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The Statute of the Metropolis and Planning Reform in Brazil: Analyzing Land Use Planning Practices and Metropolitan Land Conflicts

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Abigail Friendly
Utrecht University

Felipe Francisco De Souza
The University of Tokyo

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Abstract

In 2015, Brazil enacted the Statute of the Metropolis (Federal Law No. 13,089) to regulate the establishment of metropolitan areas and regional public policies throughout the country. This research comparatively analyzes land use planning practices in metropolitan areas — Baixada Santista and Vale do Rio Cuiabá — before and after the enactment of the Statute. Based on historical institutionalism and legislative clustergrams, the research aims to understand whether the adoption of the Statute of the Metropolis has influenced or changed land use planning practices focusing on metropolitan land conflicts. The results of this study are expressed through two divergent processes, as the areas selected herein entailed different metropolitan contexts and strategies. While Baixada Santista has years of experience with metropolitan governance, the promise that certain provisions of the Statute of the Metropolis might lead to greater technical advances, more consistent proposals for solutions to metropolitan land conflicts, and restrictions to the interests of the unbridled real estate market, was not fulfilled in this case. The analysis of municipal master plans in the metropolitan area of Baixada Santista before and after the Statute's enactment demonstrates that post-2015 municipal master plans saw an increase in density, with more content, but almost the same metropolitan-related content as before 2015. By contrast, the metropolitan area of Vale do Rio Cuiabá has a very short history of metropolitan governance, yet over the past few years it has advanced considerably during the development of its metropolitan plan to incorporate the tenets of the Statute of the Metropolis. However, termination, in early 2019, of the metropolitan agency of Vale do Rio Cuiabá has made it hard to recognize whether its metropolitan plan will be folded into future municipal master plans.

Despite the promise that 2015 would establish a legacy that favored a culture of planning in Brazil, critical decisions made later limited any possibility of positive feedback — or self-reinforcement — of metropolitan governance in the country, including federal legislation in 2018 altering the content of the Statute of the Metropolis and state actions weakening or terminating metropolitan agencies in 2019. These events signal the rise of a more neoliberal vision of a minimal state in Brazil, and the loss of many of the institutional and technical achievements in metropolitan areas since the 1990s. Beyond the promise of the Statute of the Metropolis, this research offers an analytical model for monitoring and assessment of future metropolitan efforts over time. It became clear, though, that the original scope and promise of the analytical framework require more time to be effective. More time is needed for more municipal master plans enacted after 2015 in different metropolitan areas to fully embrace the theory on historical institutionalism. However, this study serves as an alert for processes to come that variables sensitive to metropolitan planning may not be effective, or may not continue, due to various factors. The main goals of the research were to understand the limitations of implementing the Statute of the Metropolis, and to highlight possible outcomes in upcoming metropolitan planning processes in Brazil.

Keywords: Statute of the Metropolis; metropolitan governance; historical institutionalism; land use planning; metropolitan land conflicts

About the Authors

Abigail Friendly is an Assistant Professor in the Department of Human Geography and Spatial Planning at Utrecht University. Her research interests include urban policy, governance, participation, and land use planning in Brazil. She can be contacted at <a.r.friendly@uu.nl>.

Department of Human Geography and Spatial Planning
Utrecht University
Princetonlaan 8a, room 6.90
3584 CB Utrecht
The Netherlands

Felipe Francisco De Souza is a former Senior Consultant for the UN-Habitat and the Ministry of Cities, responsible for developing Brazilian public policies on metropolitan governance. During that consultancy, he was nominated as a Pre-Habitat III representative participating in the drafting and final version of the 2015 Montreal Declaration on Metropolitan Areas. Currently, he is a researcher at the University of Tokyo and can be contacted at <ffsouza@up.t.u-tokyo.ac.jp>.

Department of Urban Engineering
The University of Tokyo
Building 14, Room 210
7-3-1 Hongo, Bunkyo-ku, Tokyo
Japan 113-8654

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List of Acronyms

AGEM Vale do Rio Cuiabá	Metropolitan Agency of Vale do Rio Cuiabá (*Agência Metropolitana do Vale do Rio Cuiabá*)
AGEM Baixada Santista	Metropolitan Agency of Baixada Santista (*Agência Metropolitana da Baixada Santista*)
CDHU	Housing and Urban Development Company of the State of São Paulo (*Companhia de Desenvolvimento Habitacional e Urbano do Estado de São Paulo*)
CODEM	Metropolitan Deliberative Council of Vale do Rio Cuiabá Area (*Conselho Deliberativo Metropolitano da Região do Vale do Rio Cuiabá*)
CONDESB	Development Council of the Baixada Santista Metropolitan Area (*Conselho de Desenvolvimento da Região Metropolitana da Baixada Santista*)
DEM	Democrats Party (*Democratas*)
EMPLASA	Paulista Company for Metropolitan Planning S.A. (*Empresa Paulista de Planejamento Metropolitano S.A.*)
FUNDURB	Urban Development Fund (*Fundo de Desenvolvimento Urbano*)
IBGE	Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*)
JSON	JavaScript Object Notation
MCMV	Brazilian housing program (*Minha Casa Minha Vida*)
MDB	Brazilian Democratic Movement Party (*Movimento Democrático Brasileiro*)
OODC	Charges for Additional Building Rights (*Outorga Onerosa do Direito de Construir*)
PDDI	Master Plan for Integrated Development (*Plano Diretor de Desenvolvimento Integrado*)
PDUI	Integrated Urban Development Plan (*Plano de Desenvolvimento Urbano Integrado*)
PMDE	Metropolitan Plan of Strategic Development (*Plano Metropolitano de Desenvolvimento Estratégico*)
PSDB	Brazilian Social Democracy Party (*Partido da Social Democracia Brasileira*)
PT	Workers' Party (*Partido dos Trabalhadores*)
REGIC	Regions of Cities' Influence (*Regiões de Influência das Cidades*)
SIM	Metropolitan Information System (*Sistema de Informações Metropolitanas*)
SIVIM	Road System of Metropolitan Interest (*Sistema Viário de Interesse Metropolitano*)
VLT	Light Rail System (*Veículo Leve Sobre Trilhos*)
ZEE	Ecological and Economic Zoning (*Zoneamento Ecológico-Econômico*)
ZEIS	Special Zone of Social Interest (*Zona Especial de Interesse Social*)

The Statute of the Metropolis and Planning Reform in Brazil: Analyzing Land Use Planning Practices and Metropolitan Land Conflicts

1. Introduction: The Metropolitan Issue and Urban Reform in Brazil

While the debate on metropolitan governance became an issue in Brazil around 2015, it has been on the agenda since the 1960s when the national government led a range of metropolitan initiatives. During the military dictatorship (1965–1985) that embraced an ideological focus on nationalism, economic growth, and selective spatial development, the Brazilian state "emphasized the role of metropolitan areas as national growth poles, but never succeeded to provide these spaces with economic development and sustainability" (Klink 2014, 631). Therefore, the Brazilian urbanization process was at the center of the military regime's agenda and its institutions throughout the 1960s and 1970s. In this period, the centralized, authoritarian government intervened in urban areas through investments in urban development and infrastructure, prioritizing certain social groups and territories over others. In this context, the Constitution of 1967 inaugurated the establishment of metropolitan areas, attributing authority to the central government, by means of a complementary law, to legally establish these regions. Subsequently, Constitutional Amendment No. 1 of 1969 added the "performance of common services" as a delimitation criterion for metropolitan constituency. The term "common services," which later became "public functions of common interest," deals with the supposed confrontation between the local versus the common interest, when there is an overlap in the delivery of a given public service.

As a result of political disputes, the establishment of metropolitan areas only occurred in 1973 (Federal Complementary Law No. 14), institutionalizing the first eight areas.[1] Thus, "metropolitan areas were designed and institutionalized as key elements within a broader national development strategy aimed at the consolidation of a national space economy" (Klink 2014, 636). Institutionalized metropolitan areas were planned with a homogenous model emphasizing "the integrated planning of socio-economic development and related urban infrastructure services, considered essential for the national strategy of industrialization and nation building" (Klink 2014, 636). Such a homogeneous model imposed by the federal government included a deliberative council overseen by the state governor, and a consultative council, both to be enacted by state laws. The authoritarian regime expected that growth through metropolitan hubs would trickle down and radiate out to the rest of the country. However, this metropolitan governance model failed as (i) it did not create incentives for cooperation between states and their municipalities, or among bordering municipalities; (ii) it lacked federal resources for its financing; and (iii) the model did not engender a collective approach or a sense of regional identity regarding the importance of metropolitan issues (Souza 2005).

There is an extensive literature on the deficiencies, and the rise and fall of Brazil's metropolitan model as applied during the authoritarian and techno-bureaucratic regime that ended in 1985 (Araújo, Fernandes, and Coêlho 2016; Azevedo and Guia 2004; Klink 2010). When the military regime ended, it was challenged by inflation, unfulfilled construction works, and unemployment. In addition, Brazil's foreign debt reached massive proportions at this time, resulting in widespread yet heterogenous and fragmented social movements surrounding the country's re-democratization process. Social claims included (i) urban reform through a more autonomous civil society; (ii) the provision of urban services to low-income neighborhoods; and (iii) a draft law that sought to establish guidelines and instruments for urban policies (Bassul 2002; Mainwaring 1987). Thus, Draft Law No. 775 of 1983 exposed the Brazilian context to many legal concepts and urban instruments that had already been discussed and implemented in many other European countries.

Ultimately, social movements successfully brought a popular amendment to the 1988 Constitution during its drafting process. Articles 182 and 183 fundamentally demand that any urban property must fulfill the constitutional principle of 'social function,' which should happen through the guidance and enactment of a municipal master plan (Fernandes 2007; Friendly 2013). Despite enthusiasm related to the constitution-building process of the late 1980s, only 14 of over 35,000 proposals by parliamentarians concerned metropolitan governance, and "the winning proposal, however, was to insulate the federal government from any jurisdiction on metropolitan issues, transferring responsibility to state constitutions" (Souza 2005, 347). Notably, the predominant view at that time was that metropolitan governance should not be a federal issue. This view reflected a constitutional commitment to decentralization, and rejected any model associated with the techno-bureaucratic approach of the military regime, particularly characterized by centralized decision-making and fiscal policies (Araújo, Fernandes, and Coêlho 2016; Rolnik and Somekh 2004; Souza 2005).

The 1988 Constitution granted the responsibility for establishing metropolitan areas to state governments by means of a complementary law. Such areas must be "formed by grouping neighboring municipalities, in order to integrate the organization, planning, and operation of public functions of common interest" (Article 25). Public functions may include solid-waste disposal, sanitation, urban transportation, and land use planning, among others. The objective of the legislators in the constituent assembly was to prevent distinct social, economic, geographic, and cultural realities from being treated without their proper particularities, which had happened when metropolitan areas were established by the federal government during the military regime (Araújo and Fernandes 2014). However, this responsibility, granted to the states for establishing metropolitan areas, was given without any additional cooperation mechanisms or specific resources to finance them, leaving metropolitan issues in a political and administrative vacuum. Article 18 of the Constitution reinforced Brazil as a three-tier federation in which the distribution of territorial power is more complex, because municipalities are autonomous units of the federation, autonomous even from the states. Indeed, "in the case of metropolitan areas, this autonomy is even more complex because political, institutional, administrative, and financial arrangements designed for metropolitan governance demand cooperation, coordination, and articulation among the three governmental spheres" (Souza 2005, 343).

The structure of metropolitan governance established by the 1988 Constitution was thus guided largely by political articulation, consolidating "a scenario of impasses, contestations and conflicts among local and state governments regarding the planning of metropolitan areas" (Klink 2014, 638). Deepening this scenario, competition among municipalities to host economic activities through tax incentives in predatory schemes kept municipal governments from metropolitan coordination. However, if metropolitan areas were not established *de facto*, they were definitely established *de jure*. As of August 2016, 74 metropolitan areas were established by means of state complementary laws (De Souza 2016). Some benefits do exist for the legal establishment of this multitude of metropolitan areas, such as: (i) a decrease in rates for telephone calls between member municipalities; (ii) labor rules that standardize salaries for the same company within the metropolitan area; and (iii) federal government programs to promote housing and infrastructure that provide additional budget and assistance for municipal members of metropolitan areas (Araújo, Fernandes, and Coêlho 2016). Since the Brazilian law known as the Statute of the City (*Estatuto da Cidade*, Federal Law No. 10,257 of 2001), based on constitutional Articles 182 and 183, did not address metropolitan issues, the need to work on a specific law that could deal with metropolitan areas became increasingly clear.

