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# Sustainable Housing Development in São Paulo: an analysis of the Social Rental, Housing PPP and Minha Casa Minha Vida programs using the PlanHIS software

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**Objective of the Study:** Analyze three housing programs in São Paulo (Social Leasing Program, *PPP Habitacionalm,* and Minha Casa Minha Vida Program), considering sustainable development and adequate housing.

Abstract

**Methodology:** The selection of the programs was based on temporal, scalar, and functional criteria. For the analysis, the method developed by Pasquotto (2024a) was used, which addresses four dimensions (social, urban, collective, and housing) with eight parameters (tenure security, cost-effectiveness, community public facilities, mobility, community program, minimum area, accessibility, and socio-physical cultural adequacy), systematized in software called PlanHIS.

**Originality/Relevance:** The research is original due to its methodology combining sustainable development software for housing programs with case studies from the city of São Paulo/SP, aiming to improve public housing policies of social interest.

**Main Results:** It was found that the parameters of security of tenure, public community facilities, and mobility obtained a positive evaluation. On the other hand, economics and the community program were considered average, with discrepant results. The parameters of accessibility, cultural suitability, and minimum area presented the worst results regarding qualification.

**Contributions:** The research aims to contribute to the improvement of Brazilian housing programs, by understanding the method in a dialogical and articulated way with social and cultural issues in addition to technical parameters.

*Keywords:* housing programs, notices, adequate housing, sustainable development

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#### Resumo

#### O Desenvolvimento Sustentável Habitacional em São Paulo: uma análise dos programas Locação Social, PPP Habitacional e Minha Casa Minha Vida pelo *software* PlanHIS

**Objetivo do Estudo:** Analisar três programas habitacionais em São Paulo (Programa Locação Social, Programa PPP Habitacional e Programa Minha Casa Minha Vida), considerando o desenvolvimento sustentável e moradia adequada.

**Metodologia:** A seleção dos programas baseou-se em critérios temporais, escalares e funcionais. Para a análise, baseou-se no método de Pasquotto (2024a), que aborda quatro dimensões (social, urbana, coletiva, habitacional) com oito parâmetros (segurança de posse, economicidade, equipamentos públicos comunitários, mobilidade, programa comunitário, área mínima, acessibilidade e adequação cultural socio física) sistematizados em um software intitulado PlanHIS.

**Originalidade/Relevância:** A pesquisa se faz original devido a sua metodologia que mescla o uso do software de desenvolvimento sustentável para programas habitacionais com estudos de caso do município de São Paulo/SP, visando aprimorar as políticas públicas de habitação de interesse social.

**Principais Resultados:** Verificou-se que os parâmetros de segurança de posse, equipamentos públicos comunitários e mobilidade obtiveram uma avaliação positiva. Por outro lado, a economicidade e o programa comunitário foram considerados medianos, com resultados discrepantes. Já os parâmetros de acessibilidade, adequação cultural e área mínima apresentaram os piores resultados em termos de qualificação.

**Contribuições:** A pesquisa visa contribuir para a melhoria dos programas habitacionais brasileiros, ao compreender o método de uma maneira dialógica e articulada com questões sociais e culturais além de parâmetros técnicos.

*Palavra-Chave:* programas habitacionais, editais, moradia adequada, desenvolvimento sustentável

#### Resumen

#### Desarrollo de Vivienda Sostenible en São Paulo: un análisis de los programas Alquiler Social, Vivienda PPP y Minha Casa Minha Vida utilizando el software PlanHIS

**Objetivo del Estudio:** Analizar tres programas de vivienda en São Paulo (Programa de Alquiler Social, Programa de Vivienda PPP y Programa Minha Casa Minha Vida), considerando el desarrollo sostenible y la vivienda adecuada.

**Metodología:** La selección de los programas habitacionales se basó en criterios temporales, escalares y funcionales. Para el análisis, se utilizó el método propuesto por Pasquotto (2024a), que considera cuatro dimensiones (social, urbana, colectiva y habitacional) junto con ocho parámetros: seguridad de tenencia, eficiencia económica, equipamientos públicos comunitarios, movilidad, programa comunitario, superficie mínima, accesibilidad y adecuación cultural sociofísica. Estos parámetros están sistematizados mediante un software denominado PlanHIS. **Originalidad/Relevancia:** La investigación es original por su metodología que combina el uso de software de desarrollo sostenible para programas de vivienda con estudios de caso de la ciudad de São Paulo/SP, con el objetivo de mejorar las políticas públicas de vivienda de interés social.

Principales Resultados: Se encontró que los parámetros de seguridad de tenencia, equipamientos públicos comunitarios y movilidad obtuvieron una evaluación positiva. Por otro





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lado, la economía y el programa comunitario se consideraron promedio, con resultados discrepantes. Los parámetros de accesibilidad, idoneidad cultural y superficie mínima presentaron los peores resultados en términos de calificación.

**Contribuciones:** La investigación tiene como objetivo contribuir para la mejora de los programas de vivienda brasileños, comprendiendo el método de manera dialógica y articulada con cuestiones sociales y culturales, además de parámetros técnicos.

