

# SOCIAL DIVISION OF SPACE AND SOCIO-SPATIAL FRAGMENTATION IN MOSSORÓ/RN/BRAZIL

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## Abstract

This paper addresses the production of urban space in Mossoró, in Rio Grande do Norte State, through an analysis that articulates the social division of space and socio-spatial fragmentation. The hypothesis is that, in the context of contemporary urbanization, the fragmentary urban logic plays a significant role in structuring and restructuring urban spaces. The center-periphery contradiction is redefined, associated with the production of new spaces for consumption and the profusion of popular housing forms and closed residential spaces. For this, the mapping and cross-referencing data from these same spaces, the forms of habitation and, consequently, interviews with inhabitants, were fundamental for the analysis. So, this article highlights the study of socio-spatial fragmentation as an expressive possibility to understand contemporary Brazilian urbanization. It concludes on spatial practices and the appropriation of space as a fundamental element to understand the fragmentation process in Brazilian medium-sized cities.

**Keywords:** Sociospatial Fragmentation, Urban Centrality, Social and Territorial Division of Labour, Mossoró, Brazil.

## Resumo / Résumé

### DIVISÃO SOCIAL DO ESPAÇO E FRAGMENTAÇÃO SOCIOESPACIAL EM MOSSORÓ/RN/BRASIL

O presente trabalho aborda a produção do espaço urbano em Mossoró, no Rio Grande do Norte, sob a perspectiva de análise que articula a divisão social do espaço e a fragmentação socioespacial. A hipótese levantada é que, no contexto da urbanização contemporânea, a lógica urbana fragmentária desempenha um papel significativo na estruturação e reestruturação dos espaços urbanos. A contradição centro-periferia se redefine, associada à produção de novos espaços de consumo e à profusão de formas de habitação popular e espaços residenciais fechados. Para isso, o mapeamento e cruzamento de dados destes mesmos espaços, as formas de habitação e, consequentemente entrevistas com cidadãos que os habitam, foram fundamentais para a análise. O artigo problematiza, portanto, o estudo da fragmentação socioespacial como possibilidade expressiva para se compreender a urbanização brasileira contemporânea e conclui sobre as práticas espaciais e a apropriação do espaço como elemento fundamental para a compreensão do processo de fragmentação nas cidades médias brasileiras.

**Palavras-chave:** Fragmentação Socioespacial, Centralidade Urbana, Divisão Social e Territorial do Trabalho, Mossoró, Brasil.

### DIVISION SOCIALE DE L'ESPACE ET FRAGMENTATION SOCIO-SPATIALE À MOSSORÓ/RN/BRÉSIL

Cet article aborde la production de l'espace urbain à Mossoró, dans le Rio Grande do Norte, à travers une analyse qui articule la division sociale de l'espace et la fragmentation socio-spatiale. L'hypothèse soulevée est que, dans le contexte de l'urbanisation contemporaine, la logique urbaine fragmentaire joue un rôle important dans la structuration et la restructuration des espaces urbains. La contradiction centre-périphérie est redéfinie, associée à la production de nouveaux espaces de consommation et à la profusion de formes d'habitat populaire et d'espaces résidentiels fermés. Pour cela, la cartographie et le croisement des données, les formes d'habitat et, par conséquent, les entretiens avec les habitants, ont été fondamentaux pour l'analyse. Par conséquent, l'article interroge l'étude de la fragmentation socio-spatiale comme une possibilité expressive pour comprendre l'urbanisation brésilienne contemporaine et conclut sur les pratiques spatiales et l'appropriation de l'espace comme un élément fondamental pour comprendre le processus de fragmentation dans les villes moyennes brésiliennes.

**Mots-clés:** Fragmentation socio-spatiale, centralité urbaine, division sociale et territoriale du travail, Mossoró, Brésil.

## INTRODUCTION

The globalization period's economic, social, and political dynamics have produced substantial changes in cities worldwide. In Brazil, urbanization has become a key process for understanding the national territory, transforming the role of cities in the territorial division of labor, and redesigning the social division of urban space in a context of neoliberalism and socio-spatial inequalities.

In this research, cities and the urban phenomenon are understood as articulated totalities in motion, as argued by Silveira (2015), since it is difficult to understand an urban space if the connections and articulations between specificities and general trends of the current period are disregarded.

This article discusses the unequal appropriation of the city that substantiates socio-spatial fragmentation due to the social division of space and relates this division to the concentration of trade and services and the spatialization of the residents' housing in the city of Mossoró/RN. Therefore, the social division of space is understood by articulating the process of socio-spatial fragmentation and its relationship with the unequal appropriation and production of space<sup>1</sup>. Accordingly, we analyze how different socioeconomic groups' use of the city has influenced the urban way of life while simultaneously creating a new condition of centrality, which reflects new forms of consumption of urban space in a context that redefines the center-periphery relationship.

