

## **Uses and appropriations of urban space as shaped by everyday mobility: examples from Chapecó, Santa Catarina, and Mossoró, Rio Grande do Norte**

*Usos e apropriações do espaço urbano através das práticas de mobilidade cotidiana: os casos de Chapecó, Santa Catarina, e Mossoró, Rio Grande do Norte*

*Usos y apropiaciones del espacio urbano a través de prácticas de movilidad cotidiana: los casos de Chapecó, Santa Catarina, y Mossoró, Rio Grande do Norte*

*Usages et appropriation de l'espace urbain à travers les pratiques de mobilité quotidienne : les cas de Chapecó, Santa Catarina, et Mossoró, Rio Grande do Norte*

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### **ABSTRACT**

Mobility is a fundamental spatial practice for understanding how urban space is used, appropriated, and how social inequalities are reproduced. This article aims to analyze the similarities and differences in the uses and appropriations of urban space through everyday mobility by two distinct social groups in two different urban contexts: Chapecó (Santa Catarina) and Mossoró (Rio Grande do Norte). Semi-structured interviews provided empirical data for analyzing daily mobility, accessibility, and the reproduction of inequality in these cities. The article is structured into three parts: (a) the theoretical grounding of mobility and accessibility

for analyzing urban spatial practices; (b) understanding the formation of urban structures in each city; and (c) an analysis of the everyday mobility experiences of two social groups through interview data. The results highlight differences in everyday mobility patterns between the two cities, shaped by both the urban structuring processes—linked to each city's socio—spatial formation—and individual socioeconomic characteristics. In Chapecó, the use of private automobiles predominates among various social groups. In Mossoró, however, lower-income populations rely on multiple mobility strategies to manage their daily lives, resulting in a more unequal mobility experience for these groups.

**KEYWORDS:** accessibility; socio-spatial practices; socio-spatial inequalities; conceived space; mid-sized cities.

## RESUMO

A mobilidade é uma prática espacial fundamental para a compreensão dos usos, apropriações e reprodução das desigualdades no espaço urbano. O objetivo deste texto é analisar as semelhanças e diferenças nos usos e apropriações do espaço urbano, através da mobilidade cotidiana, de dois grupos sociais distintos, em dois contextos urbanos díspares: Chapecó/SC e Mossoró/RN. A aplicação de entrevistas semiestruturadas forneceu os elementos empíricos para análise da mobilidade cotidiana, acessibilidade e reprodução das desigualdades nestas cidades. Para tanto, o artigo está organizado em três partes: a) fundamentação da mobilidade e acessibilidade para análise dos usos e apropriações do espaço urbano; b) compreensão da estruturação das cidades; c) análise da experiência da mobilidade cotidiana dos dois grupos sociais através das entrevistas. Os resultados evidenciam diferenças na mobilidade cotidiana entre as cidades, associadas tanto ao processo de estruturação urbana, conforme a formação socioespacial em que cada cidade está inserida, quanto às características socioeconômicas dos sujeitos. Em Chapecó, observa-se o predomínio do uso do automóvel individual entre os distintos grupos sociais. Já em Mossoró, a população de camadas populares adota múltiplas estratégias de mobilidade para viabilizar seu cotidiano, o que resulta em uma mobilidade mais desigual para esse grupo.

**PALAVRAS-CHAVE:** acessibilidade; práticas socioespaciais; desigualdades socioespaciais; espaço concebido; cidades médias.

## RESUMEN

La movilidad es una práctica espacial elemental para comprender los usos, apropiaciones y reproducción de las desigualdades en el espacio urbano. El objetivo de este texto es analizar las similitudes y diferencias en los usos y apropiaciones del espacio urbano, a través de la movilidad cotidiana, de dos grupos sociales distintos, en dos contextos urbanos dispares: Chapecó, Santa Catarina, y Mossoró, Rio Grande do Norte. La aplicación de entrevistas semiestructuradas proporcionó los elementos empíricos para analizar la movilidad cotidiana, la accesibilidad y la reproducción de las desigualdades en estas ciudades. Para ello, el artículo se organiza en tres partes: a) fundamento de la movilidad y accesibilidad para el análisis de los usos y apropiaciones del espacio urbano; b) comprensión de la estructuración de las ciudades; c) análisis de la experiencia de movilidad cotidiana de los dos grupos sociales a través de entrevistas. Los resultados evidencian diferencias en la movilidad cotidiana entre las ciudades, asociadas tanto al proceso de estructuración urbana, según la formación socioespacial en la que se inserta cada ciudad, como a las características socioeconómicas de los sujetos. En Chapecó, predomina el uso del automóvil particular entre los distintos grupos sociales. En cambio, en Mossoró, la población de sectores populares recurre a diversas estrategias de movilidad para llevar a cabo su vida cotidiana, lo que genera una movilidad más desigual para este grupo.

**PALABRAS CLAVE:** accesibilidad; prácticas socioespaciales; desigualdades socioespaciales; espacio concebido; ciudades medianas.

## RÉSUMÉ

La mobilité est une pratique spatiale élémentaire pour comprendre les usages, les appropriations et la reproduction des inégalités dans l'espace urbain. L'objectif de ce texte est d'analyser les similitudes et les différences dans les usages et les appropriations de l'espace urbain, à travers la mobilité quotidienne, de deux groupes sociaux distincts, dans deux contextes urbains disparates : Chapecó, Santa Catarina, et Mossoró, Rio Grande do Norte. L'application d'entretiens semi-directifs a fourni les éléments empiriques pour analyser la mobilité quotidienne, l'accessibilité et la reproduction des inégalités dans ces villes. Pour ce faire, l'article s'organise en trois parties : a) fondement de la mobilité et de l'accessibilité pour analyser les usages et les appropriations de l'espace urbain ; b) comprendre la struc-

turation des villes ; c) analyse de l'expérience de mobilité quotidienne des deux groupes sociaux à travers des entretiens. Les résultats montrent qu'en comparant Chapecó et Mossoró, on observe que les différences socio-économiques influencent directement les modes de déplacement, Chapecó ayant une plus grande utilisation de véhicules privés parmi les classes inférieures, tandis qu'à Mossoró l'absence de voitures et l'inefficacité des transports publics encouragent une plus grande diversification des moyens de transport.

**MOTS-CLÉS :** accessibilité ; pratiques socio-spatiales ; inégalités socio-spatiales ; espace conçu ; villes moyennes.

## INTRODUCTION

The rise of modern society, marked by successive transformations in the social and territorial division of labor, has brought various forms of mobility, including social, residential, labor, daily, commuting, and tourist mobility, in addition to migrations, which are understood as non-recurring movements external to the living space (Balbim, 2016). In the wake of the “postmodern condition” (Harvey, 1992), this plurality of mobility types has become even more complex. Contemporary society is shaped by what Sheller and Urry (2006) define as the “mobility turn,” reflecting a world structured not by stasis but by material and immaterial flows—networks of circulation and connection designed, above all, to support the hypermobility of capital. Yet, while certain flows intensify, others are increasingly obstructed. Growing patterns of immobility and the imposition of both virtual and physical barriers have excluded entire social groups from participating in these systems of movement (Archer, 2020; Ardila et al., 2020; De Madariaga & Zucchini, 2019).

In the context of contemporary urbanization, characterized by a fragmented logic of spatial production (Legroux, 2021) and marked by increasing discontinuity in both the social and morphological fabrics of cities, as well as by deepening socio-spatial inequality, we observe the emergence of differentiated urban uses and appropriations shaped by the material and social conditions of both cities and their inhabitants. We start from the premise that the use of space, time, and the body encompasses fundamental dimensions of life, and that everyday life in urban society is anchored in use value. In this regard, “the conflict over the use of space reveals the essence of the social process: property struggling against appropriation,” as appropriation concerns quality, whereas property concerns quantity (Seabra, 1996, p. 79).