Palabras clave: programas de vivienda, avisos, vivienda adecuada, desarrollo sostenible

#### Introduction

The concept of sustainable cities became consolidated on the international stage during the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992 — the so-called Earth Summit or Eco-92 — and was later deepened at the Habitat II Conference held in Istanbul in 1996 (UN-Habitat, 1996; Sachs, 2000). The notion of sustainable cities refers to a model of planned urban development that avoids uncontrolled sprawl and environmental degradation, while promoting a dignified, equitable, and ecologically responsible urban life (Medauar & Almeida, 2004; Beatley, 2011).

In Europe, this concern became institutionalized with the signing of the Maastricht Treaty, also in 1992, which established, among other principles, the European Community's commitment to sustainable, non-inflationary, and environmentally balanced economic growth. This movement reflects a paradigmatic shift in urban and environmental governance, incorporating sustainability as a structuring principle of public policies.

According to Romero (2007), building sustainable cities requires the articulation of four fundamental elements: connection (intersectorality), inclusion (social justice), foresight (long-term planning), and quality (of environment and life). The 2030 Agenda for Sustainable Development, adopted by the United Nations General Assembly in 2015, reinforces this approach by proposing 17 Sustainable Development Goals (SDGs), including SDG 11, which aims to "make cities and human settlements inclusive, safe, resilient and sustainable" (UN, 2015, p. 20).

This perspective is further developed by authors such as Acselrad (2020), who emphasizes that urban sustainability must be grounded in principles of socio-environmental justice, the right to the city, and active citizenship. Moreover, recent documents such as the *World Cities Report 2022* highlight the need for systemic urban responses to the inequalities exacerbated by the COVID-19 pandemic, recommending inclusive and ecologically sensitive planning strategies. The neglect of urban sustainability and the implementation of ineffective





Despite existing normative frameworks and international guidelines, structural challenges persist in the implementation of housing policies, particularly those aimed at social housing. Issues related to construction quality, peripheral location, and lack of integration with urban infrastructure remain common in public housing programs in Brazil. Studies point to a lack of evaluative tools that holistically address the physical, economic, social, and cultural dimensions of housing, thereby undermining the effectiveness and equity of public policy (Salcedo, 2023; Maricato, 2011).

In addition, the absence of systematic diagnostic tools that enable comparisons between different housing programs — based on shared parameters aligned with sustainable development principles — limits the capacity for critical evaluation and the formulation of policy improvements (Fernandes, 2011). Within this context, the present research aims to examine the extent to which housing programs implemented in the city of São Paulo align with the criteria of sustainable development and adequate housing, as defined by international organizations such as UN-Habitat, the 1988 Brazilian Federal Constitution, and Constitutional Amendment 26/2000 (Brazil, 2000, online).

The diversity of models and scales within housing programs — including the Social Rental Program, the Public-Private Partnership for Housing, and the *Minha Casa Minha Vida* Program — demands a robust methodological approach capable of identifying which dimensions (social, environmental, territorial, and institutional) are more or less addressed. In this regard, the research proposes the application of an innovative evaluation tool: the PlanHIS software. This analytical system integrates eight parameters distributed across four dimensions, enabling comparative, evidence-based assessments with the potential to inform the enhancement of public housing policy.

The relevance of this study is therefore justified by its proactive character and the urgent need for more effective and equitable responses to the housing deficit and the socio-spatial inequalities that shape the metropolitan territory of São Paulo. By contributing a technical and systematized diagnostic, it also aims to advance the field of knowledge on sustainable housing policy and the development of evaluative frameworks that are more responsive to local realities.



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#### Housing Public Policies in São Paulo

Public housing policies in the city of São Paulo have been characterized by occasional advances and institutional innovations, albeit marked by recurring discontinuities. These reflect both the political-administrative cycles and the structural limitations of urban planning in Brazil (Rolnik, 2021). Until the 1990s, "solutions to the demand for social housing were focused on building large-scale housing complexes in expansion areas of the city, far from places of employment, requiring long daily commutes" (Salcedo, 2023, p. 49). A significant milestone, however, was the administration of Luiza Erundina (1989–1992), which stood out for proposing the first housing program focused on the city's central area. This program had two complementary components: one centered on the acquisition and expropriation of properties and land for the development of large housing projects, and another based on community self-management, financed through the Municipal Housing Fund (FUNAPS).

Erundina's innovative strategies aimed to reconcile economic feasibility with socio-spatial justice, but were swiftly dismantled by the subsequent administrations of Paulo Maluf and Celso Pitta, which discontinued projects such as *Casarão Celso Garcia* and *Mutirão Madre de Deus*. Despite limited implementation, these initiatives played a catalytic role in fostering the emergence of housing rights movements in central São Paulo, such as the *Unificação das Lutas de Cortiços* (ULC) and the *Movimento dos Sem-Teto do Centro* (MSTC), opening up a new field of action for urban social movements (Bonduki, 2023).

At the national level, during the administration of Fernando Henrique Cardoso (1995–2003), debates around the social function of property and urban reform advanced significantly, culminating in the enactment of the City Statute (Federal Law No. 10.257/2001). Within this context, the Residential Leasing Program (PAR) was created, initially focused on the rehabilitation of vacant buildings in central areas. Although the program was gradually dismantled, its launch coincided with the intensification of disputes over well-located housing in São Paulo (Bonduki, 2023).