The methodology involved mapping that crossed location data of the principal sets of low-income housing of the Minha Casa Minha Vida Program (PMCMV)<sup>2</sup> and high and medium standard Closed Residential Spaces (CRS), with the activities of commerce, public and private services, mobility, and leisure. In addition, eight city dwellers<sup>3</sup> were interviewed, of whom four lived in low-income homes (PMCMV Level 1 residents, with a family income between 1 and 3 minimum wages), and four CRS residents, members of the middle and upper classes. The intention was to capture spatial practices by identifying these interviewees' workplaces and consumption. Therefore, it was assumed that the social division of urban space is expressed in how residents appropriate, live, consume and enjoy the city. These daily actions reveal the socio-spatial fragmentation process in the production of space.

Based on the above, the analysis was founded on a theoretical-methodological framework that addresses socio-spatial fragmentation, given the relationships that this process establishes with the dynamics of redefinition of the center-periphery contradiction in urban space. Furthermore, it addresses how city dwellers' spatial practices and "spatial capital" contribute to the social division of space and the process of spatial production in the city, notably through the use and appropriation of urban space.

The article is divided into two parts. The first part addresses the social division of urban space and its articulation with socio-spatial fragmentation. The second part analyzes the unequal and fragmented appropriation by social subjects and the territorial configuration of spaces of commercial concentration and services over the years. The study of Mossoró fosters theoretical, conceptual, and empirical debates about the forms of appropriation of the city and the main components that problematize the process of socio-spatial fragmentation.

## THE SOCIAL DIVISION OF URBAN SPACE AND SOCIO-SPATIAL FRAGMENTATION: CONCEPTUAL ASPECTS

This article articulates the social division of space with socio-spatial fragmentation, which is central in contemporary studies on the production of urban space. Thus, clarifying these concepts is fundamental.

The concept of socio-spatial fragmentation is quite complex and has permeated important literature since the 1960s, being studied and updated by several authors (cf. SPOSITO; GÓES, 2013; NAVEZ-BOUCHANINE, 2002; PRÉVÔT-SCHAPIRA; PÍNEDA, 2008; PRÉVÔT-SCHAPIRA, 2001; RHEIN; ELISSALDE, 2004; SPOSITO, 2019a, 2020; LEGROUX, 2021). Sposito and Sposito (2020) examined the various ideas about fragmentation pointing out both contributions and shortcomings. For the authors, socio-spatial fragmentation is, simultaneously, a multidimensional and polysemic concept.

Proposing greater conceptual precision, Sposito and Sposito (2020) suggest that socio-spatial

fragmentation should be considered a process that characterizes contemporary urbanization. It encompasses and is distinguished from concepts such as segregation, self-segregation, and socio-spatial segmentation of the uses of consumption spaces. In this sense, "socio-spatial fragmentation, the most recent concept, can encompass others, without overcoming or discarding them, but rather incorporating them into reflection" (SPOSITO; SPOSITO, 2020, p. 3). According to the authors, the adjective "socio-spatial" is justified because it reveals a social and spatial phenomenon, that is, "articulations and co-determinations between social and spatial conditions, as much as it expresses itself socially and spatially" (SPOSITO; GÓES, 2013, p. 281). Such a concept reveals the particularity of contemporary urbanization, especially in post-Fordist capitalism, raising questions and reflections on how this urbanization takes place in peripheral capitalism.

Prévôt-Schapira and Pineda (2008, p. 76-79) characterize "urban fragmentation" by three dynamics: a) "institutional competition and segmentation of public action"; b) "the urban economy between places, networks, and flows"; and c) "socio-spatial fragmentation as social disintegration and urban disarticulation." The latter refers to the "analysis of the often contradictory relationship between social change and the evolutions of urban structure" (p. 75). Although it is precisely this dynamic of socio-spatial fragmentation that interests us, it is important to emphasize, in agreement with the above, that "the interrelationship between these three logics multiplies the points of friction and intensifies the antagonisms between the actors and the networks that are disputed and divided in urban space," which occur in settings marked by "economic dynamism and the growth of inequality and poverty" (p. 75).

Concerning the purposes of this article, it is essential to consider spatial practices as both a condition and product of socio-spatial fragmentation, as it is in this context that the appropriation of urban space can be observed. Thus, the usefulness of Prévôt-Schapira's (2001, p. 49) definition of "spatial capital" as "the interiorized forms of (intellectual and practical) relationships of an individual with the space considered as a social good," which refers to the analysis of space "due to the representations and uses that individuals make of it."