This study examines the differentiated uses and appropriations of urban space through a specific form of mobility: daily mobility. Conceptually, daily mobility may be understood as “a social practice of daily displacement in time and space that enables access to activities, people, and places” (Jirón et al., 2010, p. 24). This approach reframes mobility not merely as the connection between points A and B, but as a spatial—and simultaneously social—practice, since it constitutes a key mechanism for reproducing everyday life. Accessibility, in turn, can be defined as “a practice that brings together the desires and needs for movement with the capacity to fulfill them” (Gutiérrez, 2009, p. 2). This concept incorporates both the material form of urban space (its built structure and transportation networks) and the personal character-

istics of individuals and social groups that condition their capacity to move (Jirón & Mansilla, 2014).

Accordingly, this article analyzes how different social groups utilize and appropriate urban space through everyday mobility practices in two Brazilian cities: Chapecó (Santa Catarina) and Mossoró (Rio Grande do Norte). We chose to study mid-sized cities to broaden the scope of academic discussions on daily mobility, which typically focus on metropolitan contexts. Furthermore, we selected cities situated within distinct socio-spatial formations (Santos, 1977, 1978), allowing for a comparative analysis of what is singular, general, and particular in urban use and appropriation through mobility (Novack, Silva & Sposito, 2024; Novack, Catelan & Sposito, 2024; Sposito, Teixeira & Silva, 2022).

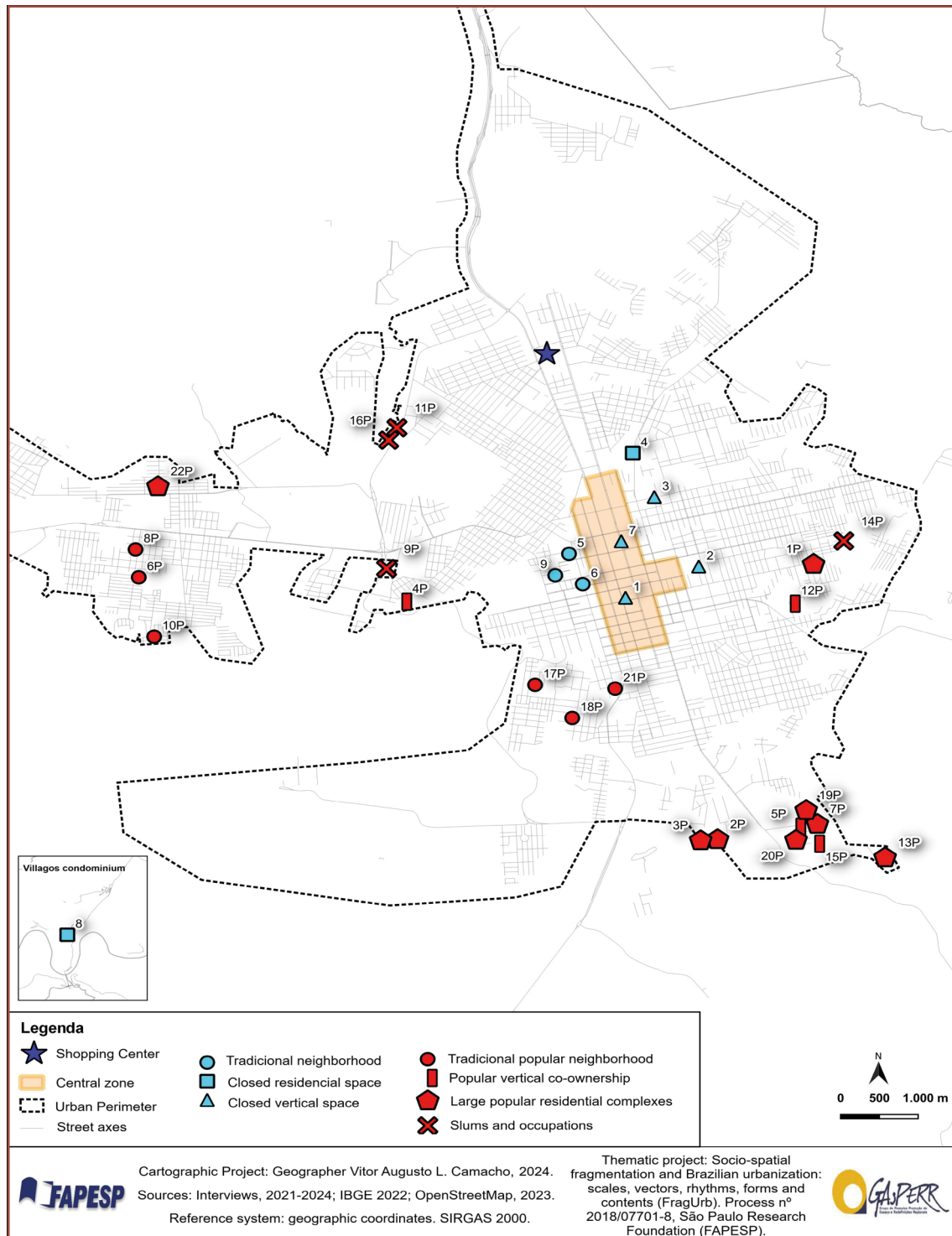
Our analysis of daily mobility and accessibility in Chapecó and Mossoró is grounded in semi-structured interviews conducted between 2020 and 2022, both through digital platforms and in person during fieldwork. Following the approach proposed by Goés and Sposito (2013) and Goés et al. (2022), we used *housing* typologies—referred to here as *habitats*—as a criterion for selecting participants. These typologies encompass more than just the architectural and structural characteristics of dwellings; they also reflect the social production of housing and its accessibility, its residential function, patterns of land use and occupation, and the relationships between various forms of housing and the surrounding urban environment. We sought to include a broad range of habitats present in both cities.

The number of interviews varied by city, depending on the presence and relevance of each habitat type. Our goal was to interview residents of different housing typologies and people from various parts of each city. In line with Goés et al. (2022), we interviewed two main groups: a) residents living in habitats geared toward higher-income groups, including horizontal and vertical gated communities, upper- and middle-class traditional neighborhoods, and similar typologies; and b) residents of popular or working-class habitats, including informal settlements, low-income housing such as units built under the Minha Casa Minha Vida program, open-access working-class neighborhoods, and favelized areas, among others.

In these habitat categories, we selected participants of various ages and genders who were asked about their daily routines and spatial practices related to housing, mobility, leisure, consumption, and work using a semi-structured interview guide. In Chapecó, we conducted a total of 31 interviews—9 with residents from higher-income habitats and 22 from popular ones. In

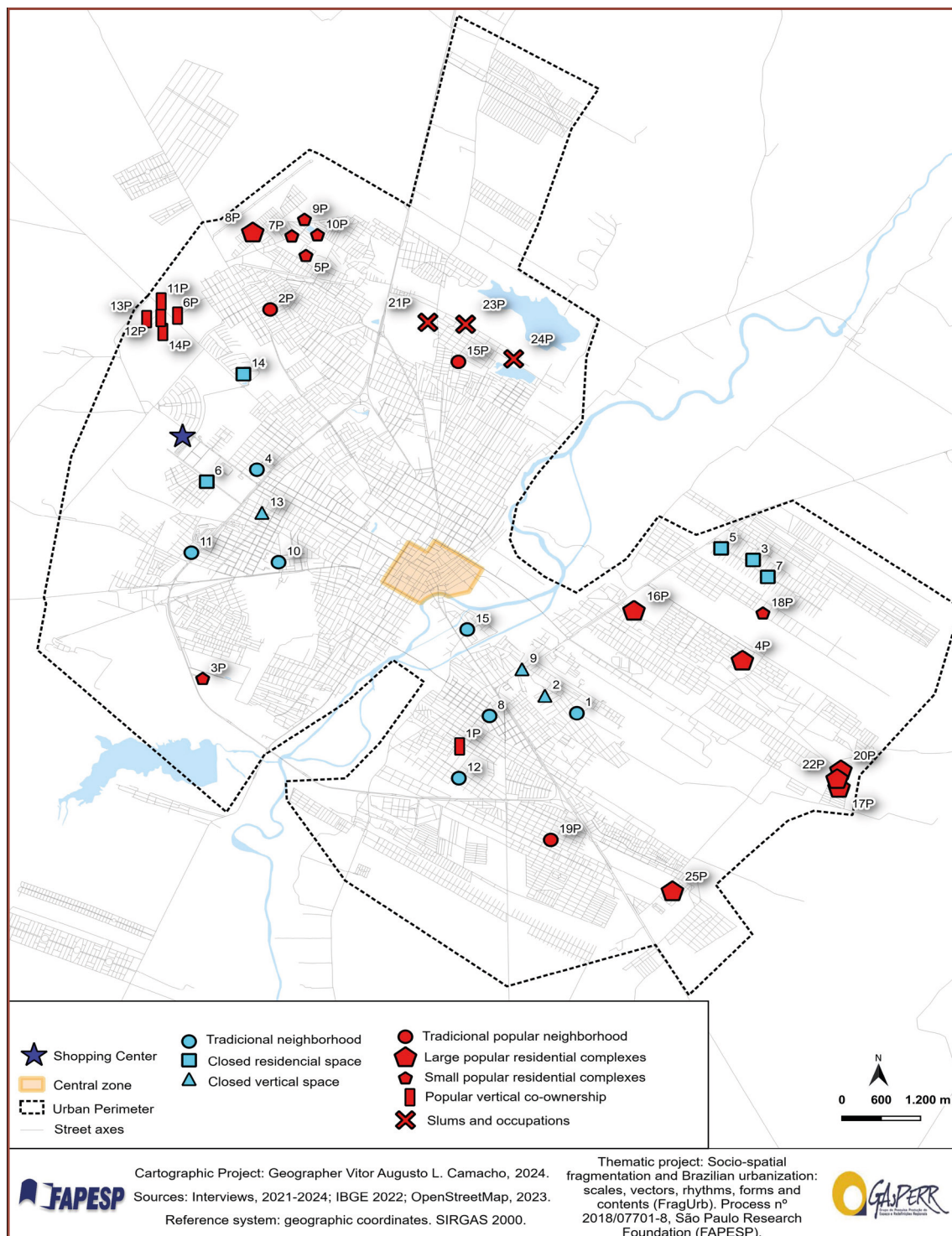
Mossoró, we conducted 38 interviews—13 from higher-income habitats and 25 from popular areas. The figures below illustrate the spatial distribution of interview participants in both cities.