The election of Marta Suplicy as mayor (2001–2004) marked a more systematic effort to integrate urban policy and social housing, particularly through the creation of the *Morar no Centro* Program. This initiative combined several tools and strategies, including social rental housing, rent subsidies, the reuse of vacant buildings, and slum upgrading (Salcedo, 2023). The Social Rental Program (PLS), created during this period, stands out as a significant example of a public rental housing policy, although its reach has remained limited. Recent studies highlight the importance of the PLS as an alternative to the logic of individual homeownership, though its scale and financial sustainability remain critical challenges (Ribeiro et al., 2019).





In parallel, the state government under Geraldo Alckmin launched the Tenement Action Program (PAC/CDHU), also addressing housing rehabilitation in the central area. The convergence of municipal and state agendas during this period temporarily gave greater institutional weight to housing policies.

Under the administrations of José Serra and Gilberto Kassab (2005–2012), a degree of institutional continuity was observed, with the implementation of projects inherited from the previous government. In 2010, the *Renova Centro* Program was launched, aiming to rehabilitate obsolete buildings. While the program sought to disrupt the logic of socio-spatial segregation, it largely maintained patterns of exclusion for low-income groups (Bonduki, 2023). That same year, the progressive property tax mechanism for vacant buildings—provided for in the City Statute—was regulated, although its practical application remained incipient.

In 2012, the state government launched the Public-Private Partnership for Housing (PPP Habitacional) under the umbrella of the *Casa Paulista* program. Despite its urbanistic potential, the program was criticized for privileging private stakeholders while marginalizing low-income populations.

International experiences with housing PPPs support these criticisms. Teo, Jayasuriya, and Zhao (2025) identify recurring failures in procurement processes and the absence of community participation as key barriers to the social effectiveness of such partnerships.

More recently, the administration of Mayor Ricardo Nunes (2021–present) introduced the *Pode Entrar* program, which combines property acquisition and purchase subsidies through a "Credit Letter," extending access to households earning up to six minimum wages. Although the program adopts a discourse of expanded access, it has been questioned for its actual redistributive capacity and its alignment with real estate market interests (Salcedo, 2023).

The resumption of the *Minha Casa Minha Vida* Program (PMCMV) in 2023, under the new Lula administration, takes place in a critical context: the national housing deficit reached 6.2 million units in 2022, with 52% attributed to excessive rent burdens (Fundação João Pinheiro, 2024). The recent eviction of the *Moinho* favela, widely reported in the media (G1, 2025), illustrates the contradictions between urban rehabilitation policies and the right to housing, underscoring the persistence of policies that displace the poor from central areas—even in contexts framed as inclusive urban renewal.

### Social Leasing Program, PPP Habitacional and Minha Casa Minha Vida Program

The selection of these three housing programs implemented in the historical center of São Paulo was made based on temporal, scalar, and functional criteria. Each analyzed program





corresponds to a different decade (SLP in 2002, *PPP Habitacional* in 2014, and MCMVP in 2023), operates at different scales (*PPP Habitacional* implemented by the state government in partnership with the municipal government, SLP with a municipal focus, and MCMVP with national coverage), and has different systems of tenure security (rental and financing).

The SLP (Social Leasing Program) was established on June 12, 2002, by Resolution No. 23 of the Municipal Housing Fund Council of the São Paulo Municipal Government during Marta Suplicy's administration (2001-2004), to expand access to housing for the low-income population, intended for social leasing, whether permanent or temporary.

The SLP primarily serves the beneficiaries of the Municipal Housing Fund, as established in Resolution CFMH No. 23 of 2002. These beneficiaries include people: i) over 60 years old, ii) in a situation of homelessness, iii) with disabilities, and iv) residents of areas considered risky or unhealthy. The Resolution also stipulates that:

- Exceptionally, families whose income exceeds 3 (three) minimum wages may be admitted, provided that the per capita income does not exceed 1 (one) minimum wage.

- Only families or individuals who are not property owners, prospective buyers, permit holders, or those with rights to acquire another property will be eligible for social leasing of properties.

- Housing assistance is prohibited for those who have previously benefited from social interest housing programs (São Paulo, 2002).

To determine the areas where new units will be built or buildings rehabilitated, specific criteria are used, including maximizing the use of existing investments, minimizing the investment per family or individual beneficiary, and prioritizing locations with easy access to public transportation and concentrations of jobs. These criteria aim to optimize the use of available resources and ensure that SLP units are strategically located to benefit the maximum number of families and individuals who will reside in these homes, as established in Resolution CFMH No. 23 of 2002.



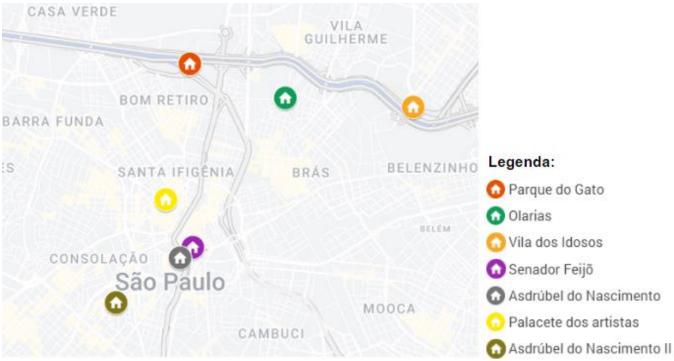


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### Figure 1

General map of the locations of Social Leasing developments in the city of São Paulo



Source: Prepared by the authors, 2024.