Although Latin American studies focus on socio-spatial fragmentation with greater emphasis on metropolitan spaces, as highlighted by Sposito and Sposito (2020), it is clear that this process, considered a broad dynamic of contemporary urbanization, also covers urban spaces of different complexities. In this case, medium-sized Brazilian cities exhibit quite eloquent signs that they have been incorporated by the socio-spatial fragmentation process. Sposito and Góes (2013) identified that the objective and subjective elements that characterize socio-spatial fragmentation in medium-sized cities are increasingly associated with closed residential spaces and a new logic of commercial capital location, associated with real estate dynamics, fear, and insecurity.

Fragmentation involves an interrelationship between the social dimension and the complexification of ruptures and separations in the contemporary urban fabric (LEGROUX, 2021, p. 238):

It expresses i) intensification of the processes of segregation and differentiation of and in different urban spaces, in terms of social classes and functions attributed to them (work, leisure, housing, etc.), and ii) increasingly complex forms and socio-spatial urban contents, with emphasis on ruptures and separations.

They are the new forms of production and appropriation of the city, based on new logics of structuring urban space. Since it has strong associations with the changes in the logical center-periphery, this process has a direct relationship with the social division of space. As Roncayolo (1988) reminds us, space's social and functional division maintains a contradictory relationship with centrality. This relationship is patently evident in the Urban Ecology models of Burgess, Hoyt and Harris, and Ullmann (cf. RONCAYOLO, 1988; PEREIRA, 2016).

The social division of urban space is concurrent with how space is produced. In Lefebvre's (2000) perspective, space is a social and historical production that intervenes and conditions social production and economic, political, and cultural logic. It is impossible to separate society from space, and in the capitalist mode of production, space takes on contradictions between use value and exchange value, social production, and private appropriation, among others.

In one of his last texts, Lefebvre (1991, p. 16) stated that as part of a movement of "urban

planetarization," space is homogenized while it is fragmented: "So, while homogenizing, social space is fragmented into spaces of work, leisure, material production, and diverse services." This contradiction is followed by the realization that "social classes progressively rank and subscribe in space." In this process, the city's metamorphosis casts away the illusions of modernity, of a new, entirely renewed urban life; on the contrary, it was apparent that "the more the city extends, the more relationships degrade," demonstrating that "life in the city has not given way to entirely new social relations" (ibid, p. 14).

The process of socio-spatial fragmentation, understood as a contemporary urban phenomenon, is evidenced by the expansion of the social division of space. Lussault (2009) calls the core of this process in the contemporary urban the "separative principle": "the contemporary urban is sometimes marked by the real estate affirmation and the success of the separative principle. The spatial separation of social realities characterizes contemporary urbanization" (LUSSAULT, 2009, p. 754). It is a "new urban condition" (PEREIRA, 2020) in which medium-sized cities are absorbed.

Lipietz (1982), Roncayolo (1988), and Sposito and Góes (2013) make vital contributions to the understanding of the social division of space. They view the social division of space through different prisms, but they agree that this process is fundamental to comprehending the modern capitalist city. Lipietz (1982) argues that the social division of space "is an extremely complex phenomenon," which includes the social structure, the effects of social practices, the power of the ruling classes in the modes of production of space, and the roles of the State and the market. Roncayolo (1988, p. 79) proposes a relationship between the functional and social division of space, identifying the "functional division of space" with the "distribution of functions that describe urban activity as a whole." These "are equated with technical requirements, such as retail trade, unusual facilities or industrial buildings" and fall within the framework of "economic competition." According to Roncayolo (1988, p. 80), the "social division of space" cannot only be "measured" according to the "distribution of residences." Instead, it involves "meeting places" and the inequality of power to access goods and cultural expression by various social groups.

In turn, Sposito and Góes (2013, p. 98-102) interpret the division of space in terms of a "technical division" concerning "different uses and functions: residential, commercial, services, and circulation," while from a social point of view, the division of space refers to "how individuals, groups and classes appropriate space." Both Roncayolo (1988) and Sposito and Góes (2013) defend the position that uses and functions are articulated and related, which is a more comprehensive analysis of the social division of space.

Roncayolo (1988) also argues that the notions of the social and functional division of space articulate with centrality, both supporting and opposing each other. Hence it is possible to understand the logic that produces the city, center-periphery structuring, and how classes and social groups live and take possession of the city. Furthermore, Roncayolo (1988, p. 93-100) recalls that the social and functional division of space considers political and economic social agents and the "modes of production of space" that relate land price, housing, commerce, meeting places, public intervention, and others. Therefore, the idea that "the morphology of the city is also social" is vital to his argument due to "social groups, their movements, the material structures that are social constructions and places of practices" (RONCAYOLO, 2011, p.11).

In Mossoró, like many medium-sized Brazilian cities, the process of socio-spatial fragmentation signals a new social division of urban space. As discussed below, the forms of structuring urban space are dialectically related to spatial practices and the forms of appropriation of the city by city dwellers.