**Figure 1** – Chapecó, Santa Catarina – Place of residence of interviewees by habitat typology





**Figure 2** – Mossoró, Rio Grande do Norte – Place of residence of interviewees by habitat typology



The interview analysis focused on how urban space is used and appropriated within the context of everyday routines and spatial practices. According to Lindón (2012), the appropriation of urban space is shaped not only by structural factors but also by forms of resistance and individual rationalities,



framed by perception, meaning, and representation. Appropriation occurs through spatial practices that are inherently social (Souza, 2013). As Lévy and Lussault et al. (2003, pp. 740–741, as cited in Sodr , 2021, p. 1) explain, spatial practices have two key dimensions: the first relates to the set of behaviors enacted by an individual in a spatial context; the second refers to the subject’s actions, which result from choices—more or less conscious—sociologically conditioned and expressed through behavior. These concepts are essential for analyzing mobility and accessibility, as they reveal patterns of appropriation that are often conflict-ridden and contradictory.

## UNDERSTANDING SOCIO-SPATIAL INEQUALITIES THROUGH MOBILITY

The debate surrounding mobility in its various forms and dimensions across the Global North and South is vast and extends well beyond academia. It is deeply embedded in public policy, media discourse, and the everyday experiences of social actors. In Latin America, research on mobility has intensified alongside the urbanization process. A broad body of work has examined urban growth, the restructuring, and diversification of Brazil’s urban network, and its implications through different forms of mobility, such as rural-to-urban and intra-urban migration (Martine, 1995; Faria, 1991; Cunha & Baeninger, 2005; Baeninger, 2012; Cunha et al., 2021). At the same time, other studies have sought to understand how urbanization, shaped by urban spoliation (Kowarick, 1979), impacts urban mobility, highlighting the precarious nature of infrastructure and its everyday consequences—particularly for residents in the urban peripheries of Brazil’s major cities (Vasconcellos, 1999; 2016; Guti rrez, 2009; Rolnik & Klintowitz, 2011; Jir n & Mansilla, 2014).

Jir n and Mansilla (2014), drawing on a range of studies (Jir n et al., 2010; Guti rrez, 2009; Sheller & Urry, 2010), emphasize that urban mobility and transport infrastructure are central to understanding how inequalities and social exclusion are either reinforced or perpetuated mitigated. Urban mobility is thus a critical lens for analyzing socio-spatial inequalities. Beyond the material infrastructure itself, it is essential to consider factors such as economic integration, cultural and social characteristics, and physical impairments—all of which influence individuals’ and social groups’ mobility experiences and access to urban benefits (Jir n & Mansilla, 2014; Guti rrez, 2009).

In addition to deficiencies in the transport system, Jir n and Mansilla (2014) identify a set of barriers that hinder accessibility. These include: a) **financial**

barriers, such as the cost of fares and parking; b) **physical** barriers, related to the condition of streets and sidewalks or the distances involved; c) **organizational** barriers, linked to daily responsibilities like shopping, accessing services, or caregiving duties that limit travel; d) **temporal** barriers, such as limited operating hours of transport, shops, and services, as well as weather conditions; e) **skills-related barriers**, which involve the ability to drive, cycle, or navigate the system; and f) **technological** barriers, associated with using tools that facilitate or replace the need for travel. These barriers curb daily mobility and deepen socio-spatial inequalities (Jirón & Mansilla, 2014).

Such mobility and accessibility barriers must be analyzed by considering the rhythms, routines, and habits of everyday life, which contribute density to these experiences (Jirón & Mansilla, 2014). The term density here refers to the accumulation of barriers that, when overlapping and interwoven, make mobility significantly more difficult. As such, everyday urban mobility is not inherently fluid; a complex interplay of factors shapes it.

In Brazil, one of the most significant accessibility barriers is the inadequacy of public transportation—characterized by limited bus routes and schedules, high fare prices, and the financial constraints faced by the population. These conditions often make public transport unaffordable or inaccessible for large segments of society (Vasconcellos, 2016). According to the National Land Transport Agency, 70% of low-income Brazilians receive no financial support for transportation. Petrone (2021) argues that when income, race, and gender are considered together, these disparities become even more pronounced. Moreover, the time spent using public transportation is nearly double that of private modes, meaning that even when mobility is available, it comes at a high cost in both time and money (Petrone, 2021).

Restrictions on mobility undermine the fundamental right to come and go, directly affecting access to essential rights such as healthcare, employment, leisure, and housing (Petrone, 2021). Since 2018, Brazilians have spent more on transportation than on food—surpassed only by housing costs. Approximately 18% of workers' income is allocated to transportation (Petrone, 2021).

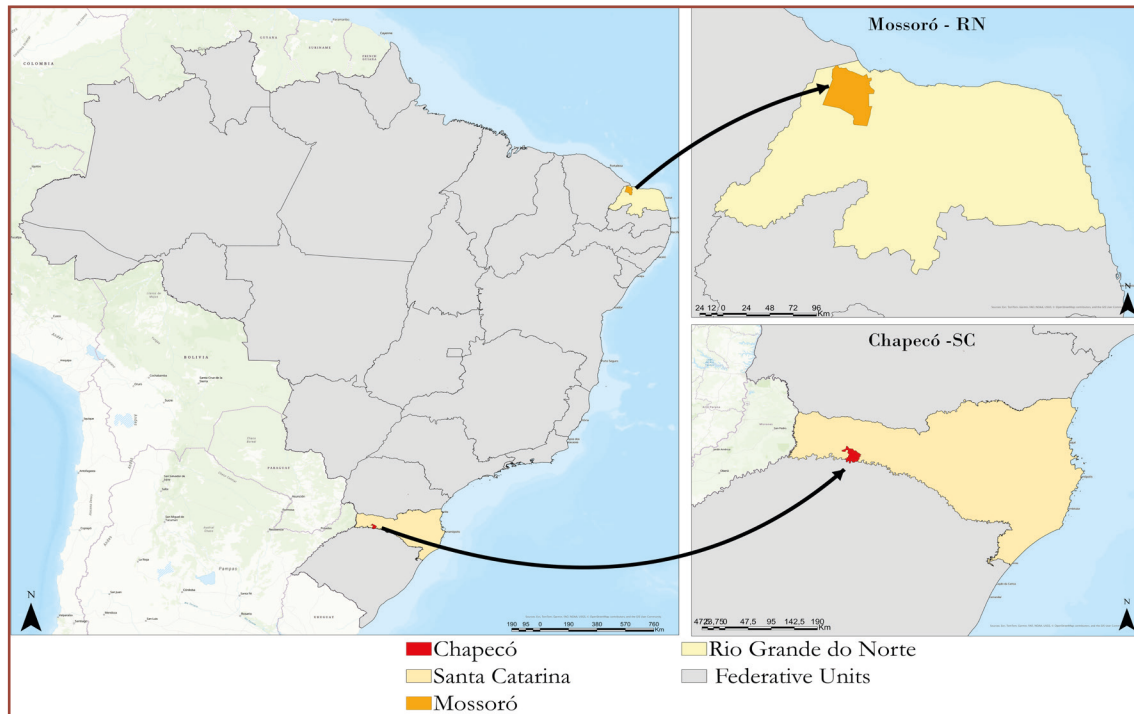
The precarious conditions of mobility and the accessibility barriers faced by individuals and social groups, especially those living in peripheral areas, exacerbate existing urban inequalities and hinder access to the right to the city. The concentration of productive capital in central urban zones exerts influence over housing, mobility, and security policies, fostering the creation of