The *PPP Habitacional* (Public-Private Partnership) is a collaboration between the public sector and private enterprises focused on providing Social Interest Housing (SIH) and Affordable Market Housing (AMH) for families with incomes ranging from approximately 1 to 6 minimum wages, promoting housing in strategic locations such as downtown São Paulo.

Launched in 2012 (Public Call Notice No. 004/2012), it was a cooperation between the State Government of São Paulo (through the Housing Secretariat), the municipality of São Paulo (through the Municipal Housing Secretariat), and the Metropolitan Housing Company of São Paulo (COHAB).

The International Public Tender No. 001/2014 (São Paulo, 2014) was established during the municipal administration of Fernando Haddad (2013–2016) and the state administration of Geraldo Alckmin (2011–2017). This tender outlines four large lots located within the expanded central area of São Paulo (districts of Sé, República, Santa Cecília, Barra Funda, Bom Retiro, Pari, Brás, Mooca, Belém, Cambuci, Liberdade, Bela Vista, and Consolação), intending to implement 14,124 housing units over 20 years starting from 2014. In March 2015, the first contract for the housing project was signed with the winning bidder, Canopus Holding S/A.



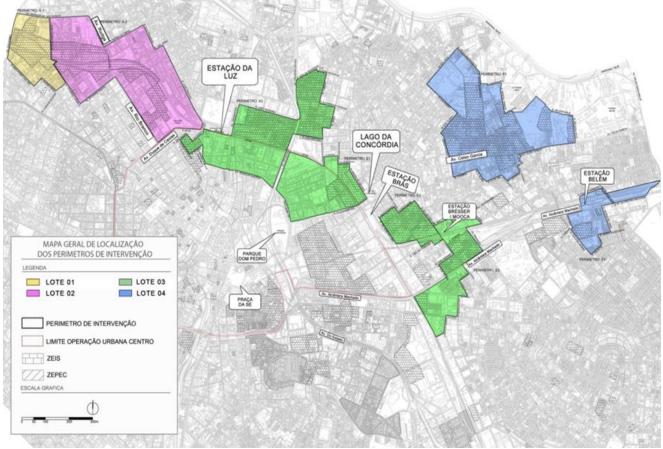


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### Figure 2

General map of the lots, perimeters, and intervention areas of the PPP Habitacional



Source: International Bidding Notice No. 001/2014.

The MCMVP (Minha Casa Minha Vida Program) was implemented in 2009 during the second term of Luiz Inácio Lula da Silva (2007-2010) and is operated by Caixa Econômica Federal. This program was introduced to reduce the housing deficit by providing incentives for the production and purchase of housing as an emergency measure to address the economic crisis of 2008, stimulating the construction sector and, consequently, boosting the economy. According to Pereira and Palladini (2018), the PMCMV marked a crucial moment in the recent trajectory of institutional incentives aimed at developing the housing market in Brazil. Since its inception, the program has undergone four phases: i) 2009 to 2011, ii) 2011 to 2014, iii) 2016 to 2018, and iv) starting in 2023.

There was a gap from 2014 to 2016 due to the economic and political crisis in the country, which led to the impeachment of then-President Dilma Rousseff. The third phase of the Program took place during Michel Temer's administration but without significant changes. Starting in 2019,

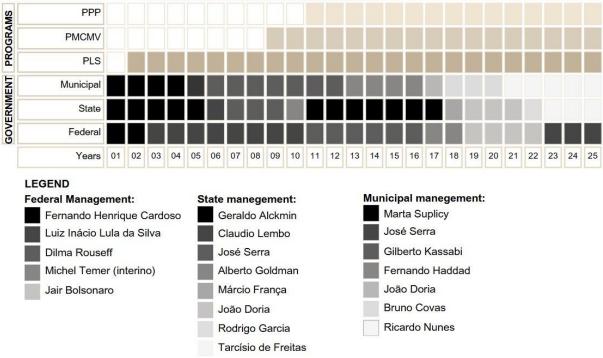




with the rise of Jair Bolsonaro to the presidency, the Minha Casa Minha Vida Program was replaced by the Green and Yellow House Program. In 2023, with Luiz Inácio Lula da Silva returning to government, the MCMVP was reinstated as the country's main housing policy.

Below is the context of the three housing programs in relation to municipal and federal administrations (Table 01).

## Frame 1



Social Interest Housing Programs and Their Administrations

Source: Prepared by the authors, 2025.

### Method

The methodology adopted for the analysis of housing programs was developed by Pasquotto (2024a) during her postdoctoral research. It consists of the articulation of four analytical dimensions (social, urban, collective, and housing) and eight parameters derived from these dimensions, aimed at assessing sustainable development as applied to social housing (*Habitação de Interesse Social* – HIS). The method is structured to integrate spatial, normative, cultural, and institutional aspects that influence the quality of housing and its surroundings, contributing to the development of qualified, multidimensional indicators.