## UNEQUAL APPROPRIATION OF URBAN SPACE IN MOSSORÓ

The field research, carried out in October 2019, established contacts with "well-informed agents<sup>4</sup>," with whom we conducted interviews and informal conversations. These are public and private agents (housing and urban planning departments, real estate agents, and entities of classes linked to the real estate sector) who provided information on the logic of production of urban space, the directions of new private capital in terms of housing, and commercial activities and services.



The city of Mossoró has significant rates of social inequality since 38% of its population has a monthly per capita income of up to half a minimum wage (BANCO DO NORDESTE, 2019), and with poverty levels ranging from 3.72%, 12.81%, and 35.33% for the extremely poor, the poor and the vulnerable to poverty, respectively (Ibidem, n.p.). At the other extreme, it is estimated that the wealthiest 20% own 57.6% of the income produced in Mossoró (ibid., n.p.).

Empirically, it was evident that in addition to the spatial strategies of the capitals in the redefinition of the urban centrality, the new social division of Mossoró's urban space has strong public participation in the spatial form of residential enterprises for low-income sectors and the middle and upper class. We believe these actions condition different forms of residents' appropriation, experience, and daily life in Mossoró; that is, they reveal the "spatial capitals" of these residents, as expressed by Prévôt-Schapira (2001). These transformations have already been recorded in the literature studying the spatial transformations of Mossoró for some time (ELIAS; PEQUENO, 2010; COUTO, 2017; DIAS, 2019).

Figure 1 shows how to interpret the distance ratio of CRS and PMCMV projects with commercial and services establishments. This map reveals that some PMCMV projects, especially those in Level 1, are poorly provided with commercial and services establishments within a 500-meter and 1000-meter radius. This strengthens the thesis that due to the lack of various facilities and services, these residents need to access other areas of the city, especially the central ones, to shop and carry out other daily activities, to visit supermarkets, shopping malls, banks, health facilities, and higher education, necessarily depending on the inefficient and precarious public transport.

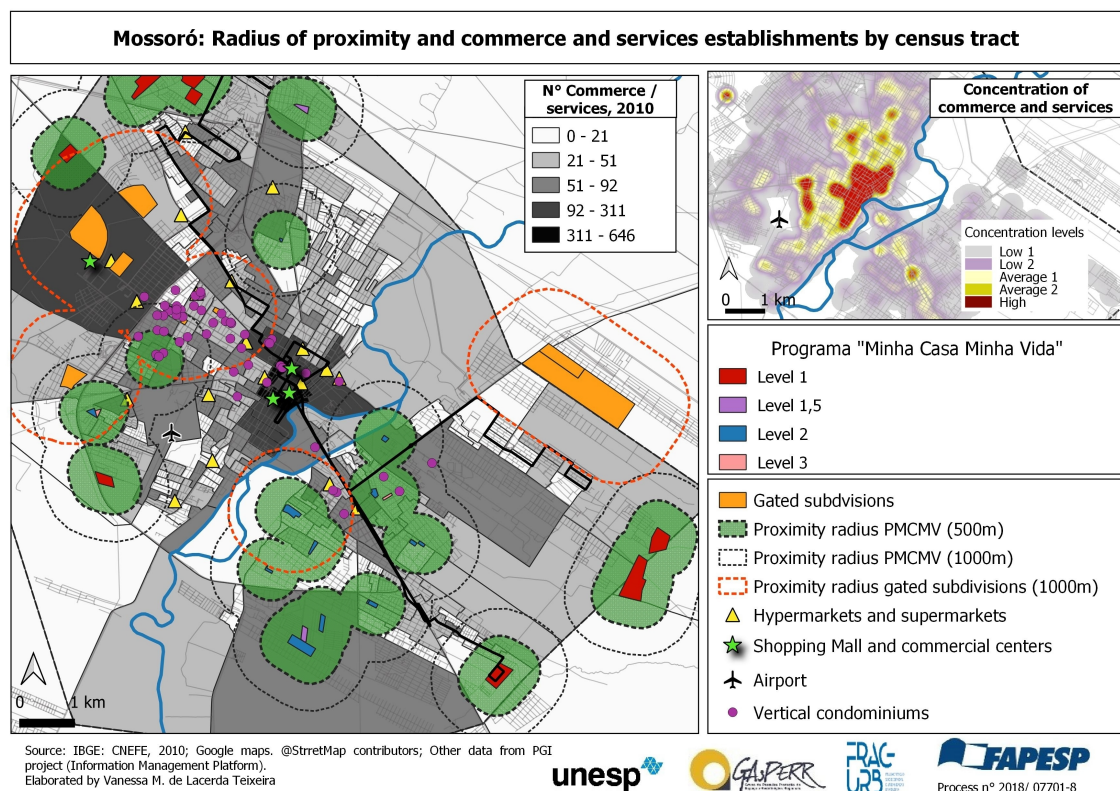


Figure 1 - Mossoró: Radius of proximity and establishments of commerce and services by census tract.