selective circulation boundaries. These reinforce inequalities between social groups, such as workers and the unemployed, Black and white populations, and women and men (Decothé & Cruz, 2021).

## URBAN STRUCTURING AND INFRASTRUCTURE FOR MOBILITY

This section introduces the cities of Chapecó and Mossoró, focusing on the socio-spatial formations in which they are embedded, their patterns of urban structuring, and how these factors shape mobility infrastructure and, in turn, daily life. By situating each city in terms of time, space, territory, and region, we examine how differing socio-spatial formations influence urban mobility patterns, shaped by productive sectors, labor markets, and the distribution of social classes. The analysis of mobility infrastructure also seeks to identify accessibility barriers, considering factors such as fare prices, bus routes, available modes of transport, and sociodemographic characteristics of the population, including income and employment. These elements are essential to understanding the specificities and challenges of mobility in each urban context.

**Figure 3** – Location of the municipalities of Chapecó and Mossoró



Source: IBGE – Municipal and state boundaries. Prepared by the authors.

By examining everyday mobility and accessibility in mid-sized cities such as Chapecó (SC) and Mossoró (RN), this study explores the quality, timing, and directional patterns of daily urban movement in contexts distinct from

metropolitan scales. While most mobility studies focus on metropolitan areas (Pereira, 2013; Vasconcellos, 2011), our objective is to understand how smaller urban scales might—at least theoretically—offer more favorable conditions for daily mobility. The selection of these cities allows for a comparative analysis of urban space use, appropriation, and mobility-related inequalities within distinct socio-spatial formations.

### **Historical development of Chapecó (SC) and Mossoró (RN)**

Chapecó, founded in 1882 and located in western Santa Catarina, has a population of 254,781, an average monthly income of 2.7 minimum wages, a Human Development Index (HDI) of 0.848, and a per capita GDP of R\$53,365.00 (IBGE, 2022). Its socio-spatial formation was shaped by the construction of the railway connecting São Paulo and Rio Grande do Sul, the steady influx of migrants from Rio Grande do Sul into western Santa Catarina, and an economy based on small landholdings, particularly pig farming and yerba mate trade with Argentina. The city's industrialization was driven by companies like Sadia, founded in 1944, and Aurora, in 1969. These industries were key in triggering rural-to-urban migration from the 1950s onward. The state supported their expansion through the provision of infrastructure such as land, earthmoving services, tax exemptions, and investments in essential urban equipment and services (Hentz, 2021, pp. 52–57).

From the 1970s onward, Chapecó underwent economic modernization by implementing the “Integration System”, which linked small poultry and pig producers to large industries, accelerating the city's agro-industrial exports. This phase brought economic and urban growth along with a sharp rise in social inequality, mirroring the expansion of agribusiness. In the 2010s, external economic actors began to reshape the city's landscape, especially in the retail and service sectors. The first shopping mall opened in 2011, and the expansion of higher education institutions attracted real estate investment. Yet, socio-spatial inequalities persist, marked by high real estate prices and inadequate housing policy (Matiello et al., 2016).

In recent years, Chapecó's economy—still heavily driven by agribusiness—has prompted public investment in infrastructure, tourism, and innovation. However, the city faces ongoing challenges such as the exploitation of rural and immigrant labor, enduring socio-spatial inequalities, and the consequences of an economy oriented toward international markets. Urban sprawl has accompanied the proliferation of various real estate developments, including

mixed-use buildings, gated residential communities, and housing units built under the federal Minha Casa Minha Vida program (Matiello et al., 2016).

Mossoró, founded in 1852 and located in Rio Grande do Norte, presents a distinct socio-spatial formation, developed over the past two centuries. With a population of 264,577, an HDI of 0.720, and a per capita income of R\$23,290.37 (IBGE), the city has experienced several economic cycles, from cotton and carnauba wax production to becoming a center for salt extraction and, more recently, oil production and fruit farming. These economic transitions have reshaped the city's social structure, mainly through the unregulated expansion of peripheral neighborhoods since the 1960s, leading to residential segregation and conflicts between residential and commercial uses in the traditional downtown area (Elias & Pequeno, 2010).

In the 1980s, strong local political leadership led to establishing a rural settlement in Serra do Mel and constructing residential complexes using funding from the National Housing System (SFH). Petrobras's arrival in the 1990s triggered widespread subdivision of land and transformed rural labor relations. In the context of globalization, the rise of science-based agriculture further changed the rural-urban dynamic and the territorial division of labor. New technical systems in agriculture, particularly for melon and banana production, involved mechanization and chemical and biotechnological inputs, making previously unproductive lands cultivable (Elias & Pequeno, 2010).

Regionally, Mossoró draws people seeking access to specific goods, higher education, specialized health care, and the trade of agricultural supplies and products (Elias & Pequeno, 2010). However, these flows are selective, favoring certain zones and generating more dynamic subspaces. This selective dynamic deepens the divide between extensive rural agriculture and the agribusiness sector, which, with increased mechanization and technological advancements, has consolidated production for export markets. At the same time, the region reveals internal contradictions, especially in the form of urban socio-spatial segregation, evident in the coexistence of exclusive residential areas, subsidized housing complexes, and favelized zones (Elias & Pequeno, 2010).

When comparing these two socio-spatial formations, Chapecó represents an industrial-based configuration characterized by a strong rural-urban integration model, rooted in small-scale farming with substantial technological incorporation and a high percentage of rural population. Mossoró, by contrast, has historically been shaped by extensive rural production, first in agriculture and salt, later in oil, and underwent significant transformations with the advent of sci-



ence-based agriculture. What distinguishes them is not the current conditions of the early 21st century, but rather their historical-geographical trajectories.

### **Conceived space and mobility infrastructure**

The production of urban infrastructure, including accessibility and the city's physical configuration, is deeply intertwined with the sociohistorical development of Chapecó and Mossoró. This section examines both cities' public transportation and mobility infrastructure, aiming to understand residents' mobility practices as revealed through interviews. Conceived space, associated with urban planning and management, refers to the physical environment designed by professionals, especially architects, to serve specific needs. It encompasses infrastructure such as parks, sidewalks, and streets, which structure how urban spaces are accessed and used (Lefebvre, 2008). Managing mobility infrastructure and public transport is a municipal responsibility and is integral to broader urban planning.

Conceived space sets standards and norms that regulate behavior and impose control over individuals. Yet its production is not neutral—it is shaped by contradictions and competing appropriations that may reinforce social inequalities. Within the context of everyday mobility, transportation and accessibility infrastructures are components of this conceived space and reflect dominant logics of urban development. In Brazil, a road-oriented mobility model underscores the influence of these dominant logics, shaping both conceived and lived space by organizing urban rhythms, movements, and experiences (Legroux, 2021).