Each dimension corresponds to a scale of analysis and a specific set of evaluative attributes. The social dimension addresses aspects related to tenure security and housing



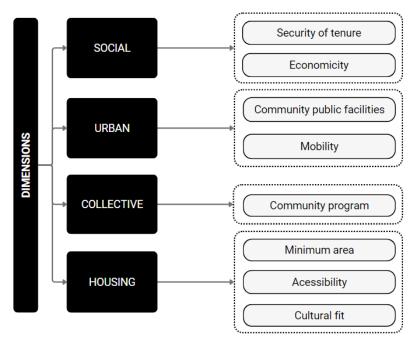


affordability. The urban dimension refers to the integration of housing into the city, considering proximity to and accessibility of public facilities and urban mobility. The collective dimension examines the presence and functionality of shared spaces and areas for social interaction within the developments. The housing dimension focuses on internal features of the housing units, such as usable area, accessibility, and cultural adequacy.

The selection of analytical parameters was based on an extensive literature review, technical standards, and national and international documents concerning the right to housing and urban quality standards. The eight parameters defined and distributed across the dimensions are: (i) tenure security; (ii) affordability;(iii) location of public community facilities; (iv) mobility; (v) community spaces; (vi) minimum area of housing units; (vii) accessibility; and (viii) sociophysical and cultural adequacy (Figure 3).

### Figure 3





Source: Prepared by the authors, 2024.

In the social dimension, the parameter "tenure security" is based on General Comment No. 4 of the United Nations Committee on Economic, Social and Cultural Rights (United Nations, 1991), as well as on the thematic report on tenure security for the urban poor (A/HRC/25/54), presented by Rolnik (2014a) to the UN Human Rights Council. Various forms of tenure were considered, including full ownership, social rental, temporary housing, and emerging housing



solutions within the Latin American context.

The "affordability" parameter draws not only from General Comment No. 4 but also from Law No. 8.692/1993 (Brazil, 1993), which regulates the proportion of household income allocated to housing, and from the report by the Working Group on the Human Right to Adequate Housing (SDH/PR, 2013). Additionally, empirical data from programs such as PMCMV, Housing PPPs, and the Social Rental Program (PLS) were analyzed to establish acceptable thresholds for income commitment.

In the urban dimension, the parameters related to the location of public facilities and mobility were defined based on a review of key authors and institutions in urban planning: Ferrari (1977), Prinz (1986), Gonzalez (1994), Moretti (1997), Campos Filho (2003), Pitts (2004), Guimarães (2004), City of Goiânia (2007), Castello (2008), Gouvea (2008), Rolnik (2014b), and Caixa (2023). These studies enabled the establishment of optimal distances and qualitative criteria for evaluating the urban integration of housing developments.

In the collective dimension, the analysis focused on the presence of shared spaces integrated into the housing program, drawing on literature about conventional housing (French, 2009) and cooperative housing models (Lorente et al., 2023), as well as on the review of public tenders and specific HIS legislation (Brazil, 2023).

The housing dimension includes three parameters: minimum unit area, accessibility, and cultural adequacy. For usable area, both national and international references were examined, including works by Blachère (1967), Portas (1969), Rosso (1980), Silva (1982), Pedro (2002), and Boueri (1989), as well as technical standards and studies from Brazil, France, the Netherlands, Denmark, Italy, Spain, and Argentina, and from institutions such as the IDB, UIOF, IPT, and ABNT.

Regarding accessibility, the normative basis includes NBR 9050 (ABNT, 2020), Decree No. 6.949/2009, and Decree No. 9.296/2018. The concept of universal design, as proposed by Cambiaghi (2017), was also incorporated to evaluate the compatibility of housing units with users' diverse functional needs.

To assess cultural adequacy, both the symbolic and practical functions of dwelling were considered, based on research by Portas (1969), Silva (1982), Pedro (2002), Boueri (2008), Palermo (2009), Montaner (2011), and Amorim et al. (2015), as well as the performance standard NBR 15.575 (ABNT, 2013).

To operationalize this set of indicators and ensure replicability, the PlanHIS software was developed (Pasquotto, 2024b). The system was built using Python — chosen for its syntactic clarity and large user community — along with the Django framework, which follows the Model-



PlanHIS was designed as an open-access online platform to broaden its accessibility among researchers and public administrators. The system processes input data and classifies results into four performance levels — poor, weak, good, and excellent — using the multicriteria index methodology proposed by Ono et al. (2018). As such, the software serves both as a technical and political tool for the critical and comparative evaluation of social housing programs.

### **Results and Discussion**

### **Social Leasing Program**

data logic, user interface, and report generation.

Regarding the social dimension, the security of tenure parameter, as established in CFMH Resolution No. 23, "social leasing is not intended for the acquisition of housing, as the leased units will remain public property", that is, the beneficiary is not the owner of the property, is a tenant and has rights and duties. Among the responsibilities it is stipulated that the use of the property must be exclusive for housing, in addition, the tenant must pay the rent on time and when leaving the property must return it in its original condition and, if necessary, carry out repairs to any damage caused.

In the economicital parameter, a monthly value is assigned to the beneficiaries, where the debt capacity varies according to the monthly family income (Table 1), being: i) family income up to two minimum wages will correspond to 10%; ii) family income above two minimum wages and up to three minimum wages will correspond to 10% to 12%; and iii) family income above three minimum wages will correspond to 13% to 15%.