The map also shows a concentration of new vertical real estate developments in the northwest-southwest axis, following the city's trend of growth and expansion and robust state investments through urban planning in the municipal, state, and federal spheres towards the Partage shopping malls, inaugurated in 2007. Other services have also expanded somewhat by intense government actions, including middle and upper-class housing (ELIAS; PEQUENO, 2010; COUTO, 2017; DIAS, 2019). This area also has substantial commercial investments, with Atacadão and Maxxi units established by Carrefour and Big Group, respectively. The Mossoró campus of the Potiguar

University (UNP) and the West Home & Business commercial and residential development<sup>6</sup> are also located here, next to the Partage shopping mall. A Havan unit and the Uninassau campus are under construction in the same area.

Given the above, it is evident that this space has a relatively adequate urban infrastructure, while lower-class territories located in peripheral areas have limited services and infrastructure. In socio-spatial terms, the poorest are sidelined in areas less endowed with collective consumption, while the rich are concentrated in areas more distant from the center, served by public goods and services (SPOSITO, 2019b). Thus, the State plays a role as an essential agent in the production of urban space<sup>7</sup>. As seen on the map, this axis<sup>8</sup> also has a heavy concentration of hypermarkets and supermarkets, giving residents better access to consumer zones.

The Partage shopping mall is located in the Nova Betânia neighborhood, considered a zone of expansion in the city. It has fostered a new form of consumption beyond the central area in an ongoing process of multiplication of central areas or multicentricity, thus, structuring a characteristic element of socio-spatial fragmentation and changing the former monocentric pattern (SPOSITO, 2007; WHITAKER, 2017) or even traditional centralities (SPOSITO; GÓES, 2013).



Figure 2- Mossoró: commercial spaces, services, and housing typologies.

Note: the images in Figure 2 emphasize the zone of expansion and valorization Mossoró's the urban space, where the medium and high-end commercial, services and closed residential spaces are located. However, this area also has the Minha Casa Minha Vida Program's low-income units, which denotes the socio-spatial fragmentation process studied here. The maps in Figures 1 and 3 give a broader view of the various locations of low-income and medium and high-end housing in the urban fabric.

The portrayal of the city residents' daily lives indicates that this process of socio-spatial fragmentation results from the association between residential and commercial areas, services, and mobility. The real estate developments, especially high-end ones, implemented near the Partage mall reinforce socio-spatial fragmentation by creating socio-temporal ruptures and fractures in the urban space (CALDEIRA, 2000; LEGROUX, 2021). Closed Residential Spaces tend to relatively daily isolate urban dwellers, as they remove the possibility of urban contact from the public space (SPOSITO;

GÓES, 2013). As one of the interviewees, who lives in a CRS, states: "If I have to go out, I go to places that have my best places, and it is often not in the neighborhood. Because our condominium is a city (laughs)" (Resident CRS). In this sense, socio-spatial fragmentation is a deepening of spatial separation that aims to reduce the contacts that make up urban life as much as possible. A CRS resident expressed himself as follows:

Our condominium is a horizontal condominium; it is a condominium of houses, so I have a backyard and a dog. They (the children) walk with the dogs in the street and breathe a different air... I have colleagues who have children in apartments, and the situation is more complicated... because what separates the apartment from the collective is perhaps a door. So we have more space here for them to be free in ... Ah! For us too... all of a sudden, we put a chair on the sidewalk, see the horizon, the cloud approaching, the neighbor passing two meters away... so we can have... have more peace of mind at this point... We have been able to solve many things around here, it's a small island, it's... let's say, a castle that was created here, where we can have a different life even in these moments of greater crisis (Resident CRS).

Regarding low-income housing, the six Level 1 PMCMV units analyzed in this study are on average 6.5 km from the main center: Residencial Monsenhor Américo Simonetti, Residencial João Newton Escossia, Residencial Jardim das Palmeiras, Santa Julia, Residencial Mossoró I and Residencial Odete Rosado. In 2010, almost all had between 21 and 51 commerce and services establishments in a radius of 1000 meters. These units' distance from the central area, the main zone concentrating commerce and services, reiterates the need for populational mobility; to be able to commute daily, city dwellers need access to means of transport.

However, sociological studies on mobility (SHELLER, 2014, 2017; URRY, 2000; KAUFFMANN et al., 2004) indicate that increased mobility does not mean increased accessibility. The notion of mobility is considered a polysemic term, which is commonly confused with other concepts such as circulation, transportation, accessibility, or transit, exceeding the idea of physical displacement (BALBIM, 2016). Balbim points out that: "mobility is related to individual determinations: wills or motivations, hopes, limitations, or impositions." These are determined by "the organization of space, economic, social and political conditions, ways of life, symbolic context, accessibility characteristics, and scientific and technological development" (BALBIM, 2016, p. 27).