In Chapecó, historical analysis of urban planning—especially regarding mobility—shows that, despite repeated efforts to reorganize urban space, solutions to mobility and accessibility challenges tend to replicate existing paradigms. This recurring pattern privileges individual car use, hindering the implementation of alternatives such as walkable routes, bike lanes, and expanded public transport. As a result, Chapecó faces mobility challenges similar to those of larger cities, which are marked by a transportation model anchored in roads and private vehicles (Reginato, 2017).

According to a 2022 urban mobility study on Chapecó<sup>1</sup>, over 358,000 trips occur in the city daily, with 26% concentrated during peak hours (7–8 a.m. and 6–7 p.m.). The busiest point in the city is the Bandeira roundabout, which

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<sup>1</sup> The data are part of the urban mobility study conducted by the Foundation for Socioeconomic Studies and Research (FEPESE), as part of the update to Chapecó's Urban Mobility Plan (Prefeitura de Chapecó, 2022).

handles approximately 30,000 vehicles daily. Other heavily trafficked roads include Attilio Fontana and Nereu Ramos avenues, each accommodating over 15,000 vehicles daily. As for preferred modes of transport, 49% of residents rely on private cars, 23% walk, 17% use public transit, 9% ride motorcycles, and only 1% cycle. Nearly 31,000 passengers use public buses daily, supported by 990 trips.

Between 2006 and 2022, the number of private vehicles in Chapecó rose from 40,000 to 111,741—about one vehicle for every two residents. This is higher than the national average of one vehicle per four residents. The city's vehicle count also exceeds its economically active population, which is 111,716 people—or 46% of the total population.

The rise in car ownership in Chapecó is not only driven by Brazil's broader economic policies that incentivize vehicle purchases, but also by the city's economic and social structure, marked by near-full employment (RAIZ, 2021). This stability allows residents to access durable consumer goods like cars. In 2021, of the 95,068 formal employment contracts in the city, 34% were in services, 21% in commerce, and 31% in manufacturing, with agribusiness playing a central role (RAIZ, 2021). Spatially, it is assumed that most of these jobs are concentrated in Chapecó's central area, as many of the business registrations related to commerce and services—responsible for over 55% of the city's jobs—are clustered there (Figure 2).

This concentration accounts for the density of workplaces and the resulting commuting patterns to the city center and explains why many residents travel to the center to purchase everyday goods, as most major supermarkets are located in this area. It also applies to non-daily consumption, including clothing and footwear.

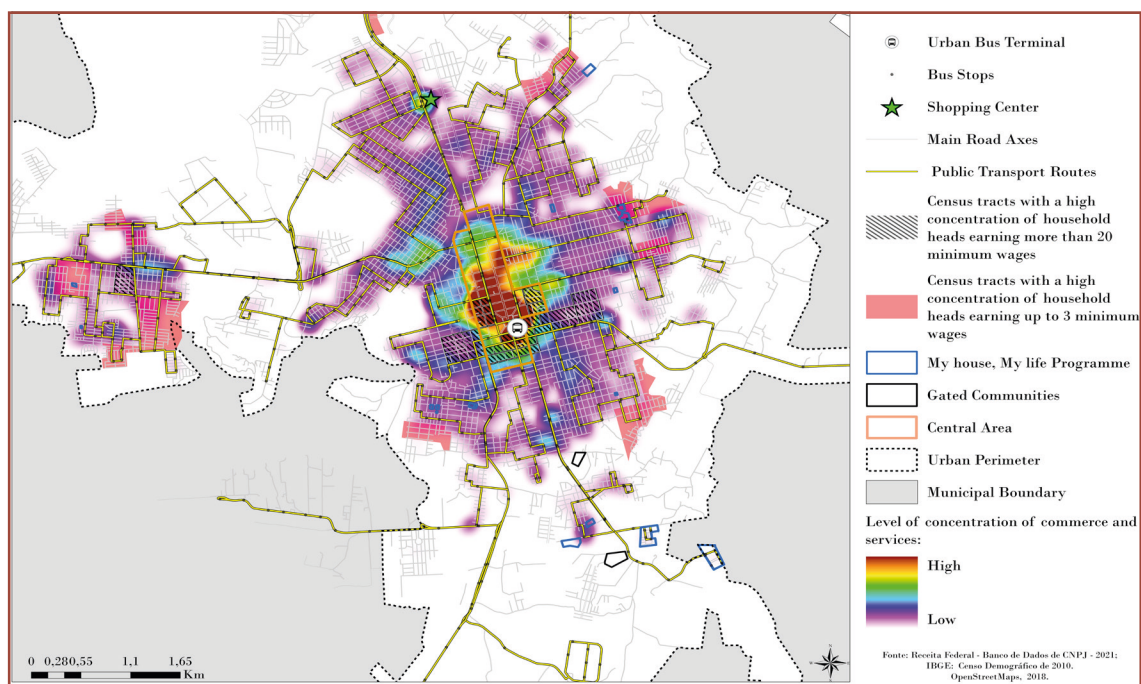
Figure 2 reveals that Chapecó exhibits a center-periphery urban structure and mobility pattern. High-income households (earning more than 20 minimum wages) are concentrated in the central areas, while lower-income populations (earning less than three minimum wages) are concentrated in peripheral zones. This residential and social segregation produces unequal mobility experiences, reinforcing spatiotemporal disparities. Chapecó's public transportation network covers most neighborhoods, as shown in Figure 2. According to Municipal Decree No. 43.465, dated August 19, 2022, the standard fare for inter-municipal public buses is R\$4.40.

In Mossoró, 2021 RAIS data shows 64,193 formal workers. The largest employment sectors are retail (9,681 workers), education (5,925), and public

administration, defense, and social security (5,669). Average monthly earnings were R\$2,194.33 for women and R\$2,368.75 for men. The concentration of retail jobs highlights the centralization of economic activity in Mossoró's downtown core (Figure 4).

Mossoró shares a similar center-periphery structure with Chapecó, where commerce and services remain concentrated downtown, and specialized subcenters have yet to emerge. In 2022, the city had 68,488 cars and 58,336 motorcycles. According to interviews with residents, private transportation is essential due to widespread dissatisfaction with public transit services.

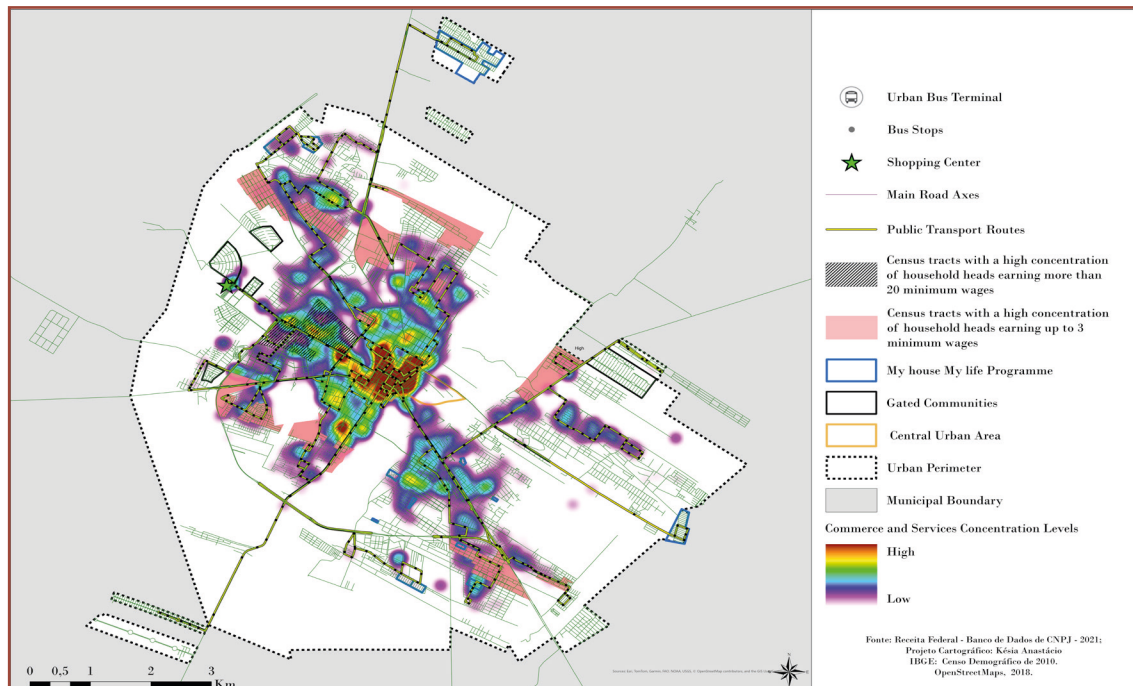
**Figure 4** – Chapecó, 2021 – Urban structure and daily mobility patterns



Prepare by the authors.