The advent of the Statute of the Metropolis

During the process that led to the Statute of the City, a chapter on metropolitan areas was drafted, but the provisions were considered unconstitutional by the standing committee of the Federal Chamber of Deputies, given that Brazil's Constitution had given states responsibility for this jurisdiction (Araújo and Fernandes 2014). While the urban reform movement achieved an institutionalized political agenda focused on regulating various planning instruments through the Statute of the City, this agenda was grounded at the local level, emphasizing the municipal role after the redemocratization process. Moreover, social movements' mistrust of the metropolitan scale, given an inherited, authoritarian, techno-bureaucratic past, impelled the strategy of prioritizing local scale as a privileged site for the political project of the 'right to the city' (Klink 2014).

In 2004, a sub-committee of the Chamber of Deputies began discussions on a draft law for another statute. This time it was called the Statute of the Metropolis (*Estatuto da Metrópole*, Draft Law No. 3,460 of 2004), presented by former Federal Deputy Walter Feldman of the Brazilian Social Democracy Party (*Partido da Social Democracia Brasileira*, PSDB), with the objective of filling the void left by the Statute of the City regarding planning at the metropolitan scale. The original plan was to institute the National Policy of Urban and Regional Planning, and to create the National System of Planning and Urban Regional Information. After it was presented, the draft law was criticized due to a '*paulista*' bias that effectively excluded cases other than those in the state of São Paulo. This criticism may have been the main reason why its legal enactment process remained slow for years.

Between 2004 and 2007, the draft law was handled by the Urban Development Commission, yet no amendments were made to its content. The draft law was sent to a range of other commissions between 2008 and 2011, including the Environment and Sustainable Development Commission, and the Economic Development, Industry and Commerce Commission, until a Special Committee was established to issue a technical opinion on it. The bill was later archived and taken up again twice, until 2012, when then-Federal Deputy Zezéu Ribeiro of the Workers' Party (*Partido dos Trabalhadores*, PT), a specialist on the matter, was appointed rapporteur. Under Ribeiro's leadership, the Special Committee presented a final report with a proposal to replace the draft law from 2004. In November 2013, the Special Committee delivered a favorable opinion on the constitutionality, legality, and legislative technique of the replacement, now Draft Law No. 5 of 2014. That bill was unanimously approved by the Chamber of Deputies and the Federal Senate in December 2014, and then signed — with a few line-item vetoes — by former President Dilma Rousseff (PT) on January 12, 2015 (De Souza 2016).[2]

The Statute of the Metropolis is based on Article 25 of the 1988 Constitution, which allows states of the federation, by means of a complementary law, to establish metropolitan areas. It was configured as an attempt to address the real metropolitan challenges found in multiple conurbated regions, but also to review the legitimacy of at least half of the 74 legally instituted metropolitan units. The majority of these areas were enacted by laws to facilitate access to some benefits, without establishing real executive or deliberative bodies, nor the participation of civil society (De Souza 2017). The law provides an important window of opportunity for state governments, municipal governments, and civil society to organize on behalf of effective governability, and for the development of metropolitan plans. These plans are known as 'integrated urban development plans' (*Plano de Desenvolvimento Urbano Integrado*, PDUI), and they were mandatory for metropolitan areas interested in being eligible for federal public funds earmarked for such agglomerates until 2018.[3]

Research problem and questions

The context of this research starts with an overall critique of urban planning in Brazil with regard to master planning processes and zoning delimitations, which originated prior to the 1988 Constitution and the 2001 Statute of the City. Within the technocratic planning approach during the military regime, master plans were promoted to address planning and low-income housing, yet "the voices of the poor were seldom heard" and "the lack of affinity between the technical teams and the politicians often ended up making these plans irrelevant" (Martine and McGranahan 2013, 18). Indeed, the urban reform movement's critique was that master plans were elitist, and these plans were not originally intended as the primary unit of urban development in Brazil. During debates prior to the approval of the 1988 Constitution, conservative deputies associated with neoliberal reform proposed the requirement of master planning, which was ultimately included in the final constitutional text on urban policy (Bassul 2005). According to Caldeira and Holston (2015, 6):

> They [conservative deputies] wagered that it would render the constitution's radically democratic principles of urban social justice difficult, if not impossible to implement. The irony is that in the implementation of the City Statute, members of urban reform movements embraced this requirement as their principal means to refashion urban policy nationally and promote justice through popular participation. As a result, the making of master plans became an affirmation of the state's commitment to redress social inequality.

Although still referred to as a pact between the population and its territory, the idea of master planning has been questioned by Villaça (2005). Villaça's thesis is that the production of planning in Brazil in the last decades, crystallized in the ideology of master plans, has dramatically failed. These plans present non-enforceable actions to mayors, becoming a mere optional menu. Thus, key in this discussion is the challenging relationship between master plans and politicians (Villaça 2005). Additionally, criticisms have shown that such plans and territorial delimitation by zones had only served (i) to define guidelines and general principles, should they be implemented one day, which failed to occur; and (ii) to enact self-applicable regulations related to the floor area ratio (FAR) — in many cases, the 'charges for additional building rights' (*Outorga Onerosa do Direito de Construir*, OODC)[4] — which was of interest to Brazilian economic elites represented by real estate interests (Friendly 2020; Nery Júnior 2002; Villaça 1999).

Later, a consensus among experts and organized civil society emerged arguing that the implementation of 'progressive' planning instruments, such as those listed in the Statute of the City, was necessary to alter the 'perverse dynamics' of real estate appropriation in urban areas. This consensus was demystified by successive studies that evaluated the advances brought by the Statute, showing two key findings. First, regarding municipal master plans, the poor technical capacity of local governments resulted in limited implementation of their content, especially those approved far from metropolitan areas. Second, planning instruments approved within an environment of low technical-institutional capacity were merely the reissue of principles and guidelines already expressed in the technical and legal system at the federal level, revealing little about urban development strategies (Lima Neto, Krause, and Balbim 2014). However, long-awaited planning instruments approved within highly technical environments were largely appropriated by real estate lobbies, which demobilized the participation of organized civil society, revealing a high degree of control of the governmental public agenda by campaign funders, especially those related to the real estate market and construction companies (De Souza 2011).

Even some prominent progressive planning instruments, like the 'urban development fund' (*Fundo de Desenvolvimento Urbano*, FUNDURB) generated from OODC funding, did not fulfill expectations. Although spending through FUNDURB was relatively evenly spread throughout most cities that used it, in the case of São Paulo, for example, the majority of funding has not gone to the poorest neighborhoods (Friendly 2020). As Ultramari, Silva, and Meister (2018) observe, master plans allowed for an impressive number of responsibilities for municipal governments with a list of actions aiming at the 'desired city.' Rather than being directed at the advances that have been made, criticism of recent plans has focused on what they have failed to do. Although master plans are technical and regulatory instruments, the majority have failed to intervene in land structures and real estate market dynamics. This disjuncture explains "the state's structural inability to provide accessible, adequate, sufficient, well-located and affordable access to serviced urban land and housing" (Fernandes 2018, 54). It is within this scenario of municipal master plans and planning instruments that Brazil enacted the Statute of the Metropolis.

The goal of this study is to achieve a better understanding of the limitations of implementing regional public policies linked to land use planning in Brazil's post-constitutional democratic context of 1988, and the post-Statute of the Metropolis context of 2015. For this research, two metropolitan areas were chosen: Baixada Santista and Vale do Rio Cuiabá. Despite the fact that the data collected were relatively close to the enactment of the Statute of the Metropolis in January 2015, the study provides an early examination of the law's promises. Therefore, it aims to offer a sound analytical model to monitor and assess future efforts of metropolitan governance over time. Framed by historical institutionalism (North 1990; Pierson 2000; Sorensen 2015), this study asks the following questions:

- Has the adoption of the Statute of the Metropolis influenced and/or changed land use planning practices — focusing on metropolitan land conflicts — in some metropolitan areas of Brazil?

- If such changes have occurred — or planning practices have been affected — how did they happen, and how were they expressed through municipal master plans?

To answer these questions, the research seeks to understand the enactment of metropolitan plans, and the compatibility and enactment processes of the municipal master plans, before and after the Statute of the Metropolis of 2015. Thus, it focuses on how established metropolitan governance will relate its 'metropolitan macro-zoning' ─ an indispensable prerequisite of every metropolitan PDUI ─ with municipal master plans, as required by the Statute of the Metropolis (Article 12, paragraph 1, subparagraph II). This goal can be summarized in the following structure:

Statute of the Metropolis → metropolitan plan → macro-zoning → municipal master plan

Understanding changes in municipal master planning associated with the Statute of the Metropolis provides further insight into the politics and working of metropolitan planning in Brazil. In the sections below, we provide an overview of the Statute of the Metropolis, followed by an explanation of research methodology, the case study selection process, and the theoretical framework used to evaluate the outcomes of this research. Next, we introduce the case studies and an analysis of land use planning practices, including master plans, zoning and macro-zoning, focusing on land conflicts at the metropolitan scale. In the conclusion, we discuss the results and limitations of this research.

The content of the Statute of the Metropolis

The text of the Statute of the Metropolis (2015) complements the Statute of the City (2001) regarding the role of metropolitan governance. Article 1 of the Statute of the Metropolis sets out "general guidelines for planning, management, and execution of public functions of common interest (*funções públicas de interesse comum*) in the metropolitan areas and urban agglomerations instituted by the states." A metropolitan area is defined as an "urban agglomeration that configures a metropolis," and a metropolis is defined as an:

> urban space with territorial continuity that, by reason of its population and political and socioeconomic relevance, has a national influence or over a region that configures, at least, an area of influence of a regional capital, according to the criteria adopted by the Brazilian Institute of Geography and Statistics – IBGE (Law No. 13,089 of 2015, Article 2, subparagraph V, as of December 2017).

Article 6 establishes the principles for inter-federative governance of metropolitan areas, noting the "prevalence of common interest over the local" (Article 6, subparagraph I). In particular, Article 6, subparagraph V establishes "democratic governance of the city" according to the 2001 Statute of the City. This includes, in Article 7: (i) implementation of a shared process of planning and decision-making through shared means of administrative organization; (ii) shared execution of public functions of common interest, by means of apportionment of costs previously agreed upon under the inter-federative governance structure; and (iii) participation of civil society representatives in planning and decision-making processes. The inter-federative governance structure, laid out in Article 8 of the law includes: (i) an executive body composed of representatives of the Executive Branch of federal, state, and municipal governments; (ii) a deliberative body including civil society representatives; (iii) a public organization with technical and advisory functions; and (iv) an integrated system for resource allocation and accountability. Importantly, Article 15 affirms that a metropolitan area established by a state's complementary law that does not comply with the provisions of the Statute of the Metropolis will not be construed as a metropolitan area as far as federal public policies are concerned, regardless of whether or not the actions involve a transfer of funds.

Another key part of the Statute is that all existing metropolitan areas must prepare a metropolitan plan, known as an 'integrated urban development plan' (PDUI), to be discussed and agreed upon with state and municipal governments, and civil society (Article 10). Before the law's amendment, in June 2018, by Law No. 13,683, this requirement would have been completed by January 2018. After the law's amendment, however, both this obligatory requirement, and the possibility that state governors could be penalized for administrative misconduct if they failed to conclude the PDUI within the given time, were revoked. A PDUI is an "instrument that establishes, based on a permanent process of planning, the guidelines for the urban development of the metropolitan area" (Article 2), and it is responsible for bringing together all decisions by federation entities for each area. Consequently, municipal governments are required to adjust their master plans to the PDUI. Thus, coordination of land use planning among municipalities is an important element in this legislation, complementing earlier guidelines of the 2001 Statute of the City. Finally, when drafting a PDUI, the Statute of the Metropolis requires "the promotion of public hearings and debates with the participation of representatives of civil society and the population, in all the municipalities that comprise the urban territorial unit" (Article 12).