All these conditions for mobility, especially the organization of space, economic and social conditions, and accessibility features, impose certain limitations and varying degrees of freedom on city dwellers, giving rise to different forms of articulation with the city. For these forms of articulation between city dwellers and the city to be understood and using the social division of urban space as a vector to explain socio-spatial fragmentation, we cross-referenced the previous quantitative data on establishments of commerce and services with some qualitative interviews.

Table 1 summarizes the data collected and shows that in 2010 there were more commercial and service establishments than educational and health institutions within a radius of 500 meters and 1000 meters of the subdivisions analyzed. This data suggests that to access such services, most of the inhabitants of these PMCMV units have to use facilities in the city center or distant neighborhoods, where such amenities are present, especially health and education. The table also shows that many of the total number of establishments are not located within the proposed proximity radius, further reinforcing the distance city dwellers are from accessing such services. For example, less than 51% of the establishments are within a radius of 1000 meters, so city dwellers living in neighborhoods in these locations must use services at more than 1 km from their homes.



	Education Variable		TOTAL	Health Variable		TOTAL	Commerce and services variable (general)		TOTAL
Distance	Radius 500m	Radius 1000m	-	Radius 500m	Radius 1000m	-	Radius 500m	Radius 1000m	-
Mossoró	26	80	204	12	30	156	1138	3228	9652
Total	106		204	42		156	4366		9652
% of the Total	51%		100%	26%		100%	45%		100%

Table 1 - Mossoró: Establishments of trade and services (CNEFE) variables of education, health, and commercial establishments and services in general

The eight interviews carried out in Mossoró, with four interviewees from the PMCMV Level 1 (A, B, C, D) and four from CRPs (E, F, G, H), permitted a closer analysis of aspects of socio-spatial fragmentation, allowing a qualitative cartographic analysis (Fig. 3). The first finding is that Mossoró's city center still has a strong centrality due to the daily displacement of the city dwellers interviewed to the center, especially for the low-income sectors. For example, citizens A and B, residents of PMCMV Santa Julia and Parque Verde, respectively, work and consume in the city center or nearby (Fig. 3).

"I work in a nail salon here in the center of Mossoró....I go to the center (commercial nucleus) no more than twice a month" (Resident MCMV).

"Every month (going to the center) when I have bills to pay. Sometimes do some price research, do some shopping. Visit the stores to research prices" (Resident MCMV).

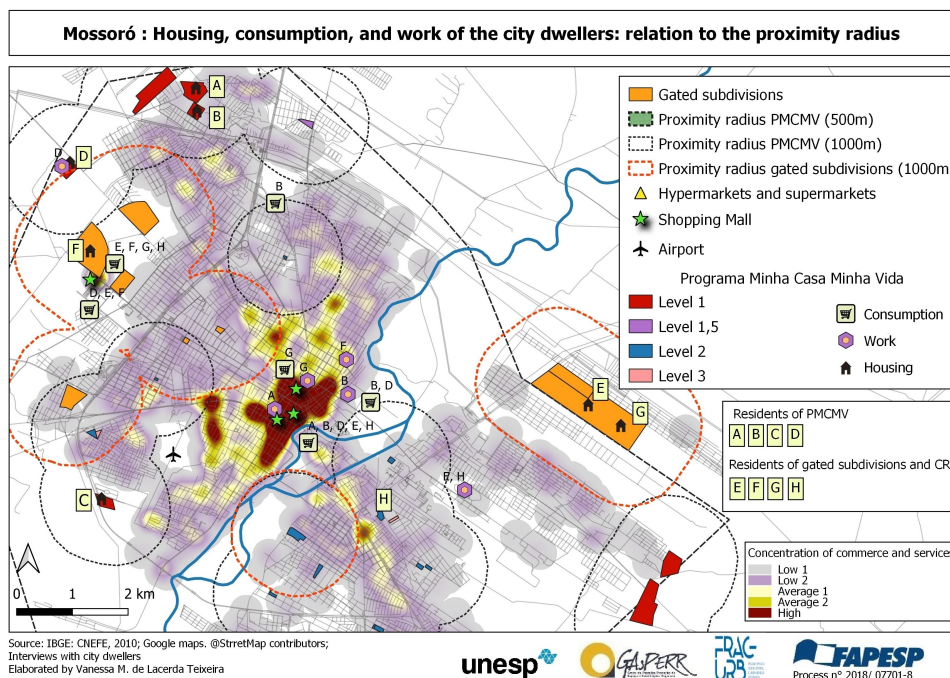


Figure 3 - Mossoró: Housing, consumption, and work of the city dwellers: relation to the proximity ray.

Secondly, the interviews with residents of PMCMV projects indicated the form of transport of the

city residents studied here. Subject A has a private motorcycle and commutes daily on two wheels, and subject B depends on public transport. Interviewee D is a housewife and therefore works at home, but consumes in the center and the Partage mall, near her residence. Subject C is a particular case because his workplace is 80 km from Mossoró, and his consumption locations vary according to the return route after work. He has his own car allowing greater reach to distant areas of the city.