Mossoró's public transit system includes buses and taxis, operated by *the company Cidade do Sol*. However, the system faces ongoing criticism for delays, inadequate infrastructure, inefficient routes, and limited service coverage. The company argues that public transportation is undervalued and lacks sufficient investment or subsidies from local authorities. In this context, taxis—including informal shared taxis—have emerged as a more viable alternative for many residents' intraurban travel.

To sum up, these elements help quantify and qualify daily mobility in Chapecó and Mossoró, laying the foundation for a deeper analysis of how residents use and appropriate urban space through the lens of mobility and accessibility, as further explored in the following section.

**Figure 5** – Mossoró, 2021 – Urban structure and daily mobility patterns

Prepare by the authors.

## USES AND APPROPRIATIONS THROUGH MOBILITY

### Everyday mobility practices in Chapecó

An analysis of everyday mobility practices in Chapecó reveals that mobility is not merely about linking different locations—it is deeply embedded in the reproduction of daily life, encompassing access to work, consumption, leisure, emotional ties, and social networks. Interview data indicate that mobility involves strategic decision-making not only regarding costs and time but also concerning the choice of transportation modes and the ability to integrate multiple daily tasks, such as dropping off children at school or grocery shopping, within the same trip, imparting urban mobility a layered and multifaceted character.

Mobility behavior in Chapecó varies across social groups and is shaped by factors such as gender, family structure, and residential location within the city. A prominent finding from the interviews was the dominant use of private vehicles among high-income residents. For example, Tainara, who owns two cars, reported not using other transport modes and rarely walking—even though she lives in the central area, where most commercial and service activities are concentrated.

As Legroux (2021, p. 5) argues, this pattern reflects the influence of Brazil's road-oriented urban planning model, which intensifies what Jirón *et al.* (2010)

describe as the “tunnel effect” and promotes spatial fragmentation by reducing mobility to a chain of functional links between destinations like home, work, gyms, malls, and clubs.

**Interviewer:** The first question about mobility — How do you get around the city? Do you mostly use the car, do you walk? **Respondent:** We use the car a lot, actually. The kids’ school is also kind of far, so we don’t really walk. **Interviewer:** Is there anything you usually do on foot, like going to the bakery or the pharmacy? **Respondent:** Nothing. **Interviewer:** Do you use a bicycle? **Respondent:** No. **Interviewer:** Do you have two cars at home, more than two, or just one? **Respondent:** We have two (**Tainara, 44 – high-income group**).

Among low-income residents, private vehicles were also common. Of the 22 interviewees in this group, 12 identified a car or motorcycle as their primary means of transportation. However, unlike their high-income counterparts, these individuals reported facing significant accessibility challenges and relied on alternative mobility strategies. They highlighted the financial strain of buying and maintaining a vehicle, the expensive and limited public transit options, and the fact that bus travel often takes longer than walking. As a result, many in this group combined different transport modes to manage their routines. José Carlos, a 25-year-old teacher, explained that a rise in household income made it possible to buy a car, streamlining his daily commute and helping him contribute to his partner’s business routine. In contrast, Wilson, 54, relied mainly on a motorcycle to cut fuel expenses, using the car only when it rained or for outings with his family.

**Interviewer:** Do you always drive? **Respondent:** I do. **Interviewer:** Do you walk or bike at all? **Respondent:** Not anymore. I used to take the bus when I worked downtown. **Interviewer:** Now, don’t you take the bus anymore? **Respondent:** No, now I just drive. **Interviewer:** Why not? **Respondent:** Because I have a car now—it’s more convenient. I can leave and come back whenever I want (**José Carlos, 25 – low-income group**).

**Interviewer:** And how do you get around the city? **Respondent:** By motorcycle or by car.

**Interviewer:** For work— everyday, usually by motorcycle? **Respondent:** Yes. **Interviewer:** And the car? **Respondent:** Only when it rains. **Interviewer:** And for leisure? **Respondent:** If I’m going out alone, still by motorcycle—because of the cost (**Wilson, 54 years old – low-income group**).

Other interviewees, including Robson (25) and Paulo César (18), do not own cars and rely on public transit or walking. Robson, a self-employed homeowner, enjoys greater flexibility. Paulo César, who depends financially on his mother, faces a transparent “financial barrier to accessibility” (Jirón & Mansilla, 2014), which limits his use of buses or rideshare services.



**Interviewer:** How do you get around the city? **Respondent:** By public bus. **Interviewer:** When you need to go downtown or to the mall, do you take the bus the whole way? **Respondent:** Yeah, Uber too (**Robson, 25 - low-income group**).

**Interviewer:** You said you walk to school, about 20 minutes each way? **Respondent:** Yes. **Interviewer:** When you go downtown, do you walk there as well? **Respondent:** I walk there too. **Interviewer:** Do you use any other form of transport? **Respondent:** When I have money to spend—because things are tight—I take an Uber. **Interviewer:** You don't take the bus? **Respondent:** I take the bus sometimes, but I'm too impatient (**Paulo César, 18 - low-income group**).

In addition to financial barriers, other types of accessibility barriers—such as organizational and skill-related—were also identified in the analysis of interviewees' accounts, especially among residents of working-class neighborhoods. When analyzing Raiza's (25 years old) account, we observe that her mobility is also tied to her family's organizational routines, which involve dropping off her children at school or at her parents' home before going to work. Because her mobility is shaped by her responsibilities toward her children, Raiza prefers to use a private car and affirms that, at this stage of her family life cycle, she would not be able to commute using public transportation.

On the other hand, Marlene's (52 years old) mobility and her experience of the city are shaped by various accessibility barriers, making her mobility denser and more complex. She has an 18-year-old daughter with mobility issues, compounded by low household income, lack of private transportation, and her inability to drive a car. Her daily movements involve using different modes of transport and relying on support networks to perform everyday tasks that require commuting, such as taking her daughter to the doctor, grocery shopping, or running errands.

**Interviewer:** How do you get around? You told us about your routine, —you wake up, drop your son at school, and then take your daughter to your father's. How do you do all that? By car? By bus? Uber? **Interviewee:** God forbid I take the bus [laughs]. I tried once with both kids on the "lotação" [minibus], but never again. Here, we call public transport "lotação." It was just once. Personally, I can't handle two small children, their backpacks, shopping bags, and my own materials all inside a bus. I really admire those who manage—I see people with backpacks on their backs, another bag on the side, one child in their arms, and another by the hand. My mom was one of those people. My sister and I were raised like that. But now, with my kids —if we don't have a car, we go nowhere. I just can't manage (**Raiza, 25 years old - low-income group**).

**Interviewer:** And you said your daughter doesn't walk, how do you transport her? What's mobility like for you two? **Interviewer:** When you need to go out with her, how do you take her? **Respondent:** In my arms. **Respondent:** She's a grown girl, but I have to carry her because she can't sit up. Thank God I have my daughters who

help me. **Interviewer:** And doesn't APAE offer a transport service? **Interviewer:** Is there any transport service? **Respondent:** Yes, for school—there is. **Interviewee:** Uh-huh. **Interviewer:** So, when there's school, APAE calls and arranges transport. But for example, when you need to go into town to do groceries, see a doctor—anything like that—how do you get around? For doctor visits, my sister takes me (Marlene, 52 years old – low-income group).

Urban mobility experiences in Chapecó are influenced by structural factors and users' individual preferences. The local infrastructure prioritizes individual transportation, emphasizing projects aimed at improving traffic flow and reducing congestion, particularly in the central area, as stated in the Mobility Plan (Chapecó, 2022). While the public transport system is regarded as efficient and well distributed throughout the city, interviewees noted issues such as low service frequency on weekends and long travel times due to the layout of bus routes.