2. Methodology

The methodology used in this research focuses on the enactment of metropolitan plans. It also focuses on comparing the compatibility and enactment of municipal master plans with metropolitan plans, before and after enactment of the 2015 Statute of the Metropolis. Data collection lasted until December 2018 and included: (i) questionnaires sent to municipalities and state governments (see Appendix II for an interview guide); and (ii) gathering metropolitan plans and municipal master plans, before and after the adaptation process to the Statute, to inform the design of 'clustergrams.' The pre-process for case study selection involved three steps:

1. Identification of metropolitan areas from Brazil's total of 74 (including 1,265 municipalities) that were adapting to the Statute of the Metropolis, carried out through questionnaires sent to state governments;
2. Based on these answers, 18 metropolitan areas were found to be adapting to the Statute of the Metropolis, which means that state laws were enacted with a metropolitan governance structure, and there was ongoing development of 'integrated urban development plans' (PDUI); and
3. Based on data collection related to the 18 metropolitan areas, six criteria were used to narrow down the case studies.

Case study selection

Six criteria were used to select two case studies for this research. The first criterion was that the metropolitan area, enacted by a complementary state law, had fulfilled the Statue of the Metropolis' criteria to qualify as a metropolitan area following the IBGE's (2008) study on Regions of Cities' Influence (REGIC). The second criterion was that municipal and state governments had answered questionnaires regarding the process of adapting to the Statute of the Metropolis. The third criterion was that municipal and state governments had effectively started the development process of the metropolitan plan (PDUI). The fourth criterion was the state's fiscal condition.[5] The fifth and sixth criteria were the possible status of the metropolitan planning process by mid-2018 — referring to completion and approval of the metropolitan plan and the process of making all municipal master plans compatible with the PDUI — as foreseen by government representatives contacted in July 2017. The selection criteria shortened the list to the following metropolitan areas: Belo Horizonte, Baixada Santista, and Vale do Rio Cuiabá (Table 1). While Belo Horizonte was included during the data collection process, there was not enough information by July 2018 to include the results from the Belo Horizonte case in this paper.

Table 1: Case study selection (criteria 1 to 6)

Case study	No. of municipalities	IBGE REGIC (#1)	Questionnaires answered (#2)	PDUI started (#3)	Fiscal condition (#4)	PDUI deadline (#5)	Compatibility processes (#6)
Belo Horizonte	34	Yes	Yes	Yes	Ok	January 2018*	July 2018*
Baixada Santista	9	Yes	Yes	Yes	Ok	January 2018*	July 2018*
Vale do Rio Cuiabá	6	Yes	Yes	Yes	Ok	January 2018*	July 2018*

* These deadlines were announced by state governments supporting metropolitan governance. However, the PDUIs, and the compatibility processes, were not finalized within this timeline. Source: Authors.

Comparative methodology for legal data and legislative clustergrams

The comparative methodology for legal data and legislative clustergrams was developed by De Souza (2015). The objective of this methodology is to establish standards for comparison and correlation of large masses of legal data. In its original use, it was employed to comparatively analyze constitutions, laws, and decrees, focusing on the implementation of urban infrastructure in Japan, and in Asian developing countries, where the Japan International Cooperation Agency has a long tradition of funding urban infrastructure. In such cases, the intention was to understand how Japanese planning and developmentalism had influenced the legal frameworks of its neighbors, and how such frameworks have been built, approved, and implemented.

For comparative research, an evident difficulty occurs in evaluating the legislative memory of constitutions, decrees, and laws. Some projects stretch over several years, with amendments, substitutions, and discussions about specific provisions. Even after restructuring the legislative process through vetoes by the Executive Branch, after their enactment, certain legal texts can evolve over time, and such changes may even impact the legal system at the national, regional, or local levels. A clustergram-based comparative methodology, therefore, tries to create databases, where each legal provision — including articles, paragraphs, and subparagraphs — is organized over time with respective justifications, and, when necessary, authorship. The methodology thus answers two main questions: what were the discussions about a given legislative provision, and what is the current text of a particular law at a given date? Second, the methodology tries to spatialize, in clustergram formats, the content of these provisions, and to attach them in hyperlinks to relate them to provisions of other laws. This step avoids the traditional tabulation of legislative frameworks, and innovates by allowing visual readings of legal composition, as well as grouping them by topics or certain queries (i.e. searches for specific information in a database). Thus, the methodology aims to answer two further questions: what is the composition of a particular law, and how has its composition changed over time?

The methodology works in the following way. Constitutions, laws, and decrees are converted to Structured Query Language (SQL) databases using proprietary software that enables texts to be parsed, queried, and represented in JavaScript Object Notation (JSON) format. JSON format enables representation of any complex data structure, even with matrices or hierarchical data, and even if its structure evolves over time. The proprietary software ‘understands’ the basic structure of the text in accordance with any given legislative rules in force in the country. Another source code — built in JavaScript language — structures the provided database graphically, allowing users to interact with searches. To hyperlink clustergrams and searches in two or more legislations, coding is done in HTML5, considering future interactions with Internet users.

Clustergrams are radial views which can have circular or elliptical patterns by organizing clusters, using adjacencies and nodes, into a series of layers. Thus, effective reading of hierarchical structures is possible, as widely used in scientific areas such as physics and chemistry. Applied to law, clustergrams are weakened when a legal text has a large number of provisions, but this limitation is overcome by zooming tools or approximations of certain provisions and their subsequent ramifications. These clustergrams aim to access legislative information, with an integrated view of the texts, helping with the comparative process of updating these texts over time. This method of visualization conforms to the following rule, based on the work of Agrafiotis, Bandyopadhyay, and Farnum (2007, 70):

> (1) the center represents the root of the hierarchy; (2) deeper nodes in the hierarchy are drawn further from the center; (3) child nodes are drawn within the arc

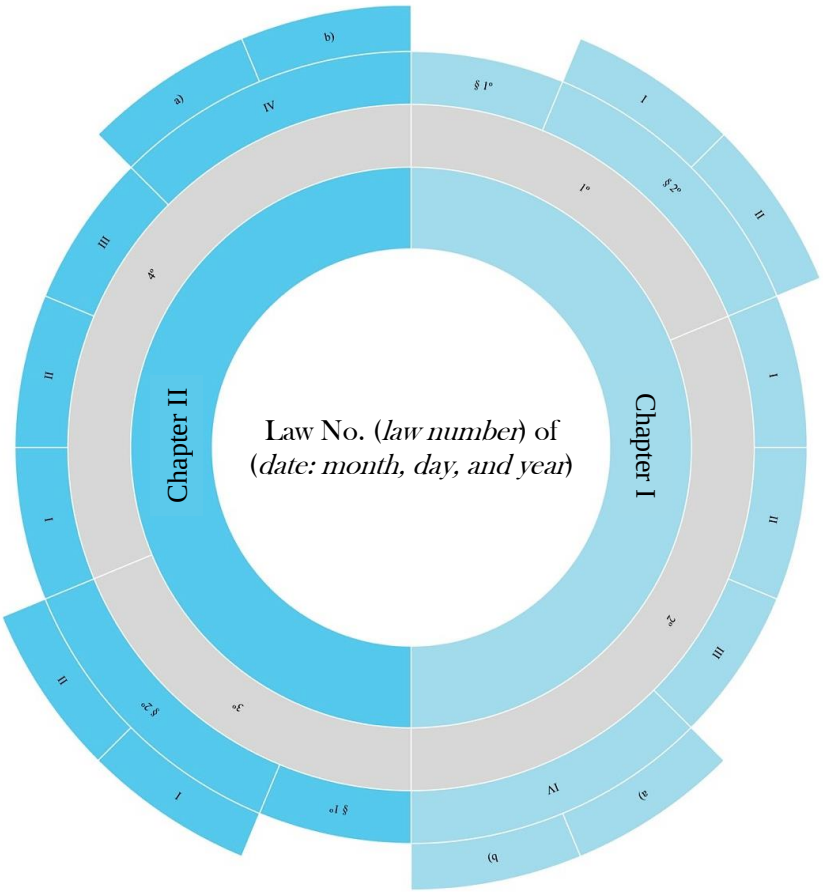
subtended by their parents; (4) the sweep angle of a node is proportional to its size (i.e. to the number of points that fall under that node); and (5) the sweep angle of a nonleaf node is the sum of all its children.

To exemplify this relationship in the Brazilian case, the representation of legal texts in JSON format uses the following structure, considering their provisions as 'parents' and 'children':

Title, chapter, or section (i.e. division of a given law by subject);
Article's *caput*: header (i.e. main content of a certain subject);
I. Subparagraph (subparagraphs are enumerations of the article or paragraph);
§ 1. Paragraph (paragraphs are exceptions or developments of the *caput*);
I. Subparagraph (subparagraphs are enumerations of the article or paragraph);
a) Line (lines are enumerations of subparagraphs).

The clustergram, shown in Figure 1, is a hypothetical model of a law consisting of two chapters (I and II) at the root of the hierarchy, followed by Articles 1, 2, 3, and 4 (in gray). Note that Articles 1 and 3 are the 'parents' of two paragraphs, and that the second paragraph of each article has two subparagraphs (I and II) as 'children.' Note also that Articles 2 and 4 have four subparagraphs each (I, II, III, and IV), and that their subparagraph IV has two lines (a and b).

Figure 1: A hypothetical clustergram



Source: De Souza (2015).

To exemplify the breadth of this methodology and its possibilities, the Statute of the Metropolis and two laws on municipal master plans from the state of Pará have been used. Table 2 is a list of legal provisions in each legislation, followed by the division of nodes for their graphic clustergrams. In Figure 2, the clustergram for the Statute of the Metropolis was divided into shades of blue to understand its specific topics (Chapters I to VI) and, in red, to recognize the provisions vetoed by the federal government in 2015. Articles 1 to 25 of the law are shown in gray. Figure 3 is an example of a user selecting Article 6 of the law, making it possible to read its content, as well as the content of its related provisions — in this case, subparagraphs I to VII. From this selection, content referring to other laws (in this case, Law No. 10,257 of 2001, Statute of the City) is highlighted, which enables access to a hyperlink that will direct the user to the clustergram of that law and its provisions (in this case, Articles 43 to 45).

Table 2: Typology and quantity of provisions in federal and municipal urban planning laws

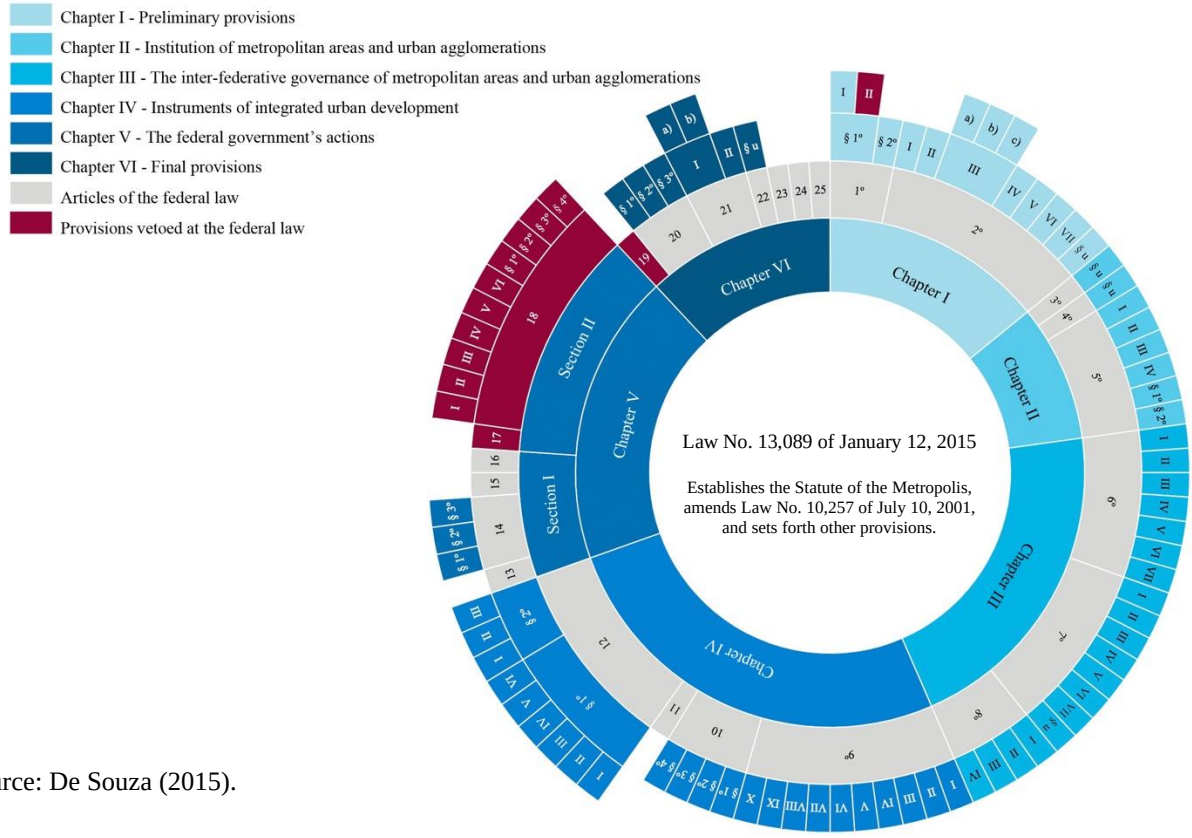
Type of provision	Federal Law No. 13,089 of 2015, Statute of the Metropolis	Municipal Law No. 91 of 2006, municipal master plan of Santa Bárbara do Pará (PA)	Municipal Law No. 8,655 of 2008, municipal master plan of Belém (PA)
Titles	–	–	6
Chapters	6	8	14
Sections	2	6	23
Subsections	–	7	31
Articles	25	31	234
Paragraphs	25	9	141
Subparagraphs	58	170	966
Lines	5	40	95
Cluster-divisions	121	271	1,510

Source: De Souza (2015).