Of the city residents living in closed residential projects (E, F, G, H), subjects F and G work in the center or its vicinity, and interviewees E and H work close to their homes. All have an individual vehicle. Regarding the consumption locations, they all go to the Partage mall. The citizens E and G reside in the Ninho gated community, located 10 km from this mall, which is approximately 20 minutes away by car. Resident F consumes close to his residence, or inside it, for example, food that is sold inside the condominium:

[...] there are bakeries working here... through... a kind of little truck with their products almost every day of the week, starting on Wednesday. So, Wednesday, Thursday, and Friday, the bakeries are already selling fresh bread, savory snacks, and cakes. They are at a spot here in the condominium ... We have an avenue here in the condominium of almost two kilometers, right?! So it fits (laughs), it fits a lot... and on the weekend, Friday, Saturday, Sunday the food trucks take turns, so we have a list of food trucks, and every weekend that list goes round, right?! So, we're always trying not to have competition; we're not going to put two food trucks selling burgers at the same time, gourmet burgers, we're going to have one that has açaí and one that has pastel. Hamburger and a crepe. (CRS resident).

Thus, unlike the others and even PMCMV residents, the latter carry out a large part of their daily activities within a proximity radius of less than 1 km. The location logics of commercial capital associated with real estate dynamics (SPOSITO; GÓES, 2013) represented by CRSs, in which fear and insecurity re-signify spatial practices in their objective and subjective nuances, are distinctly identified here. Ruptures and separations (LEGROUX, 2021) are constantly reproduced, on the one hand, by the objective logic of real estate capital, and on the other by those who consume such real estate products subjectively. The CRS resident above assimilates the idea that such real estate products promote safety and comfort, especially for leisure, living, mobility, and consumption. However, barriers and separations must be overcome for work purposes. Therefore, it is possible to understand how socio-spatial fragmentation manifests itself, especially when different social groups are compared, resulting from such a social division of urban space.

Briefly: the main characteristics of the daily practices carried out by the interviewed city inhabitants show that the center remains one of the main shopping spaces and services of low-income residents. Although they visit the mall, this is essentially for leisure (food courts) and not to buy products in stores with a middle/upper-class profile or access medical consultations, for example. Residents of medium and high-end housing go to the mall more often, while access to the center is lessened but not excluded. Finally, there is a confluence of consumption spaces, mainly supermarkets, between the two groups, but distance is not an obstacle to medium and high-end segments since the city is more accessible by car. As Pereira suggests (2020, p. 303)

The place of residence says a lot about the possibilities of use and appropriation of space; it says a lot about the capacity to consume, pay rent, commit income to transportation, health, and education, i.e., control over time and space for its reproduction. For example, whether the neighborhood is more central or peripheral, whether the urban expansion and concentration vector is for higher classes or inhabitants of low socioeconomic strata, which can be related to rates of violence, will result in quite different possibilities and limits of the appropriation of space use.

A preliminary examination of these cartographic analyses, associating quantitative and qualitative data, shows that Mossoró still has an intense concentration of commercial activities and services in the city center. However, the construction of the Partage shopping mall indicates the increasing decentralization of economic activities, promoting real estate expansion in this zone and creating a "new central area." Therefore, a differentiation in the social division of urban space evidences a process of socio-spatial fragmentation underway in the city.



Although the center exerts a strong attraction, preliminary interviews already allow us to observe a tendency for the emergence of new centralities, both for minority classes and medium and high classes. However, they are used with different temporality and frequency, further sharpening the social division of a space formed and inherited from juxtaposed and different historicities. Thus, we agree with Sposito and Góes (2013, p. 301), who observe in the context of medium-sized cities and Brazilian urbanization itself:

(...) a new technical and, therefore, economic division of time and space, which is also social because it refers to new, increasingly segmented environments for the consumption of goods and services, increasing and making the mosaic of socio-spatial inequalities more complex in the forms of mobility and accessibility to fragments that compose the contemporary city.

Given the above, the conclusion is that there are differences in the forms of use, time, and ownership of the city by city dwellers, where the social division of urban space has been a factor that corroborates these differentiations, intensifying inequalities and signaling a socio-spatial fragmentation process characterizing Brazilian cities, and the increasing loss of a certain spatial unity (NAVEZ-BOUCHANINE, 2002).

## CONCLUSION

Some final considerations arising from the research carried out so far suggest a direction concerning the findings of previous national research. First, the social division of space in Mossoró has characteristics that allow us to affirm that socio-spatial expression within the city is articulated in the global context, providing a reproduction of socio-spatial inequalities that need to be explored in further investigations. This expansion of socio-spatial inequalities is related to a directly observable fracture in the context of urban morphology and spatial practices.