#### Table 1

Family Income Range (in minimum wages)	Family Composition (members)	Debt capacity
Up to 2 minimum wages (MW)	ALL	10%
Above 2 MW to 3 MW	1-4 5-7 8 or more	12% 11% 10%
Above 3 MW	3-4 5-7 8 or more	15% 14% 13%

Family Income Commitment to the Social Rental Program

Source: CFMH Resolution No. 23, 2022.



Concerning community public facilities, in the urban dimension, the program notice does not contain specific criteria, it only mentions that "although Social Leasing is a proposal for the city as a whole, the central area is the one that presents the best conditions for starting implementation of the program" (São Paulo, 2002), thus suggesting that this region be equipped with such equipment. Regarding mobility, there is a mention in the notice, directing that the selection of projects must consider regions with greater access to public transport.

The collective dimension revealed that the notice makes no mention of spaces for community use intended for residents of the project.

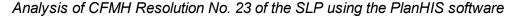
Regarding the housing dimension, it is noted that the notice does not provide specific guidelines on the minimum area required nor on socio-physical-cultural adequacy. Regarding accessibility, although the program meets the needs of the population in situations of social vulnerability, there is no specific regulation aimed at accessible housing units.

After analyzing the four dimensions established by CFMH Resolution No. 23 of the SLP, a graph was generated in the PlanHIS software (Figure 4) that illustrates the evaluation of the parameters. The social dimensions stood out positively, where the security of tenure parameter was considered "excellent" and the economicity parameter as "good". The urban dimension had its parameters, community public facilities, and mobility, considered as "good" too. On the other hand, the collective and housing dimensions presented negative results, with the parameters of community program, minimum area, accessibility, and socio-physical cultural adequacy being classified as "terrible". But for Sanchez and Salcedo (2019) "in view of the housing deficit in Latin American countries, the SLP becomes an effective, flexible and inclusive alternative to housing policies".





## Figure 4





Source: PlanHIS Software, 2024.

### **PPP Habitacional**

In the social dimension, the parameters of security of tenure and economics are present. For both, International Competition Notice No. 001/2014, which regulates the program, does not mention specifics regarding the percentage of family income allocated to paying the monthly fee, nor does it offer security against eviction. However, Public Call No. 004/2012 contains a table of the value of monthly installments for each income bracket (Table 2).





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Table 2

Value of monthly installments for each income bracket

Income Ranges in R\$	Maximum percentage of RF compromise	Value of the resulting installment - R\$
RF1 range - between R\$622.00 and R\$1,244.00	20%	124,40 to 248,80
RF2 range - between R\$ 1,244.01 and R\$ 1,866.00	22%	273,68 to 410,52
RF3 range - between R\$ 1,866.01 and R\$ 2,488.00	25%	466,50 to 622,00
RF4 range - between R\$ 2,488.01 and R\$ 3,110.00	27%	671,76 to 839,70
RF5 range - between R\$ 3,110.01 and R\$ 6,220.00	FGTS rules	FGTS rules

Source: Public Call No. 004/2012.

In terms of the urban dimension, the four lots available for the implementation of the Housing PPP are located in the expanded center of São Paulo, benefiting from the great diversity of equipment, public services, and transport in its surroundings. Furthermore, the issue of mobility is also discussed, specifically for each perimeter (Table 3).

### Table 3

Mobility specifications for each batch

Lots 1 e 2	"Integrate the urban fabric through the creation or requalification of pedestrian connections between the two sides of the railway and the establishment of new streets" (Concorrência Internacional, 2014, annex II, p. 27; p.30).
Lot 3	"Prioritize pedestrian mobility and the integration of interventions with public transport, specifically with CPTM and Metro stations, qualifying the surroundings of stations by improving circulation spaces" (International Competition, 2014, annex II, p. 35).
Lot 4	"Integrate the urban fabric due to the existence of large land structures with the creation of new public streets" (International Competition, 2014, annex II, p. 42).

Source: International Competition Notice No. 001/2014.

Analyzing the collective dimension, the program notice proposes different means for each batch. In lots 1 and 2 it is suggested "to create or requalify public open spaces that enhance the adjacent housing use" (São Paulo, 2014, annex II, p. 27; p.30), in lot 3 "to create public open spaces for articulation of housing use, installation of equipment and integration of disconnected areas along the eastern railway line" (São Paulo, 2014, annex II, p. 35), and for lot 4 "articulate, in the intervention areas in which there is a system ownership of large lots, residential buildings,





public open spaces and new pedestrian routes in the same development" (São Paulo, 2014, annex II, p. 42). Such descriptions define different solutions for each perimeter, based on individual needs.

Regarding accessibility, minimum area of apartments, and socio-physical cultural standards, falling within the housing dimension, the notice is based on NBR 9050 (ABNT, 2020) for the adaptations of the entire program. In areas of common use, it is necessary to "consider safe and adequate access to the roof of buildings for their maintenance" (São Paulo, 2014, annex II, p. 24) and in adaptable housing units:

Make 7.0% of the total HIS units available as adaptable units, [...] of the adaptable units, the equivalent of 3.0% of the total HIS units must be delivered fully adapted, with the installation of specific duly defined kits, using the current ABNT standards and respecting the NBR 9.050 standard (São Paulo, 2014, annex II, p. 24).