The clustergrams for the master plans of Belém (Figure 4) and Santa Bárbara do Pará (Figure 5) refer to legal data of municipalities that are part of the Belém metropolitan area. First, the clustergrams clarify the difference in the legal text's size in terms of 'strings' — that is, the amount of content in their respective provisions. For example, Belém has 1,436 strings, while Santa Barbara has 250 strings. Second, it is possible to make a query, or a search, where the law's programmatic provisions with generic verbs are selected, such as 'to consolidate,' 'to promote,' 'to implement,' 'to stimulate,' and 'to encourage,' without consistently demonstrating how, and to seek self-enforcing provisions of each master plan. Self-enforcing provisions are those with immediate effect, not overstating generic goals, or requiring further regulation. Based on this comparison, the content of the Belém master plan is 15% self-enforceable (out of 1,436 strings, 212 have self-enforcing provisions), while the content of the Santa Bárbara do Pará master plan is 20% self-enforceable (out of 250 strings, 49 are self-enforcing provisions). Figures 4 and 5 show all the provisions in the laws divided into shades of blue to aid in understanding the laws' specific topics (Titles and Chapters) (De Souza 2015).

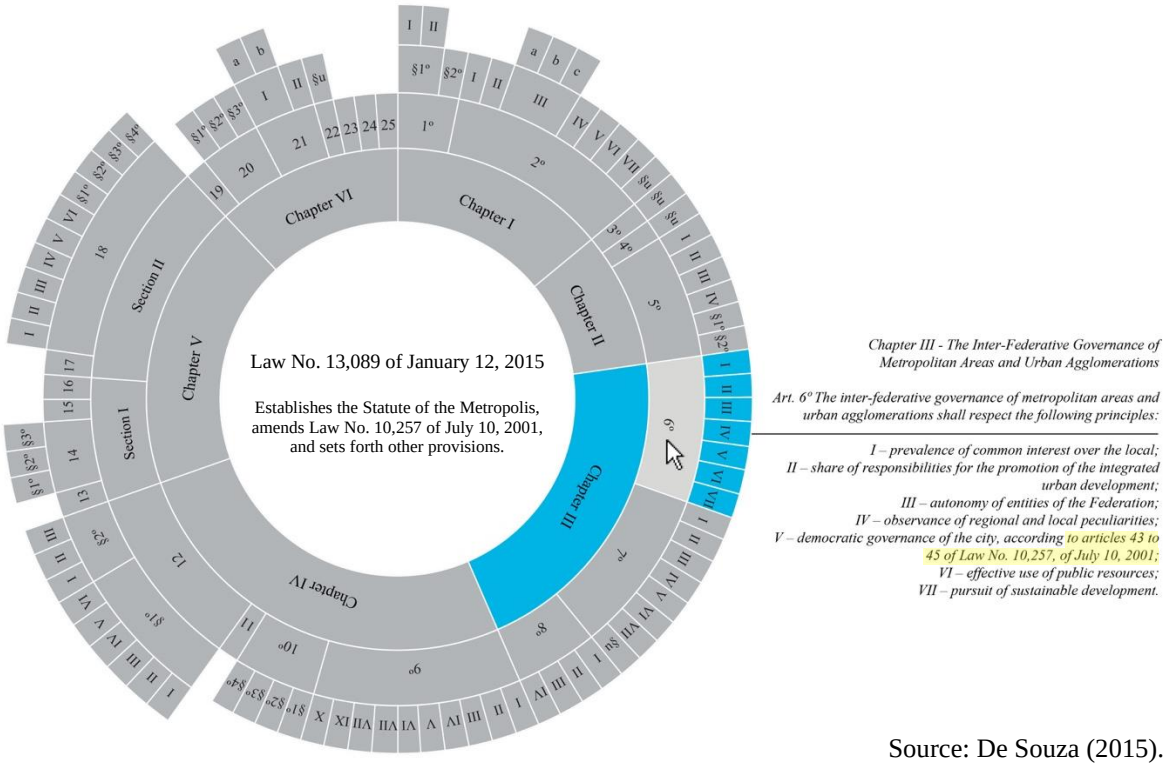
The database linked to the clustergrams of each municipal law enable an advanced search to delimit applicable provisions in the respective master plans. When reviewed, the examples above show issues with legal texts' size versus their efficacy, self-applicability, and the content of provisions that do not require specific regulation. It was clear that, "among the numerous articles of both laws, only the urban parameters for municipal (macro) zoning, as well as the regulations for the constitution of the municipal planning councils and the geographic information system, were pragmatic enough for its immediate application" (De Souza 2015, 6).

Figure 2: Clustergram of Federal Law No. 13,089 of 2015, Statute of the Metropolis



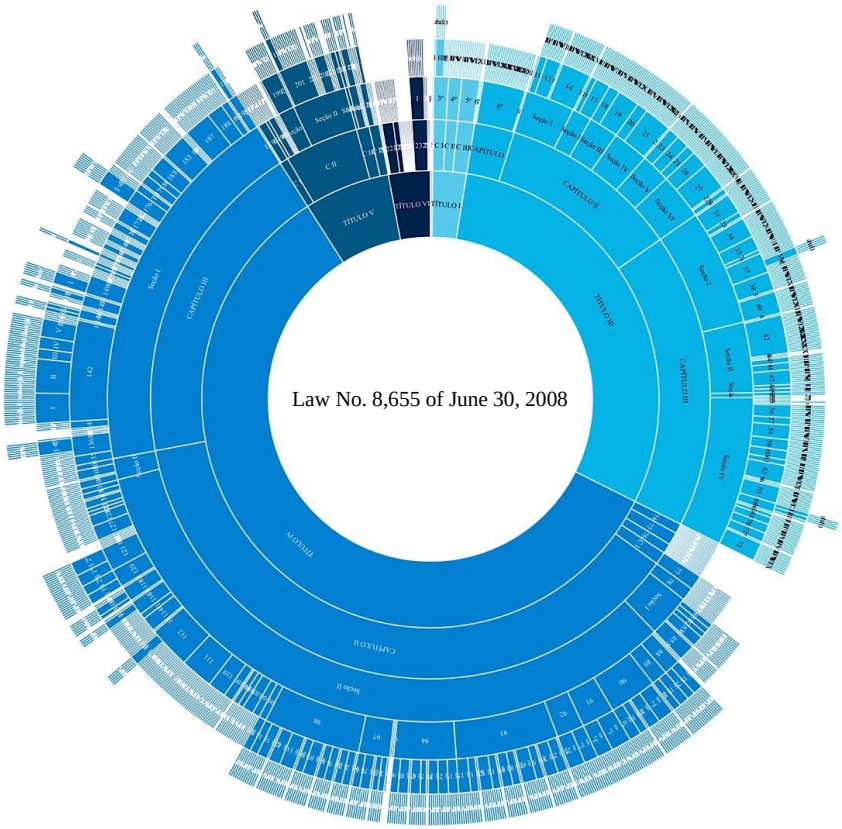
Source: De Souza (2015).

Figure 3: Clustergram of Federal Law No. 13,089 of 2015, Statute of the Metropolis (Legislative content search, as of December 2017)



Source: De Souza (2015).

Figure 4: Clustergram of Municipal Law No. 8,655 of 2008 (Belém, state of Pará)

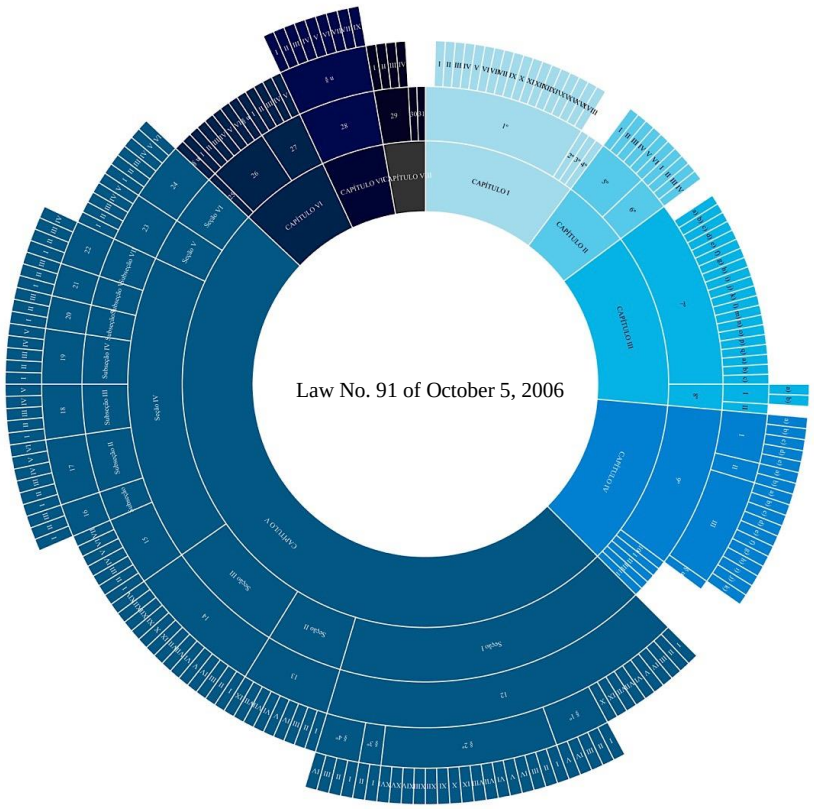


Title I - Preliminary provisions
Title II - Fundamental principles
Title III - Objectives and sectoral guidelines
Title IV - Territorial planning
Title V - Democratic management
Title VI - Temporary and final provisions

Municipality of Belém
Master plan: Law No. 8,655 (2008),
234 Articles, 1,436 strings

Source: De Souza (2015).

Figure 5: Clustergram of Municipal Law No. 91 of 2006 (Santa Bárbara do Pará, state of Pará)



Chapter I - Preliminary provisions
Chapter II - General provisions
Chapter III - Plans and proposals
Chapter IV - Development tools
Chapter V - Sectoral policy guidelines
Chapter VI - Municipal planning council
Chapter VII - General provisions
Chapter VIII - Temporary and final provisions

Municipality of Santa Bárbara do Pará
Master plan: Law No. 91 (2006),
31 Articles, 250 strings

Source: De Souza (2015).