It was possible to analyze different forms of spatial appropriation and use by socioeconomic groups. With this data set, we outlined unequal forms of appropriation of the city, the main components that problematize the process of socio-spatial fragmentation, and the growth patterns in contemporary Mossoró. The interviews in this article show the new qualities in city inhabitants' spatial practices, revealing the various "spatial capitals" mobilized by the various subjects, which are directly linked to the social division of urban space.

Thus, there are new qualities to the forms of content that characterize Mossoró in the twenty-first century and require more reflections on how the insertion of commercial forms like shopping malls articulates with other processes such as segregation and self-segregation. Furthermore, as seen, the logic of housing production reinforces a pattern of spatial segregation of low-income housing, making these city dwellers more dependent on the city center. The closed residential spaces with high-income residents and the possibilities arising from the dynamics of private spatial mobility allow a bigger and broader combination between the city center's commercial spaces and the new consumption spaces in other areas, such as the mall.

Therefore, peripheral spaces, especially in the areas where low-income residences are located, have lower availability and diversity of commerce, services, and leisure areas. At the same time, medium and high-end housing is better served by the proximity and the possibility of displacement that the subjects of these social classes have. As Harvey (1980, p. 146) rightly pointed out regarding the control of space and time in the capitalist city: "the rich, who are full of economic choice, are better able to escape the consequences of such a monopoly [of private property], than the poor, whose choices are very limited," thus "the rich can dominate space while the poor are imprisoned in it."

The socio-spatial inequalities in Mossoró reinforce the need to analyze the social division of space and the territorial division of labor, taking the uses and appropriations by different social groups and socioeconomic characteristics into account. Still under development, this research has shown that socio-spatial fragmentation overlaps with centrality, consumption, and new forms of inhabiting, reproducing inequalities and contradictions in urban space.

## NOTES

1- This text is part of the analysis of the Thematic Project “Socio-spatial fragmentation and Brazilian urbanization: scales, vectors, rhythms and forms” (FAPESP Process: 18/07701-8). The focus on Mossoró is justified by the fact that the city is one of the nine urban centers that are the target of this research project, in which the hypothesis of socio-spatial fragmentation in the context of Brazilian urbanization is investigated. Therefore, these are partial results that are being systematized as the research progresses. The methodological procedures employed here are some of those that are operationalized in the broader research of which this article is part.

2- The PMCMV emerges in this work as a structuring logic that expands the distancing of the poorest and enhances the action of real estate agents in the urban space, reproducing patterns of socio-spatial fragmentation, such as the medium-sized city of Dourados-MS (CALIXTO, 2022).

3- Interviews with city dwellers were held through video conferencing platforms, such as Google Meet throughout 2020, due to the Covid-19 pandemic. The idea was to investigate the routes, spatiality, and daily life of two types of city residents (low-income MCMV housing and medium and high-end closed condominiums). Interviewees were asked about their place of residence, place of work, visits and frequency to the city center, leisure points and transportation used for travel. The use of eight interviewees, four for each type of resident, was based on the possibility of illustrating the theoretical-conceptual debate, we avoided an excessive number of city dwellers, since this was not the research objective at this time. All interviews were conducted with a semi-structured script, recorded with the permission of the interviewees, under the guarantee of anonymity and their use, primarily for research purposes, thus respecting the recommendations of the Ethics Committee and resolution 510 of April 7, 2016, regarding the specificities of research in Human and Social Sciences. Thus, we sought to protect the subjects’ data, avoiding greater risks than those existing in everyday life. As a result, the interviewees were identified with codes for their protection.

4- The project uses the terminology “well-informed agents” to classify the “agents” by their ability to act in the urban space and “well-informed” to characterize the information they have; due to the function and performance they fulfill in the analyzed city (SILVA et. al, 2022, in press).

5- The central area of the map shows three shopping centers that are framed in the research as a shopping mall, based on the classification of the Brazilian Association of Shopping Centers (ABRASCE), see: <https://abrasce.com.br/>. However, Shopping Partage, located in the northwest sector of the city logically does not fit as a commercial center.

6- It is an enterprise of Embraco Construtora, with two-and-three room apartments and commercial rooms. More information can be found on the company's website, available at: <https://construtoraembraco.com.br/empreendimento/whb>.

7- The State’s role as an agent of the production of urban space is not the subject of this article, but the varied state investments, such as housing, mobility, and leisure, for example, are being investigated in the research of which this article is part.

8- Unlike other sectors of the city that have CRS's and are further from the center, this axis of expansion is close to the center and has one of the most expensive square meters in the city, concentrating important closed condominiums such as Alphaville-Mossoró and projects under construction, such as the Residential Condominium of the Americas, of Embraco Construtora, whose investment reaches R\$120 million, according to the local media.

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