Regarding minimum areas, the notice proposes a useful area of  $33 \text{ m}^2$ ,  $43 \text{ m}^2$ , and  $50 \text{ m}^2$  for apartments with 1, 2, and 3 bedrooms respectively (Table 4), offered as seen in Table 5, and also stipulates the dimensions of the rooms as per the proposed furniture. In the case of the double bedroom, it is recommended to insert a bed measuring 1.40m x 1.90m and for the single double bedroom, two single beds measuring 0.80m x 1.90m each. Therefore, the number of residents per apartment is based on the layout suggestion proposed by the Notice, with the 1-bedroom apartment being intended for two people, the 2-bedroom apartment for four people, and the 3-bedroom apartment intended for a family of five people.

#### Table 4

Housing	Number of bedrooms	Usable area	% supply of HIS products
H1	1 bedroom	33 m²	20%
H2	2 bedrooms	43 m²	75%
H3	3 bedrooms	50 m²	5%

Number of bedrooms, useful area, and percentage of supply in housing units

Source: International Competition Notice No. 001/2014.

The state of São Paulo has a population of 11,451,999 and 4,316,336 private households, according to the 2022 census (SEADE, 2022), considering that the average number of people per household in the state is 2.65, the number of residents per apartment proposed in the Notice is coherent and satisfactory with the current reality. However, the types of apartments are not



allocated based on family composition, but rather based on monthly income. The fact of disregarding the number of people in the family, as well as their daily customs within the residence, makes the parameter "cultural socio-physical adequacy" unsatisfactory.

The following scheme (Figure 5) graphically shows the results of all analyses of International Competition Notice No. 001/2014 carried out using the PlanHIS software, highlighting which parameters are met in the Housing PPP program for the four highlighted lots.

# Figure 5

Analysis of International Competition Notice No. 001/2014 using PlanHIS Software



Source: Software PlanHIS, 2024.

### Minha Casa Minha Vida Program

As for the social dimension, in Law No. 14,620 (Brazil, 2023a) Art. 26, the transfer of provisional possession to the beneficiary is inserted until payments are settled and official possession takes place.

In terms of economics, Article 5 delegates to the Ministry of Cities the regulation of service lines and the maximum percentage of income allowed to be allocated to the payment of housing financing, being up to 10% for families that receive up to R\$1,320.00 and 15% for families that receive from R\$1,320.00 to R\$4,400.00 (Table 5).





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#### Table 5

Family Income Commitment of the Minha Casa Minha Vida Program

Family Income Range	Debt capacity	
Up to R\$1.320,00	10%	
Between R\$1320,00 and R\$4.400,00.	15%	
Above R\$4.400,00.	Not stipulated in the notice	

Source: Brazil, 2023.

The second dimension analyzed is urban. This issue has always been the target of much criticism since the implementation of the Program, given that most of the projects were located in peripheral or under-equipped areas of cities (Gobatto and Piccinini, 2017). The program implementation law does not contain specific criteria regarding community public facilities, it only mentions that it is important to "strengthen access to infrastructure and urban public facilities, including educational and cultural ones, in the vicinity of new housing units" (Brazil, 2023a) and provides a complementary subsidy if homes are close to these facilities, but delegates their creation and maintenance to the public administration. As for mobility, there is only a mention that this parameter should be encouraged. However, in Ordinance No. 725 (Brazil, 2023b) it is possible to observe design guidelines regarding the distance from public facilities and housing developments.

As for the collective dimension, the notice proposes the promotion of cooperative initiatives to generate income and strengthen community organization lasting up to 2 years post-construction, under the terms regulated by the Ministry of Cities. And this, in turn, Ordinance n<sup>o</sup> 464 (Brasil, 2018) proposes the promotion of participation and social insertion of benefiting families in conjunction with other public policies. Ordinance No. 725 also mentions that:

The project must contain equipment for common use, to be implemented with minimum resources of 1% (one percent) of the value of the building and infrastructure, intended for the creation of a library room, and in a complementary way, for sports and leisure equipment, to be defined as indicated by the local Public Entity, preferably in a public area (Brazil, 2023b).

In the housing dimension, the notice does not provide specific guidelines on the minimum area required, but in Ordinance No. 725 (Brazil, 2023b), the minimum area required for housing units is 40m<sup>2</sup> for houses and 41.50m<sup>2</sup> for apartments and attached houses and apartment balconies must have a minimum width of 0.80m and a minimum usable area of 1.50m<sup>2</sup>. Regarding accessibility, Law No. 14,620 (Brazil, 2023a) requires that at least 3% of housing units be

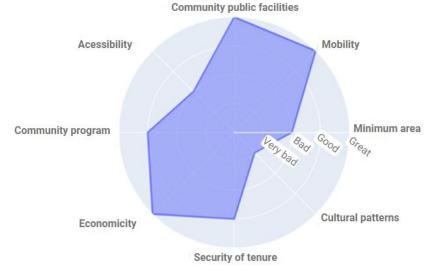




accessible. However, as in previous phases of the Program, no mentions of socio-physical cultural adequacy were found. This factor comes up against the standardization of the Program's housing projects, which continues to be reproduced by construction companies as a means of obtaining greater profits (Carvalho, Shimbo, and Rufino, 2015).