3. Historical Institutionalism, Path Dependence and Critical Junctures

Metropolitan areas are strategic for national development, as they concentrate economic and social growth. The main arguments in favor of establishing metropolitan governments has been based on larger urban institutional systems, and that large units of government are more efficient in the production of certain public policies. This outcome is due to the "advantage of the economies of scale that a vast territory and large population afford them" (Lefèvre 1998, 10). d'Albergo and Lefèvre (2018) suggest three reasons why the metropolitan scale is gaining importance since the numerous experiments of the 1960s and 1970s. First, the metropolitan scale plays a significant role for economic growth, agglomeration economies, productivity innovation, and competitiveness in the context of globalization. Second, constructing a metropolitan scale has become an objective (i) for national governments, for example, in the United Kingdom, Italy, France, Republic of Korea, and China; (ii) for transnational actors, including the Organization for Economic Cooperation and Development (OECD 2015), the German Agency for International Cooperation (Andersson 2015), and the Inter-American Development Bank (Gómez-Álvarez et al. 2017); and (iii) for several city networks, such as Eurocities, one of the largest European networks, and United Cities and Local Governments (UCLG), an international association of local governments. As d'Albergo and Lefèvre (2018, 148) note, "all these players have emphasized the importance of the 'metropolitan' as the relevant scale for many public policies, and the necessity of building metropolitan governance arrangements to devise, implement and monitor such policies." Finally, the metropolitan scale has been studied extensively in economic geography (Storper 1997), public administration, and political science (Kantor et al. 2012). However, empirical analyses of metropolitan processes have been scarce. Likewise, the analysis of abstract concepts and how such concepts relate to specific contexts have also been scarce.

This study, therefore, intends to locate recent Brazilian experiments with metropolitan governance within ongoing international debates. The empirical analysis of Brazil's experiments is framed through the lens of historical institutionalism. Used particularly and broadly in social science, historical institutionalism "focuses on the creation, persistence, and change of institutions over time" (Sorensen 2015, 18). Institutions can be understood as "the formal rules, compliance procedures, and standard operating practices that structure the relationship between individuals in various units of the polity and economy" (Hall and Taylor 1996, 938). In other words, institutions can be defined as shared norms and formal rules that shape action in social, political, and economic processes.

Historical institutionalism is best known for the idea of path dependence, or the idea that once institutions are created, some become progressively more challenging to change over time. As a result, small choices at an early stage have long-term impacts. Although path dependence has been used in a range of disciplines, it emerged within economics in knowledge-intensive, high technology sectors, in which increasing returns to scale result from learning and coordination effects (Arthur 1988; David 1985; North 1990). The idea of increasing returns is that the more widely a system is used, the greater it will benefit the users because of a greater share of people using that technology and, consequently, costs are reduced. Thus, "a suboptimal arrangement can persist because, even though multiple possibilities initially existed, contingent events led to one approach gaining an early lead and increasing returns to scale ensure continued dominance" (Sorensen 2015, 21). Concurrently, research examining processes of incremental institutional change and the political dynamics associated with both institutional stasis and change has greatly enriched the approach to path dependence (Mahoney and Thelen 2010; Sorensen 2018).

While path dependence has been applied to a range of disciplines, Pierson (2000) suggests that the concept is generally used to support a few key claims, which are: (i) specific patterns of timing and sequence matter; (ii) starting from similar conditions, a wide range of social outcomes may be possible; (iii) large consequences may result from relatively small or contingent events; (iv) particular courses of action, once introduced, can be virtually impossible to reverse; and (v) consequently, political development is often punctuated by critical moments or junctures that shape the basic contours of social life. According to Sorensen (2015), to show that something is path dependent, there is first a need to show that other alternatives were available, and second, to explain the positive feedback effects that generated continuity. Indeed, path dependence relates to the idea of contingency, that is, the notion that there must be multiple possible alternatives, and that the choice point occurs at a particular historical event or critical juncture. For Mahoney (2000, 507), "path dependence characterizes specifically those historical sequences in which contingent events set into motion institutional patterns or event chains that have deterministic properties." While some, especially within economics, would argue that there is a random quality to the choices (Pflieger et al. 2009), others note that choices are unlikely to be random, but rather contingent, "in the sense that institutional density and complexity will mean that of a range of possible outcomes the result will be unknowable until after the critical juncture" (Sorensen 2015, 22).

A critical juncture is defined as social-political and economic changes in which new institutions are established, or previously stable institutions are replaced with new approaches. To be considered a critical juncture, all studied cases must satisfy three conditions found in the theoretical framework of critical junctures (David 2001; Pierson 2004; Sorensen 2015). First, there must be a significant change in the countries' institutions, expressed through law enactments, newly established government departments, and new jurisprudence to deal with court cases. Second, an enduring legacy should result, expressed through a particular model of governance that has been implemented, and how much such a model is reflected in terms of physical and economic conditions. Third, different decisions from similar actors should lead to different outcomes, allowing variation in distinct contexts and increasing the overall leverage of the analysis. Importantly, even with different outcomes in different contexts, critical junctures usually share self-reinforcing mechanisms that further the continuity of a given public policy. Within urban studies and planning, the idea of positive feedback — or self-reinforcement — holds that each step on a given path increases the possibility of further steps along the same path, increasing the cost of reverting to a previously available alternative (Sorensen 2015).

To address the outcomes derived from enacting the Statute of the Metropolis, this research employs a theoretical framework that focuses on (i) a possible critical juncture related to the Statute's enactment; (ii) the positive — or self-reinforcing — feedback that might further the continuity of metropolitan governance; and (iii) the timing that might matter for public policy evaluation. This approach helps lead to a systematic analysis of if and how path dependence occurred in the Brazilian metropolitan case, and why certain policies may or may not change, or change in specific ways. Thus, using a historical institutionalism lens makes it possible to analyze whether enactment of the Statute of the Metropolis reinforced or collapsed existing planning practices, as municipal master plans do not present compulsory actions to mayors. As Sorensen (2015, 24) suggests, historical institutionalism analysis should be attentive to moments when new policies are established: "the critical moments of new institution building need to be traced back and identified to be able to determine which institutions have tended to become path dependent, and why, and which actors were influential in institutional choices." Thus, this study addresses the limitations of historical institutionalism for emergent policies and practices.

4. Introduction to the Case Studies

The Metropolitan Area of Baixada Santista

The metropolitan area of Baixada Santista is composed of nine municipalities (Figure 6) and has experienced more than 20 years of inter-federative governance, since its creation in 1996 (Complementary Law No. 815 of 1995). Historically, the area has been known for the industrialization of Cubatão and the international port of Santos. On the one hand, the area's economic dynamism contributed to the formation of a few well-developed urban centers; on the other hand, the region became synonymous with precarious housing and the absence of urban infrastructure, especially sanitation (Carriço and Saleme 2018).

Until 2015, the Metropolitan Agency of Baixada Santista (*Agência Metropolitana da Baixada Santista*, AGEM Baixada Santista) coordinated implementation of regional planning, yet often without legal force. That is, plans only contained guidelines for projects and goals to be followed. When the Statute of the Metropolis was enacted in 2015, AGEM Baixada Santista presented a series of proposals to the metropolitan council (CONDESB) to start their adaptation process to the new law. In 2014, a Metropolitan Plan of Strategic Development (*Plano Metropolitano de Desenvolvimento Estratégico*, PMDE) had been approved, coordinated by a subcommittee composed of state and municipal government officials. The PMDE of Baixada Santista contains metropolitan strategic goals, metropolitan macro-zoning guidelines, and recommendations related to the plan's monitoring and control. A range of actions to adapt to the Statute of the Metropolis has included updates to the PMDE, and a process of making municipal master plans compatible[6] with metropolitan macro-zoning rules.

Figure 6: The Metropolitan Area of Baixada Santista (state of São Paulo)

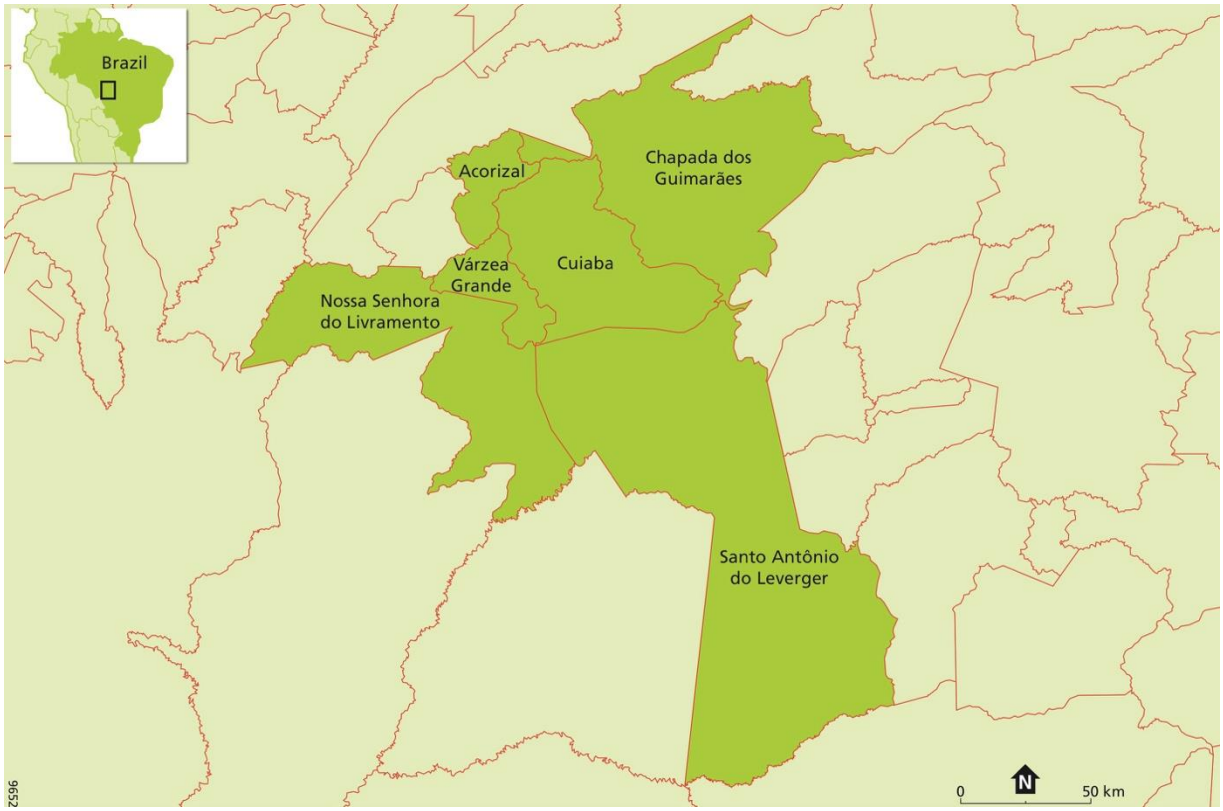
Source: Authors.

The Metropolitan Area of Vale do Rio Cuiabá

The metropolitan area of Vale do Rio Cuiabá is composed of six municipalities (Figure 7). In 2009, the metropolitan area was first conceived (Complementary Law No. 359 of 2009) with four municipalities (Cuiabá, Várzea Grande, Nossa Senhora do Livramento, and Santo Antônio de Leverger), and two additional municipalities were added later (Chapada dos Guimarães and Acorizal). Historically, Cuiabá's population grew after Brazil's federal capital was transferred from the coast to the middle of the country in the 1950s. Consequently, the industrial sector, represented by agribusiness, expanded across the state of Mato Grosso, and the metropolitan area began to expand as well. However, public services and infrastructure did not keep pace with the rate of urbanization (Chiletto, Lima, and Borges 2014).

Before 2015, no metropolitan plan had been drawn up for the area. The process of effectively shaping and creating the metropolitan area began only after the Statute of the Metropolis was enacted, and ultimately, following the creation of the Metropolitan Agency of Vale do Rio Cuiabá (*Agência Metropolitana do Vale do Rio Cuiabá*, AGEM Vale do Rio Cuiabá). As part of the process of adapting to the new law, the Brazilian Institute of Municipal Administration (*Instituto Brasileiro de Administração Municipal*, IBAM) was hired to develop a metropolitan plan known as the 'master plan for integrated development' (*Plano Diretor de Desenvolvimento Integrado*, PDDI) in consultation with civil society, which was approved on December 17, 2018. Following the PDDI's approval, state and municipal officials were trained in implementing processes of metropolitan governance. Among the many challenges of such a process was that three of the area's municipalities did not have master plans in place, raising additional concerns for AGEM Vale do Rio Cuiabá.

Figure 7: The metropolitan area of Vale do Rio Cuiabá (state of Mato Grosso)



Source: Authors.