Cibele (25 years old), a resident of a peripheral neighborhood, recently purchased a motorcycle to enhance her daily commute between home and work. She reported that the time spent walking to the bus stop and the delays during travel compelled her to carefully organize her schedule to avoid compromising other daily activities. The low frequency of public transit on weekends also limited her access to recreational activities and shopping. To overcome these barriers, Cibele relied on ride-hailing apps or shared rides. She noted the significant presence of women in public transportation, suggesting that the choices of transport modes and routes also vary by gender.

**Interviewer:** So, let's talk about mobility. You mentioned the bus a lot—do you only use the bus, or do you sometimes walk, take Uber, ride a motorcycle, or drive a car? **Respondent:** In Efapi, I do pretty much everything on foot. To get to work, I take the bus, and if I miss it, sometimes I take Uber. On weekends, the bus is extremely scarce, so if I need to go out, I often have to take Uber. I just got my motorcycle license and bought a motorcycle. **Interviewer:** Are you already planning to use it? **Respondent:** Yes, I am. **Interviewer:** To come to work by motorcycle? **Respondent:** yes. Besides the bad bus schedules, for example, it takes an hour to get to work, and I still have to walk. I walk one kilometer to the stop on the main road, Atílio Fontana, then I go to Fernando Machado. Or I walk to the stop inside the neighborhood, and downtown I walk another kilometer. So, either way— **Interviewer:** You must walk? **Respondent:** And I end up not going out on weekends because getting home so late is exhausting. The motorcycle will make weekends easier too, since I like going out. I won't need a ride anymore. **Interviewer:** Do you usually meet people on public transit? Chat at the stop, make friends? **Respondent:** Yes. There's a whole neighborhood news network at the bus stop. You end up taking the same bus with the same people every day. It's like 90

percent, 95 percent women—at least on the bus and at the stop I use. Most men have a motorcycle or a car. That's usually their priority. **Interviewer:** And Uber—do you only take it when you miss the bus? In specific situations? **Respondent:** Yes, only in specific situations. **Interviewer:** Occasionally, to go out? **Respondent:** That's right (**Cibele, 25 years old – low-income group**).

Another point to highlight is the relationship between urban structuring—specifically the location and function of urban objects, the positioning of social groups, and housing—and everyday mobility. In fact, in Chapecó, as discussed in previous sections, most businesses, services, and jobs (apart from some agro-industries), as well as higher-income social groups, are concentrated in the city center. This concentration of higher-income groups in central areas, combined with private car ownership, results in shorter home-to-work travel times for this group. In contrast, the analysis of the interviews shows that the travel time for residents living in working-class neighborhoods is significantly longer.

**Interviewer:** About the travel time—you said it takes about five minutes by car?

**Respondent:** Yes (**Miranda, 58 years old – high-income group**).

**Interviewer:** Now about work—you mentioned you take the bus, you start early, you don't come home for lunch, you stay at work, then come back late afternoon. So, it takes about 40 to 50 minutes to get from home to work by bus, plus about 10 minutes walking, right? **Respondent:** Yes, about that (**Cibele, 25 years old – low-income group**).

In Chapecó, the social groups analyzed tend to prefer the city center for shopping and leisure. Most respondents do their grocery shopping in central supermarkets such as *Brasão* and *Celeiro*, and purchase clothing mainly in downtown stores or online. However, the shopping mall is not particularly popular among locals, highlighting the predominance of the downtown area for these activities. This preference for the city center is also shaped by the layout of urban infrastructure. Nonetheless, the distance from this concentrated area and the difficulties in accessing it, especially for lower-income groups, lead to different patterns of appropriation, whether through frequent use or exclusion. This is the case for *Cibele*, who sometimes avoids going downtown for leisure due to the low frequency of public transportation. In other words, when comparing both groups, it is clear that residents of working-class neighborhoods go downtown less often for leisure, shopping, and other daily activities, largely due to accessibility barriers.

**Interviewer:** And do you usually go downtown? **Respondent:** Almost every day, because my gym is nearby, and I usually need to go buy something, go to the bank, do a few things—so I go downtown (**Miranda, 58 years old – high-income group**).

**Interviewer:** And do you usually go downtown? **Respondent:** Yes, uh-huh. **Interviewer:** What do you go downtown for? **Respondent:** Basically, when we need to buy something, we go downtown. Here in Bom Pastor there aren't many stores—just a very small family-run market. So, even for groceries, we only go downtown. And if we want to go to a store or eat something, it's always downtown too. **Interviewer:** Always downtown as well. And how often do you go there for shopping? **Respondent:** For groceries, almost weekly. But for other stuff—not very often (**Nina, 22 years old – low-income group**).

Finally, it is important to emphasize that the predominance of the city center in Chapecó is also related to the design of the road infrastructure, which was designed to prioritize access to the central area. Additionally, the dynamics of real estate development, rising land value in central zones, and the peripheral location of low-income housing—with no proportional expansion of services and infrastructure—also contribute to the centrality of this area as the main locus of spatial practices in the city. This centralization of objects, functions, and social groups, which characterizes the center-periphery model, leads to markedly different mobility experiences for different groups, especially for those who live far from the city center, as shown in the interviews.

### Everyday mobility practices in Mossoró.

Mobility practices in the city of Mossoró, as in Chapecó, revealed variations among the social groups analyzed, considering factors such as infrastructure, availability of public transportation, and residential location. Regarding the everyday mobility practices of Mossoró residents, it is noteworthy that most high-income individuals opt to use cars to commute to work. Only one respondent mentioned using a motorcycle, and none reported using public transportation.

**Respondent:** My husband has company-provided transportation, so he keeps the company vehicle at home. When he needs to travel for work, he uses that car. So, I took our car, and he took the company car. On weekends, we both use our car (**Michelle, 29, high income**).

**Respondent:** By car, our own car. And before the pandemic, I used Uber a lot too. We only had one car, so when my wife's schedule was different from mine, I'd take Uber to work or to pick up my daughter—we used it a lot (**Luís, 49 years old – high income**).

When asked about public transportation, high-income residents responded clearly: “No. We only have one car, and I'm the driver—I take the family everywhere.” “We only have one car, where I am the driver; we take and bring the family” (Vandério, 60 years old – high income). From the statements of

residents in this group, we can observe not only a preference for individual transport but also some organizational barriers related to daily activities. This is because some families own only one vehicle, which must be shared to meet different household needs.

On the other hand, the reality is quite different for lower-income residents. Within this group, there is a greater diversity of strategies and means of transportation used for commuting between home and work. Only two respondents use cars, while most prefer motorcycles. Additionally, bicycles, buses, and walking were also mentioned as alternative modes of transport used by this group. Thus, while car use predominates among high-income individuals in Mossoró, lower-income residents exhibit a much more varied range of transport options for the home-work-home route.

When reflecting on commutes between home and workplace, the influence of barriers on mobility becomes clear. A distinct financial divide separates the two groups analyzed, shaping the transport modes adopted by respondents. Car use prevails among higher-income residents, while transport choices among those from working-class neighborhoods are more diverse and primarily dictated by socioeconomic status.

Overall, respondents from both groups reported that using public transportation and buses in Mossoró is challenging. According to the population, the service is outdated and operates inefficiently. Even a middle-class respondent mentioned that she had tried using public transportation in the city but emphasized that it was difficult due to the scarcity of available schedules and issues such as overcrowding and heat, which make it even harder to use.

**Respondent:** Of the few times—less than ten—that I tried to use public transportation... I'm someone who supports public transit. I come from the capital city where you don't take a car downtown to buy clothes, you take public transport. But here, it's just not doable: long wait times, extreme heat, overcrowded buses... (Clediane, **47 years old – high income**).

Currently, physical and temporal barriers are especially evident when residents of working-class neighborhoods report a lack—or even complete absence—of public transportation in some areas of the city.