After analyzing the four dimensions, a graph was generated in the PlanHIS software (Figure 6) that visually displays the evaluation of the parameters. The social dimensions stood out as "good" since there are regulatory standards regarding them. The urban dimension also had its parameters defined as "good" because although there are no concrete specifications, there is at least the mention that they are important points to be observed in the program. The collective dimension was also considered "good", because there is a specification of collective areas to be built in the program, such as the library, leisure, and sports area. However, about the housing dimension, accessibility was considered "bad", as it complies with the minimum possible indicated by legislation, cultural standards were classified as "terrible" as they were not mentioned and the minimum area was considered "bad" as the square footage is much lower than adequate.

#### Figure 6



Analysis of the fourth phase of the MCMVP using the software PlanHIS

Source: Software PlanHIS, 2024.

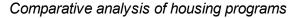
Comparing the selected housing programs (Figure 7), it was found that the parameters of security of tenure, public community facilities, and mobility received a positive evaluation in the analysis. One of the factors that contributes to this is the presence of financing or rental options in housing programs. Furthermore, community public facilities and mobility were mentioned in all the notices analyzed.

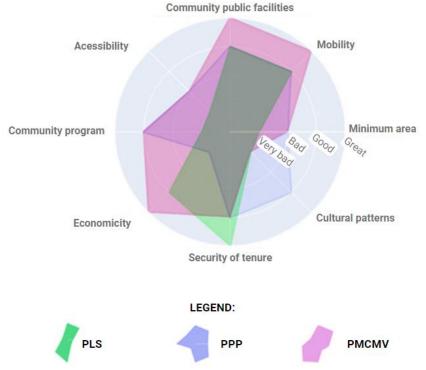


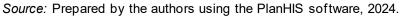
Considered average, the economy and the community program were the parameters with the most discrepancies, as the qualification index obtained disparate results. While economics appears in the SLP and MCMVP notices as good and excellent, in *PPP Habitacional* it was classified as poor due to the lack of such information.

Accessibility, functionality, and minimum area were the parameters in which the qualification index presented the worst result. Although socio-physical cultural adequacy is considered in *PPP Habitacional* as "good", in other programs it was classified as "very bad", as they did not mention constructive flexibility and/or family composition. Accessibility and minimum area received only negative ratings. The notices cite the need for less than 10% of housing units to be accessible or do not present citations regarding this and the minimum required footage is not mentioned or presents a value below the "ideal" used by the software (1 bedroom - 33.7 m<sup>2</sup>, 2 bedrooms - 48.9 m<sup>2</sup>).

## Figure 7









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#### Conclusion

This study aimed to critically analyze Brazilian housing policy over recent decades, using the methodology developed by Pasquotto (2024a), which proposes an analytical matrix structured around four dimensions: social, urban, collective, and housing. This framework enabled a qualitative assessment of three key housing provision instruments in São Paulo — the Social Rental Program, the Housing Public-Private Partnership (PPP), and the Minha Casa Minha Vida (MCMV) Program — evaluating the extent to which their regulatory frameworks align with the principles of sustainable development and adequate housing.

The Social Rental Program performed positively in the parameters of tenure security, mobility, availability of public community facilities, and affordability. However, it exhibited significant shortcomings in defining adequate minimum housing areas, incorporating cultural standards, ensuring universal accessibility, and providing systematic guidelines for implementing community programs. These gaps suggest the need to revise the public call, with particular attention to: (i) defining minimum unit sizes that guarantee comfort and functional flexibility; (ii) recognizing cultural diversity in housing typologies; (iii) aligning units with accessibility standards; and (iv) structuring community engagement as an integral part of the housing project.

In the case of the Housing PPP, the parameters of mobility, public and community facilities, cultural standards, and community programs showed satisfactory performance, although none reached an excellent level. Accessibility emerged as a particularly critical issue, with only 7% of units planned to be accessible — highlighting a disconnect between the program's guidelines and the imperative of full inclusion. While minimum areas were standardized, they were small and lacked adaptability. The affordability parameter received the most negative assessment, as the public call failed to establish criteria ensuring that housing costs were compatible with beneficiaries' income, thus compromising financial sustainability.

The Minha Casa Minha Vida Program, in turn, showed progress in mobility and access to public and community facilities, incorporating clear guidelines on maximum distances and formalizing community actions in its most recent regulations. Nevertheless, it continued to perform poorly in the areas of accessibility, minimum unit size, and cultural adequacy — all essential for resident well-being and social inclusion. Although improvements are evident compared to its earlier phases (beginning in 2009), the persistence of these limitations points to the need for structural revisions.

In summary, the three housing programs evaluated demonstrate specific advances in certain dimensions, yet none provides a sufficiently robust foundation to fully guarantee the right to adequate housing in a comprehensive and sustainable way. Drawing on Pasquotto's (2024a)



methodology, this study highlights the urgent need for a critical and proactive revision of public calls to address identified gaps and foster housing policies that are more attuned to the realities of vulnerable populations.

Accordingly, this article seeks to contribute to the advancement of Brazilian housing policy — particularly for low-income populations — by systematizing empirical evidence and proposing evaluative parameters that can support the design of more equitable, culturally appropriate, functionally efficient, and sustainable housing strategies across multiple dimensions.

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