5. Land Use Planning Practices

Master plans, zoning, and macro-zoning

Article 10 of the Statute of the Metropolis states that a metropolitan plan known as an 'integrated urban development plan' (*Plano de Desenvolvimento Urbano Integrado*, PDUI) is mandatory for metropolitan areas interested in being eligible for federal public funds earmarked for such agglomerates. In addition to the requirement that the PDUI must be reviewed every 10 years (Article 11), the Statute of the Metropolis established the minimum content for PDUIs (Article 12, paragraph 1, subparagraphs I to VII). This content includes macro-zoning for spatial organization (*estruturação territorial*), and a normative framework for public functions of common interest. Importantly, macro-zoning should dialogue with municipal master plans, which should be reviewed in accordance with the metropolitan plan (PDUI). Despite including macro-zoning as a prerequisite, the Statute of the Metropolis was vague about what macro-zoning actually means. In this sense, many uncertainties still exist regarding macro-zoning, including:

(i) Are there normative limitations on metropolitan macro-zoning — that is, can it determine floor area ratio (FAR), and a minimum and/or basic building coverage ratio within the metropolitan area?
(ii) What possible analytical variables — such as population, vehicle traffic, land value, and infrastructure — are capable of justifying macro-zoning?
(iii) What are the technical criteria for macro-zoning of the PDUI to dialogue with the municipal master plans' zoning? and
(iv) What is the best process for adapting municipal zoning to the PDUI's macro-zoning?

Therefore, each metropolitan government had to decide what macro-zoning is, and how it will change land use planning practices. One interpretation is that macro-zoning can be seen as a mere referential treaty for municipal planning action, without FAR parameters, leaving it restricted to municipal master plans. Another interpretation is that macro-zoning can be seen as sovereign and restrictive on guiding municipal master plans. In the next section, we explore what scenario, through metropolitan macro-zoning and municipal master plans, each metropolitan area has followed.

<u>The Metropolitan Area of Baixada Santista</u>

In Baixada Santista, macro-zoning was established even prior to enactment of the Statute of the Metropolis, known as Ecological and Economic Zoning (*Zoneamento Ecológico-Econômico*, ZEE). Enacted through State Decree Law No. 58,996 of 2013, ZEE was defined in Article 4 as the "basic planning instrument that establishes the norms of land use and occupation and management of natural resources in specific areas, based on an analysis of their ecological and socioeconomic characteristics." As noted by Oliveira (2013), ecological macro-zoning has helped with zoning-related issues, especially when solving conflicts among municipalities. In general, the ZEE illustrates how the territorial organization of Baixada Santista has been shaped by the international port of Santos and the petrochemical complex located in Cubatão. The ZEE also shows that the ecosystem of the *Mata Atlântica* forest along the coast has been preserved on a regional scale. The ZEE also demonstrates that the real estate market is very active, and that it has expectations for public investments in infrastructure in the metropolitan area. Finally, the ZEE shows that the area has weak peripheral municipalities, with little financial and operational capacity, and with devalued touristic properties.

The Metropolitan Area of Vale do Rio Cuiabá

In Vale do Rio Cuiabá, the process of effectively forming a metropolitan area began only after the Statute of the Metropolis was enacted in 2015, and, ultimately, the creation of AGEM Vale do Rio Cuiabá. Yet AGEM Vale do Rio Cuiabá adopted a different nomenclature for the metropolitan plan; instead of using 'integrated urban development plan' (PDUI), the plan was called 'master plan for integrated development' (*Plano Diretor de Desenvolvimento Integrado*, PDDI). State Complementary Law No. 609 of 2018 enacted the PDDI, and its Article 57 established the norms in which macro-zoning should be planned:

1. Zones for metropolitan spatial organization (*zonas de estruturação do território metropolitano*): areas where macro-zoning should stimulate, restrict, or classify the occupation of areas for urban or rural land uses;
2. Corridors (*eixos estruturais*): existing or projected transportation corridors that guide inter-municipal connections in Vale do Rio Cuiabá, and where macro-zoning should be addressed to support the mobility or the organization of ecotourism; and
3. Areas of metropolitan interest (*áreas de interesse metropolitano*): areas considered strategic for the development of Vale do Rio Cuiabá, including guidelines where metropolitan interest should take precedent over local interest.

In Vale do Rio Cuiabá, despite its position as a newcomer to metropolitan governance arrangements, macro-zoning parameters have advanced considerably, although such parameters required further consolidation. Thus, Article 65 requires that proposed parameters for areas of metropolitan interest should be discussed by all involved municipalities, as well as AGEM and the metropolitan deliberative council (*Conselho Deliberativo Metropolitano da Região do Vale do Rio Cuiabá*, CODEM) to ensure compliance with the provisions of the metropolitan plan (PDDI).

Analysis of metropolitan plans: PDDI and PDUI

The Metropolitan Area of Vale do Rio Cuiabá (PDDI)

The metropolitan plan of Vale do Rio Cuiabá (PDDI) was responsible for creating all the institutional regulations and the technical composition necessary to enable public functions of common interest. The PDDI law of Vale do Rio Cuiabá (Complementary Law No. 609 of 2018) establishes the structure of inter-federative governance, its collegiate technical bodies, and a list of metropolitan public policies to be developed. Among the public policies, the plan includes management, citizenship- and metropolitan-identity programs, and other programs targeting metropolitan land conflicts. Indeed, the objective of the *Terra Regular* program is to identify land use conflicts among municipalities, and to propose action plans to solve such problems; while the *Urbanismo em Rede* program aims to reduce urban sprawl, and to use planning instruments to control urban density in the metropolitan area.

In addition to imposing specific regulations on areas of metropolitan interest in its macro-zoning guidelines, the PDDI imposed regulations regarding the urban parameters of municipal master plans. These regulations include: (i) the need for compensation to be paid by the beneficiary when the right to build is exercised beyond what is permitted (Article 70, subparagraph II); and (ii) the need for part of the revenue from the 'charges for additional building rights' (OODC) in areas of metropolitan interest to revert to the metropolitan development fund (Article 70, subparagraph IV). Finally, the PDDI established that the state of Mato Grosso should provide budgetary resources exclusively for public functions of common interest, and for the programs listed in the

metropolitan plan. Both regulations — the budget forecast for metropolitan policies (for public functions of common interest), and the metropolitan fund with resources from the application of planning tools — are innovative, given the legal insecurity created by the Statute of the Metropolis regarding the financing of public functions of common interest. Table 3 includes a chronology of the laws related to metropolitan governance in Vale do Rio Cuiabá.

Table 3: Metropolitan governance in Vale do Rio Cuiabá and the chronology of related state complementary and decree laws (2008–2019) (including the PDDI)

Laws of the State of Mato Grosso	Content of the law
State Complementary Law No. 340 (December 17, 2008)	Manages the metropolitan areas of the state of Mato Grosso
State Complementary Law No. 359 (May 27, 2009)	Creates the metropolitan area of Vale do Rio Cuiabá
State Complementary Law No. 499 (July 22, 2013)	Regulates the metropolitan area of Vale do Rio Cuiabá, and creates its metropolitan deliberative council, its development agency (AGEM), and the metropolitan development fund
State Decree Law No. 103 (January 25, 2015)	Regulates the metropolitan development fund
State Decree Law No. 353 (December 9, 2015)	Approves the bylaws of the development agency (AGEM)
State Complementary Law No. 577 (May 19, 2016)	Includes Acorizal and Chapada dos Guimarães municipalities in the metropolitan area
State Complementary Law No. 609 (December 27, 2018)	Establishes the PDDI
State Complementary Law No. 612 (January 28, 2019)	Terminates AGEM (Article 42)

Source: Authors, based on the laws of the state of Mato Grosso.

The Metropolitan Area of Baixada Santista (PDUI)

As mentioned earlier, Baixada Santista established macro-zoning in 2013 known as Ecological and Economic Zoning (ZEE), prior to enactment of the Statute of the Metropolis. AGEM Baixada Santista presented a series of proposals to the metropolitan council (*Conselho de Desenvolvimento da Baixada Santista*, CONDESB) to start the adaptation process to the Statute, including a draft law to enact the 'integrated urban development plan' (*Plano de Desenvolvimento Urbano Integrado*, PDUI). The PDUI draft law sought to incorporate and unify two existing instruments: the ZEE, and the Metropolitan Plan of Strategic Development (PMDE) of 2014. In addition, the draft law intended to create areas of metropolitan interest to be regulated through action plans containing a justification, delimitation, analysis of potentialities, and financing mechanisms of these areas (Draft Law — not submitted to the Legislative Assembly — of 2017, Article 8, paragraph 2). Such areas of metropolitan interest and their respective action plans should contain a matrix of responsibilities for each federative entity, and the action plans' approval should be preceded by analysis in subcommittees. Finally, the draft law created a 'monitoring and evaluation system' (*Sistema de Monitoramento e Avaliação*) of the metropolitan plan and proposed that the rules for the deliberative bodies of the PDUI should be defined through a regulatory decision by the development council of the metropolitan area of Baixada Santista (CONDESB).

In other words, the PDUI draft law sought to make the necessary adjustments to the Statute of the Metropolis, since gaps were found in the two underlying plans (the ZEE and the PMDE). While the ZEE established a zoning system capable of rationalizing the area's existing land use, presenting a menu of restrictions for environmental protection, the PMDE was a detailed study

with projections and scenarios regarding housing demand, the expansion of precarious settlements, and several public functions of common interest, including metropolitan sanitation and mobility. The PMDE established targets and indicators for public functions and detailed the necessary actions to achieve them. However, despite the technical content, neither the ZEE nor the PMDE entailed clear restrictions on municipal master plans within the metropolitan area of Baixada Santista to solve metropolitan land conflicts. Despite the lack of restrictions, since 2016, AGEM Baixada Santista and the Housing and Urban Development Company of the State of São Paulo (*Companhia de Desenvolvimento Habitacional e Urbano do Estado de São Paulo*, CDHU) have worked closely to implement a 'metropolitan information system' (*Sistema de Informações Metropolitanos*, SIM). SIM is a platform for sharing, monitoring, and modeling housing and related policies, and for solving metropolitan land conflicts. Such efforts should be accomplished by the end of 2020.

In November 2017, CONDESB, the metropolitan development council, approved the draft law to enact the PDUI, with the proposal submitted to the legal counsel of the state of São Paulo before being sent to the Legislative Assembly. In January 2018, however, then-President Michel Temer, of the Brazilian Democratic Movement Party (*Movimento Democrático Brasileiro*, MDB) issued Provisional Measure No. 818 amending the deadline for approving metropolitan plans from 2018 to 2021. As a result, the state of São Paulo terminated the process that would have enacted the draft law of Baixada Santista's PDUI. While some efforts were made by several subcommittees of CONDESB to advance the metropolitan plan's enactment, those efforts were disregarded by then-Governor of São Paulo, Geraldo Alckmin, of the Brazilian Social Democracy Party (*Partido da Social Democracia Brasileira*, PSDB). As such, this study explores the compatibility of post-2015 master plans with the existing ZEE, given that Baixada Santista's governance structure was already created by complementary and decree laws. Table 4 includes a chronology of laws related to metropolitan governance in Baixada Santista.

Table 4: Metropolitan governance in Baixada Santista and the chronology of related state complementary and decree laws (1994–2013) (including the PDUI)

Laws of the State of São Paulo	Content of the law
State Complementary Law No. 760 (August 1, 1994)	Establishes the regional organization for the state of São Paulo
State Complementary Law No. 815 (July 30, 1996)	Creates the metropolitan area of Baixada Santista, and authorizes the state government to create its metropolitan development council (CONDESB) and its metropolitan development fund
State Decree Law No. 41,361 (November 27, 1996)	Establishes the metropolitan development council (CONDESB)
State Decree Law No. 42,833 (January 28, 1998)	Regulates the metropolitan development fund
State Complementary Law No. 853 (December 23, 1998)	Creates AGEM
State Decree Law No. 44,127 (July 21, 1999)	Approves the bylaws of AGEM
State Complementary Law No. 956 (May 28, 2004)	Changes the bylaws of AGEM
State Decree Law No. 56,887 (March 30, 2011)	Establishes the metropolitan development chamber
State Decree Law No. 58,996 (March 25, 2013)	Establishes Ecological and Economic Zoning (ZEE)
[Draft Law (November 14, 2017)]	[Establishes the PDUI — *not enacted*]

Source: Authors, based on the laws of the state of São Paulo.

