclusão (Undergraduate in Economic Sciences). Porto Alegre: UFRGS, 2011.
- GOTTDIENER, Mark. *A produção social do espaço urbano*. São Paulo: EDUSP, 1993.
- HOYT, Homer. *The structure and growth of residential neighborhoods in American cities*. Washington DC: Federal Housing Administration, 1939.
- HARVEY, David. *The urbanization of capital*. Baltimore: The Johns Hopkins University Press, 1984.
- KRAFTA, Romulo. Spatial self-organization and the production of the city. *Urbana*, 24, pp. 49-62, 1999.
- MARASCHIN, Clarice. *Alterações provocadas pelo shopping center em aspectos da estrutura urbana – Iguatemi, Porto Alegre, RS*. Porto Alegre, PROPUR, 129 p. Dissertação (Mestrado) – UFRGS, 1993.
- PORTO ALEGRE. Prefeitura Municipal. *Plano Diretor de Desenvolvimento Urbano Ambiental (PDDUA)*. Lei Complementar nº 434/99. Porto Alegre: Secretaria Municipal de Planejamento, 2002.
- SANTOS, Milton. *A natureza do espaço: Técnica e Tempo, Razão e Emoção*. 4ª Ed. São Paulo: Ed. Universidade de São Paulo, 2004.
- SINDICATO DA INDÚSTRIA DA CONSTRUÇÃO CIVIL NO ESTADO DO RIO GRANDE DO SUL – SINDUSCON RS. *11º Censo do mercado imobiliário de Porto Alegre*, 2008. Available in: relatório restrito aos afiliados do Sindicato.
- SINDICATO DA INDÚSTRIA DA CONSTRUÇÃO CIVIL NO ESTADO DO RIO GRANDE DO SUL – SINDUSCON RS. *12º Censo do mercado imobiliário de Porto Alegre*, 2009. Available in: relatório restrito aos afiliados do Sindicato.

SINDICATO DA INDÚSTRIA DA CONSTRUÇÃO CIVIL NO ESTADO DO RIO GRANDE DO SUL – SINDUSCON RS. **13° Censo do mercado imobiliário de Porto Alegre**, 2010. Available in: relatório restrito aos afiliados do Sindicato.

SMOLKA, Martim O. Expulsando os pobres e redistribuindo os ricos: “dinâmica imobiliária” e segregação residencial na cidade do Rio de Janeiro, **Revista Brasileira de Estudos Populacionais**, 9(1), Campinas, 1992.

TRINDADE JÚNIOR, Saint-Clair C. da. Agentes, Redes e Territorialidades Urbanas, **Revista Território**, ano III, n. 1 5, pp. 31-50, jul/dez 1998.

VILLAÇA, Flávio. *Espaço intra-urbano no Brasil*. São Paulo: Studio Nobel: FAPESP: Lincoln Institute, 2001.

WHEATON, William. Urban spatial development with durable but replaceable capital. *Journal of Urban Economics*, n. 12, pp. 53-67, 1982.