Regarding apps, respondents mentioned using Uber and a local ride-hailing service called Chofer. One resident noted, “I think now there must be at least ten companies here. There's Uber, Chofer, some taxi services I don't even know the name... there are lots of them.” (Elvis, 64 years old – low in-



come). Residents also mentioned using “táxi-linha” (shared taxis)<sup>2</sup> as a form of collective transportation. These informal taxis leave specific neighborhoods at scheduled times and travel toward the city center. Additionally, motorcycle taxis are a standard option in the region. Respondents explained that “táxi-linha” became popular due to the inefficiency of the bus system. In the words of one resident:

**Respondent:** Then came a lot of “linha” cars—shared taxis that would pass here, pick up one person, another, and take them downtown cheaper than the buses. But that actually hurt the bus service. Returning to what I was saying, from where I’m sitting, the bus used to pass right in front of my street. But because of the bad paving and the heavy competition from motorcycle taxis and these “linha” cars, the buses ended up running with only two passengers and it wasn’t worth it anymore  
(Elvis, 64 years old – low income).

Respondents from working-class segments mentioned various transport options due to their lack of private vehicles and the insufficiency of the bus system to meet citywide demand. As a result, a range of alternative collective transport services emerged, driven by the need for more affordable ways to get around. The interviews revealed several options that arose to fill this gap.

Among the alternatives mentioned by working-class respondents were motorcycle taxis, táxi-linha, and app-based services like Uber, 99, and Chofer. These are viable solutions for daily mobility, as they offer greater flexibility, accessibility, and lower costs, especially for those without private vehicles. This variety of transport options directly relates to the multiple barriers that overlap in these residents’ everyday lives.

Another important dimension for understanding city circulation, uses, and appropriations involves consumption activities. In Mossoró, most respondents stated that they prefer shopping in stores in the city center. They explained that this preference is due to the greater variety of shops, better prices, broader product selection, and more transport options for reaching the downtown area. One respondent highlighted:

**Respondent:** [Downtown] offers a variety of shopping and dining options. There are many stores, it’s more affordable, and I enjoy the hustle and bustle, the energy of the city. A significant reason is the price, along with the greater variety; you can find more items there than in the mall. There are shops with inexpensive goods that you won’t find at the mall. You’ll discover everything there—phone cases,

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2 In São Paulo, a common way to request a taxi is through a radio taxi service or a ride-hailing app. The radio taxi operates as a dispatch center, connecting customer requests with available taxi drivers.

computer repair, phone repair... all of that is downtown. We end up going there often (**Claudemilson, 46 years old – high income**).

Some also mentioned specific stores located in the shopping mall, such as Riachuelo and Marisa.

**Respondent:** Clothing, shoes, it's all cheaper downtown. Plus, you find those more popular shops that you normally wouldn't see at the mall, so it remains an interesting option. All the banks are downtown too. At the mall, you only find ATMs (**Claudemilson, 46 years old – high income**).

**Respondent:** We shop at Riachuelo, Marisa, and also downtown. Sometimes we go to Todo Estilo and Mercado das Malhas. But mostly Riachuelo and Marisa (**Josué, 46 years old – low income**).

The preference for shopping downtown is justified by the wide variety of stores, price ranges, and different modes of transportation available for accessing the area. Both high- and low-income residents frequent the city center, with those from working-class neighborhoods emphasizing that all public transportation options converge there, making shopping more accessible and encouraging consumption in this part of the city. They also mentioned the growing use of online shopping, which became popular during the pandemic, allowing for easier consumption by eliminating the need to leave the house.

**Respondent:** I usually order online. It's been a long time since I went to a physical store. Or, if I follow a local shop on Instagram and see something I like, I either swing by to pick it up or ask them to deliver it. I don't go to department stores or malls to shop anymore. It's just easier not having to leave the house. It's just easier not having to leave the house (**Nuno, 32 years old – low income**).

On the other hand, going to the mall is not as frequent for most city residents, being more commonly associated with leisure than consumption. Respondents reported that the mall is important in entertainment-related activities, and some transport services reach the location. About the mall, they emphasized:

**Respondent:** I don't even know what's so attractive there. I think the cinema is just an excuse, because 90% of the time we go, we don't actually watch a movie—we go just to *hang out* (**Claudemilson, 46 years old – high income**).

**Respondent:** I rarely have leisure time because my routine is basically the same every day of the week. So, I don't really have much free time. My leisure is my day off, and sometimes I'll go out to dinner, lunch, or go to the mall—something like that. That's pretty much it (**Mariana, 27 years old – low income**).

**Respondent:** I think I go almost every week. Not so much for the mall itself—mostly because the only cinema is there. So, I end up going a lot just for the cinema (**Nivaldo, 39 years old – low income**).

**Respondent:** Sometimes we go there to buy something, and sometimes just to hang out, get some ice cream, grab a bite to eat (**Wilson, 66 years old – high income**).

In Mossoró, residents who visit the mall typically use a car, motorcycle, or motorcycle taxi. There is a significant disparity between low-income and high-income residents: the former face more limitations in mobility and accessibility. There is a stark contrast between working-class and higher-income residents: the former encounter more constraints relating to mobility and accessibility. They must plan their travel according to bus schedules and choose the most suitable mode of transport for their activities, alternating between shared taxis, motorcycle taxis, buses, and ride-hailing services like Uber and Chofer.

Meanwhile, residents of higher-income neighborhoods have a very different experience. Most of them use their own or family vehicles, making it easier to navigate the city—for work, shopping downtown, visiting the supermarket, the mall, street markets, parks, and other public spaces in Mossoró. These mobility advantages are closely linked to higher incomes and the availability of resources, making urban mobility more accessible and convenient for this social group.

In this context, it is possible to observe stark disparities in the daily commutes of these two social strata. On one hand, working-class residents must dedicate more time and effort to planning and executing daily mobility strategies—whether for work or other routine activities. On the other hand, residents from higher-income areas benefit from owning private vehicles, which streamline their mobility and eliminate the need to dedicate part of their day to planning routes. This contrast reflects the significant income gap between the two groups, which shapes how people approach mobility according to their socioeconomic circumstances. Thus, the predominance of financial, physical, organizational, and temporal barriers in the daily lives of urban residents, especially those from lower-income backgrounds, becomes evident.

These barriers make it harder for residents to access various parts of the city. This is especially clear when several locations are not accessible via public transportation, which limits who can frequent them. This circumstance also influences the activities that can be carried out in these spaces.

## CONCLUDING REMARKS

Everyday mobility in mid-sized cities has its own characteristics, contents, and vectors, distinct from the patterns observed in large metropolitan cen-

ters. In this context, the present study, by focusing on the analysis of daily mobility and accessibility at the scale of mid-sized cities, observed that—even within a smaller geographic scope—socio-spatial inequalities are still evident in how mobility and accessibility are experienced. The limited variety of public transportation options, combined with the low frequency of bus lines and the financial constraints affecting part of the population, significantly influences the reproduction of inequalities and the patterns of everyday mobility in mid-sized cities.

Concerning the disparities between the two case studies—Chapecó, SC, and Mossoró, RN—special attention must be given to the unique socio-spatial configurations of each city, shaped by distinct historical trajectories and approaches to everyday mobility. It is evident that, in Chapecó, the population generally enjoys a higher average income than Mossoró. This socioeconomic discrepancy has several implications, particularly regarding everyday mobility. Clear differences exist between the lower-income segments in each city. As previously mentioned, individuals from working-class backgrounds in Chapecó tend to rely more on private vehicles as their main mode of transportation, even though some respondents mentioned using other means and mobility strategies. This choice persists despite the availability of a public transport system that is generally considered to be of higher quality than Mossoró. In contrast, Mossoró has a greater diversity in the modes of transport used by low-income residents. This is due to the widespread lack of cars or motorcycles among most low-income respondents and the inefficiency of the public transport system. These factors contribute to the emergence of more transportation alternatives in the city, which residents choose according to their activities and the timing of those activities.

Regarding similarities, it is important to note that in both Chapecó and Mossoró, public transportation and other modes of transport tend to converge toward the city center. This phenomenon is directly related to the concentration of socioeconomic activities in the downtown area and reinforces spatial practices such as work, consumption, and leisure, thereby strengthening the center-periphery logic. Concerning higher-income groups in these cities, similar daily mobility patterns can be observed, where the private car plays a central role.

In short, mobility and accessibility barriers take on different layers of intensity and density when comparing the two cities, especially among low-in-

come groups. These differences affect how people structure their everyday lives, temporalities, and spatialities, depending not only on household income but also on the characteristics of the built environment and other social and demographic attributes of the individuals. ●

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