Analysis of municipal master plans before and after the 2015 Statute of the Metropolis

The metropolitan plan known as the PDUI aims to be the technical framework for decisions made by federative entities in metropolitan areas. According to the Statute of the Metropolis, the PDUI does not exempt municipalities that are part of the metropolitan area from formulating their own municipal master plans (Article 10, paragraph 2). Thus, one of the biggest challenges of the changes associated with the Statute of the Metropolis is that all municipalities that are part of metropolitan areas are required to make their municipal master plans compatible with the PDUI and the content of its metropolitan planning guidelines (Article 10, paragraph 3).

Before 2018, the Statute of the Metropolis required state governments to draft their PDUIs within three years of the Statute's enactment and required municipalities to make their municipal master plans compatible with the PDUI within three years of the PDUI's approval (Article 21). Moreover, governors and mayors could be accused of administrative misconduct if they failed to enact a PDUI and to make the municipal master plans compatible with their related 'integrated urban development plan' (PDUI). In 2018, Law No. 13,683 revoked the deadline to enact the PDUI and the deadline to make municipal master plans compatible with the PDUI, as well as the penalty on governors and mayors for failing to do so.

For this study, information on this compatibility process was collected through a series of questionnaires answered by state and municipal governments, and from research on municipal master plans from the 15 municipalities included in the two metropolitan areas (nine in Baixada Santista, and six in Vale do Rio Cuiabá). However, many of the municipalities included in the study have not yet completed or reviewed their master plans.[7] It is important to note that the majority of the municipalities without master plans post-Statute of the Metropolis announced that they would have one by the end of 2018, which did not happen.

<u>The Metropolitan Area of Vale do Rio Cuiabá</u>

It was difficult to analyze the effects of the Statute of the Metropolis on the master plans of Vale do Rio Cuiabá because, as of December 2018, there were no documents for comparison. The questionnaires and interviews carried out during the data collection process for this research provided important findings about the process of Vale do Rio Cuiabá's PDDI. However, it was not possible to assess whether there are — or will be — technical amendments to the municipal master plans that will effectively build public functions of common interest among the municipalities within the metropolitan area, or if they will comply with the regulations proposed in the PDDI regarding land use and occupation in these municipalities.

An evaluation would have been possible after the end of 2018, because it was announced that three master plans from the municipalities of Cuiabá, Várzea Grande and Nossa Senhora do Livramento would be available. However, these master plans did not materialize, and only Várzea Grande effectively started the review process of its old master plan (Municipal Law No. 3,112 of 2007), having held eight public hearings so far (as of May 2019). The new deadline for review and enactment of the municipal master plan of Várzea Grande was announced as December 2020. In early 2017, all municipalities from the metropolitan area of Vale do Rio Cuiabá enacted their 'municipal plans for basic sanitation' (*Plano Municipal de Saneamento Básico*), which contributed to the delay of municipal master plans. A review of all municipal master plans before and after enactment of the 2015 Statute of the Metropolis is included in Table 5.

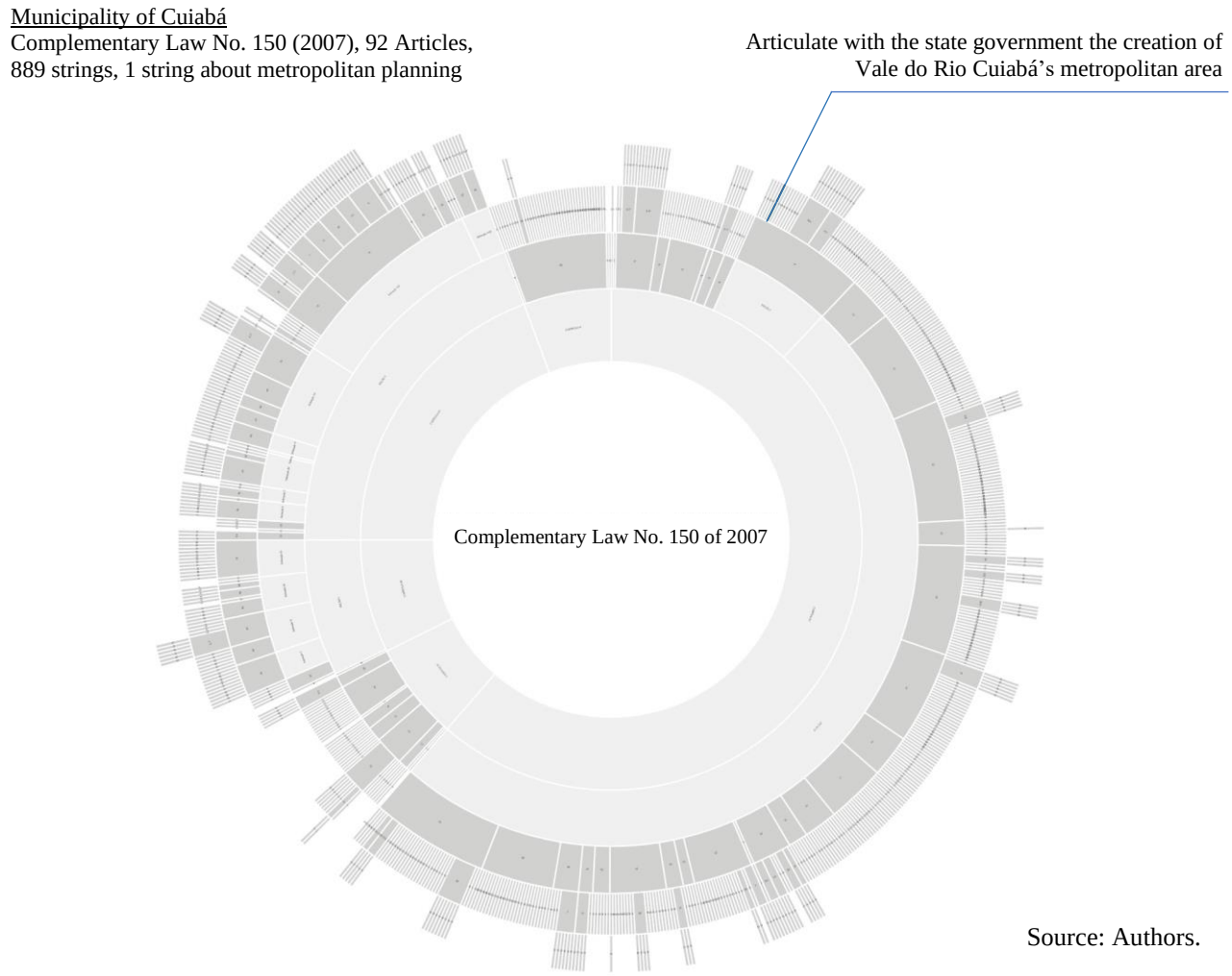
Table 5: Review of municipal master plans of the metropolitan area of Vale do Rio Cuiabá, before and after enactment of the 2015 Statute of the Metropolis

Municipality	Master plan before 2015	Master plan after 2015	Review deadline
Cuiabá	Municipal Law No. 150, 2007	None	December 2018*
Várzea Grande	Municipal Law No. 3,112, 2007	None	December 2018*
Chapada dos Guimarães	Municipal Law No. 43, 2010	None	December 2018*
Nossa Senhora do Livramento	None	None	None
Santo Antônio de Leverger	None	None	None
Acorizal	None	None	None

* As announced by the municipalities. Source: Authors, based on interviews with municipal planning departments.

Figure 8 shows a clustergram for the master plan of the municipality of Cuiabá (Complementary Law No. 150 of 2007), which includes only one provision related to metropolitan planning. Figure 9 shows a clustergram for the master plan of the municipality of Várzea Grande (Complementary Law No. 3,112 of 2007), and Figure 10 shows a clustergram for the master plan of the municipality of Chapada dos Guimarães (Complementary Law No. 43 of 2010). For both clustergrams, no legal provisions were associated with metropolitan planning.

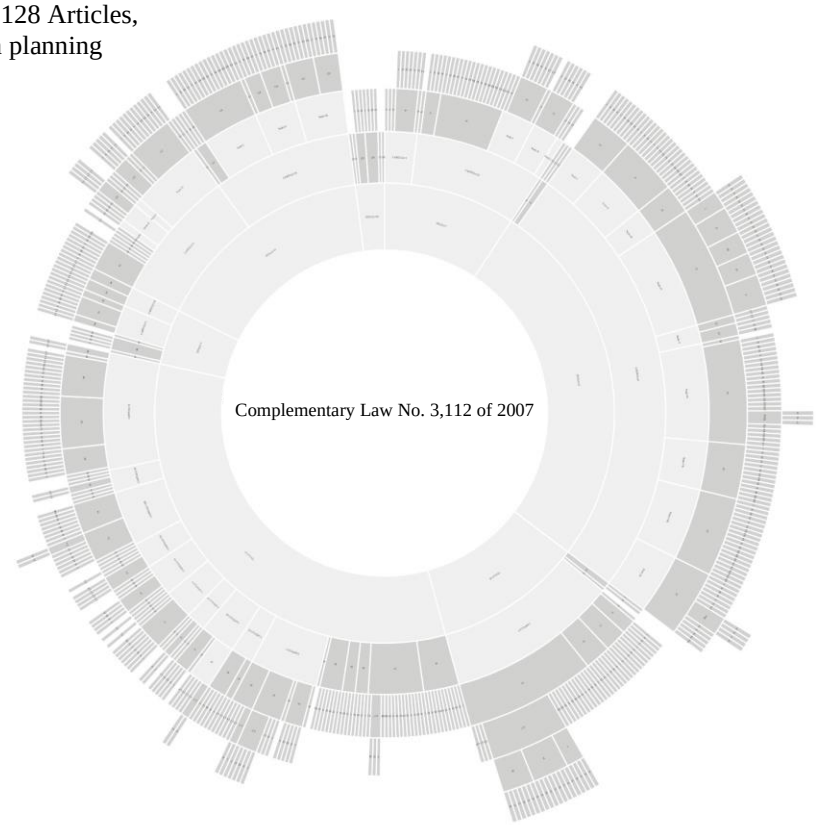
Figure 8: Clustergram of the master plan of Cuiabá (2007)



Source: Authors.

Figure 9: Clustergram of the master plan of Várzea Grande (2007)

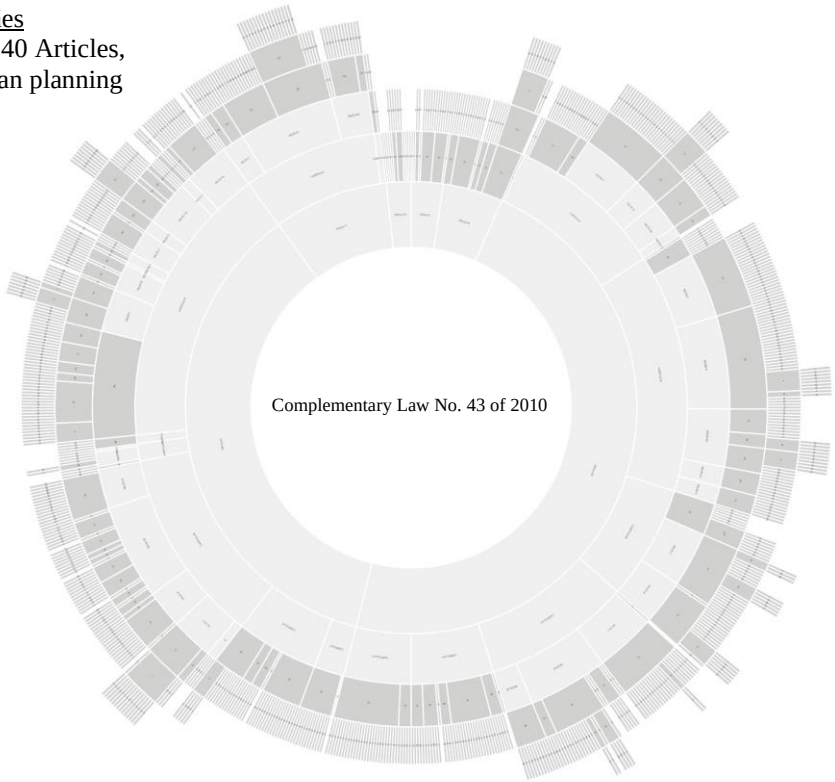
Municipality of Várzea Grande
Complementary Law No. 3,112 (2007), 128 Articles,
629 strings, 0 strings about metropolitan planning



Source: Authors.

Figure 10: Clustergram of the master plan of Chapada dos Guimarães (2010)

Municipality of Chapada dos Guimarães
Complementary Law No. 43 (2010), 140 Articles,
910 strings, 0 strings about metropolitan planning



Source: Authors.

The Metropolitan Area of Baixada Santista

Analysis of the effects of the Statute of the Metropolis on the master plans in municipalities from the metropolitan area of Baixada Santista was limited due to (i) the PDUI of Baixada Santista — while widely studied and debated — not having been enacted by the Legislative Assembly of the state of São Paulo, and therefore not having legal force; and (ii) among the nine municipalities of the Baixada Santista metropolitan area, only three having reviewed and enacted their master plans, while three others had completed draft laws that were never submitted to the City Council for voting and enactment owing to political reasons.

1. Itanhaém (before, Law No. 30 of 2000; after, Law No. 168 of 2015): Itanhaém was the first to approve its master plan after the Statute of the Metropolis. Both municipal master plans from 2000 and 2015 make the municipality's position clear regarding its municipal autonomy as a participant of the metropolitan collegiate:

> Respecting local interests, the municipality of Itanhaém will assist in the organization, planning, and execution of public functions of common interest in Baixada Santista metropolitan area that seek its regional integration.
>
> Sole paragraph. The municipality, when in it its interest, will participate in consortiums or other metropolitan organic structures. (Law No. 30 of 2000, Article 2; Law No. 168 of 2015, Article 4)

The key difference between the 2000 and 2015 master plans is how they related municipal zoning to the metropolitan macro-zoning known as Ecological and Economic Zoning (ZEE). In 2000, the municipal master plan established five zones in accordance with national legislation on Ecological and Economic Zoning that was later juxtaposed with state Ecological and Economic Zoning (zone 1 for permanent environment preservation, zone 2 for agriculture, zone 3 for country houses, zone 4 for urban expansion, and zone 5 for degraded urban areas). In 2015, the municipal master plan added annexes 1 to 3, including an equivalence between the zones from the plan and the zones from the state ZEE (Decree Law No. 58,996 of 2013); however, 11 municipal zones provided more detailed information compared to the five ZEE zones. In addition, the 2015 municipal master plan contains restrictions on each zone's building coverage ratio and sets land use targets to be achieved over the next 10 years, though with little indication of the process to achieve these goals, or the imposition of sanctions if these targets are not met. Clustergrams for both of Itanhaém's master plans are shown in Figure 11.

2. Praia Grande (before, Law No. 473 of 2006; after, Law No. 727 of 2016): Praia Grande was the second to approve its master plan after the Statute of the Metropolis. Both municipal master plans of 2006 and 2016 make clear the municipality's favorable position to the metropolitan collegiate, renouncing its municipal autonomy in the case of determinations of metropolitan interest:

> The Master Plan may undergo extraordinary reviews motivated by specific contingencies, such as agreements that may be signed in violation of this plan's guidelines, owing to determinations of metropolitan interest. (Law No. 473 of 2006, Article 8; Law No. 727 of 2016, Article 8 — *with similar content*)

Both municipal master plans of 2006 and 2016 highlight the role of CONDESB and AGEM Baixada Santista as important institutions for articulating metropolitan policies with neighboring municipalities. In both laws, the municipal master plan divides Praia Grande's entire road system

based on a 'road system of metropolitan interest' (*Sistema Viário de Interesse Metropolitano*, SIVIM), guided by the state of São Paulo. The difference between the laws, however, lies in the observance of Ecological and Economic Zoning (ZEE). In 2016, the municipal master plan presented its zoning based on the state ZEE (Decree Law No. 58,996 of 2013) by establishing restrictions on occupation and land use in Serra do Mar state park. Unlike the case of the 2015 master plan of Itanhaém, the 2016 master plan of Praia Grande did not set land use and building coverage ratio targets to be achieved over the next 10 years. Clustergrams for both of Praia Grande's master plans are shown in Figure 12.

3. Santos (before, Law No. 731 of 2011; after, Law No. 1,005 of 2018): Santos was the third to approve its master plan after the Statute of the Metropolis. Both municipal master plans of 2011[8] and 2018 make clear the municipality's position regarding the metropolitan collegiate, by praising its central role and its integration with policies of metropolitan interest. However, such integration was conditional, requiring the municipality's participation in the process of drafting those policies (Law No. 731 of 2011, Article 30; Law No. 1,005 of 2018, Article 176). In 2011, the sustainability, urban development, and tourism development actions in the master plan were specific objectives related to metropolitan policies, encouraging partnerships among the municipalities of the metropolitan area of Baixada Santista. In 2018, the incentive for these integrated actions was maintained, and a directive was added to reconcile sectoral policies and other metropolitan plans with the municipal master plan, observing the condition that the municipality has participated in drafting them. Notably, the 2018 municipal master plan makes no reference to the Ecological and Economic Zoning (Decree Law No. 58,996 of 2013), nor did the master plan's macro-zones observe any of the guidance from the ZEE. In addition, in the case of Santos, its municipal master plan does not detail zoning guidelines, which are further described in a separate law of land use zoning (Land Use Law No. 1,006 of 2018), which also makes no reference to the ZEE. Neither the master plan nor the land use law, both of 2018, indicate land use and occupancy targets to be achieved over the next 10 years, nor do they indicate the process to achieve these goals or to impose sanctions if such targets are not met. Clustergrams for both of Santos's master plans are shown in Figure 13.

Table 6 reviews all master plans of the metropolitan area of Baixada Santista, before and after enactment of the 2015 Statute of the Metropolis.

Table 6: Review of municipal master plans of the metropolitan area of Baixada Santista, before and after enactment of the 2015 Statute of the Metropolis

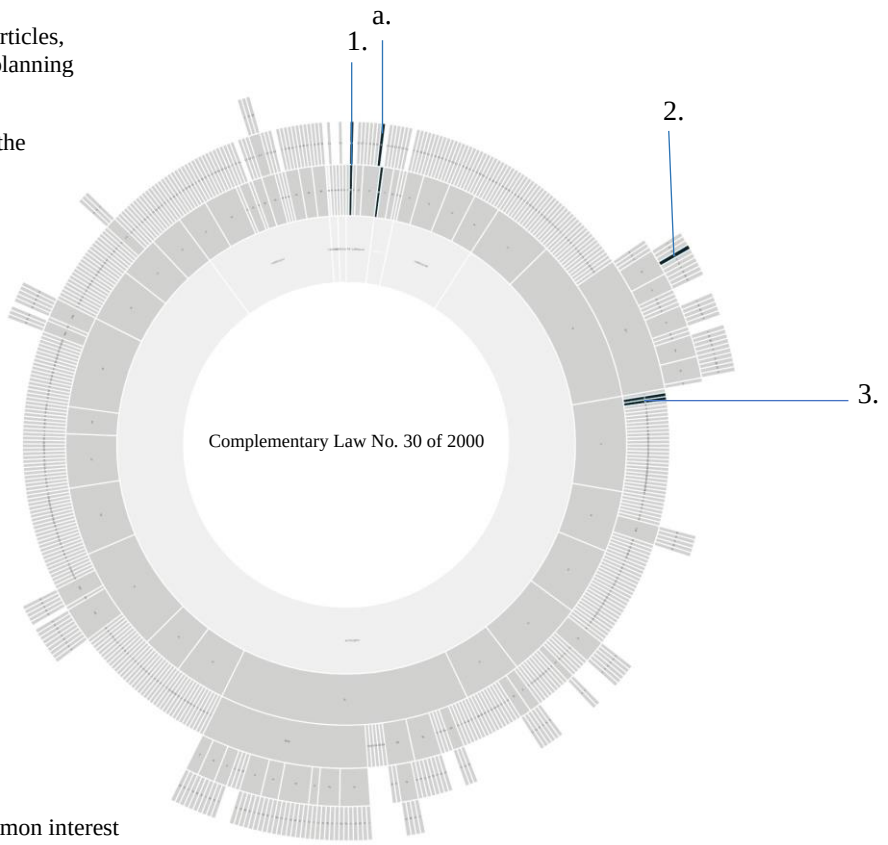
Municipality	Master plan before 2015	Master plan after 2015	Review deadline
Itanhaém	Municipal Law No. 30, 2000	Municipal Law No. 168, 2015	–
Praia Grande	Municipal Law No. 473, 2006	Municipal Law No. 727, 2016	–
Santos	Municipal Law No. 731, 2011	Municipal Law No. 1,005, 2018	–
Bertioga	Municipal Law No. 315, 1998	None	Draft law ready since 2015
Peruíbe	Municipal Law No. 100, 2007	None	Draft law ready since 2017
São Vicente	Municipal Law No. 270, 1999	None	Draft law ready since 2018
Cubatão	Municipal Law No. 2,512, 1998	None	December 2018*
Guarujá	Municipal Law No. 156, 2013	None	December 2018*
Mongaguá	Municipal Law No. 2,167, 2006	None	None

* As announced by the municipalities. Source: Authors, based on interviews with municipal planning departments.

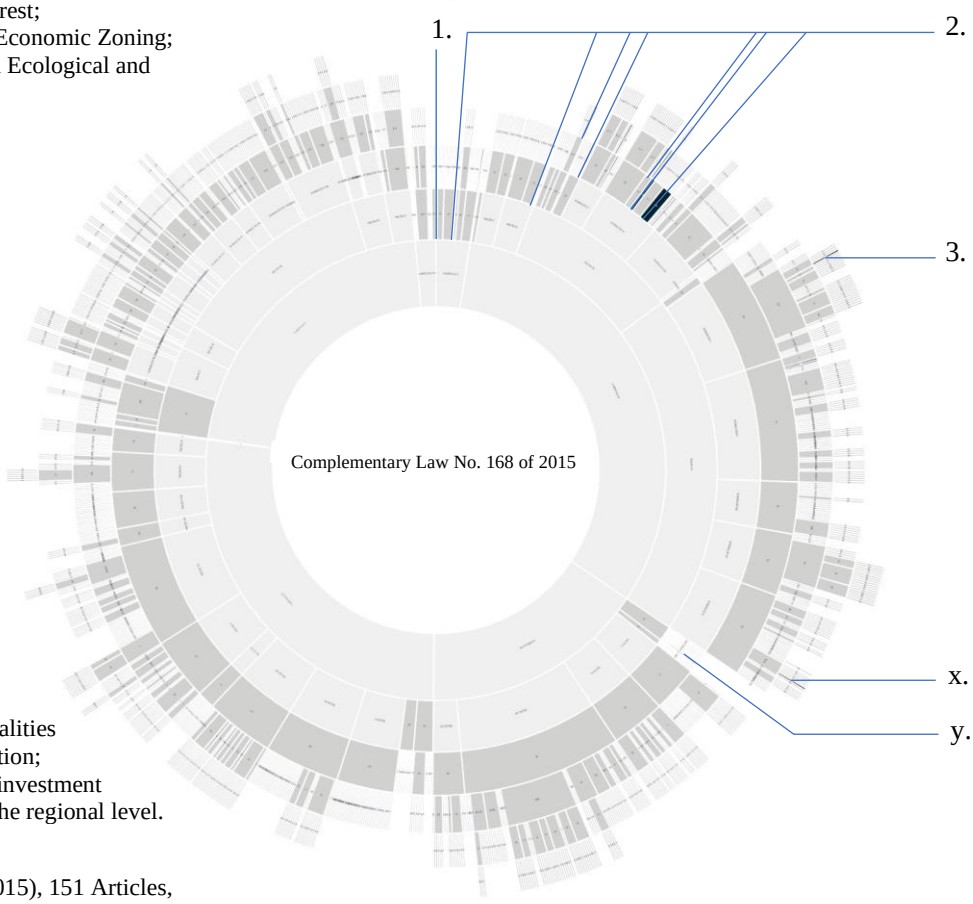
Figure 11: Clustergrams of the master plans of Itanhaém (2000 and 2015)

<u>Municipality of Itanhaém</u>
Complementary Law No. 30 (2000), 51 Articles, 585 strings, 7 strings about metropolitan planning

(2000)
a. Confirmation that Itanhaém belongs to the metropolitan area.



(2000/2015)
1. Participation in public functions of common interest depend on the municipality's interest;
2. Adjustment to Ecological and Economic Zoning;
3. Environmental policy based on Ecological and Economic Zoning.

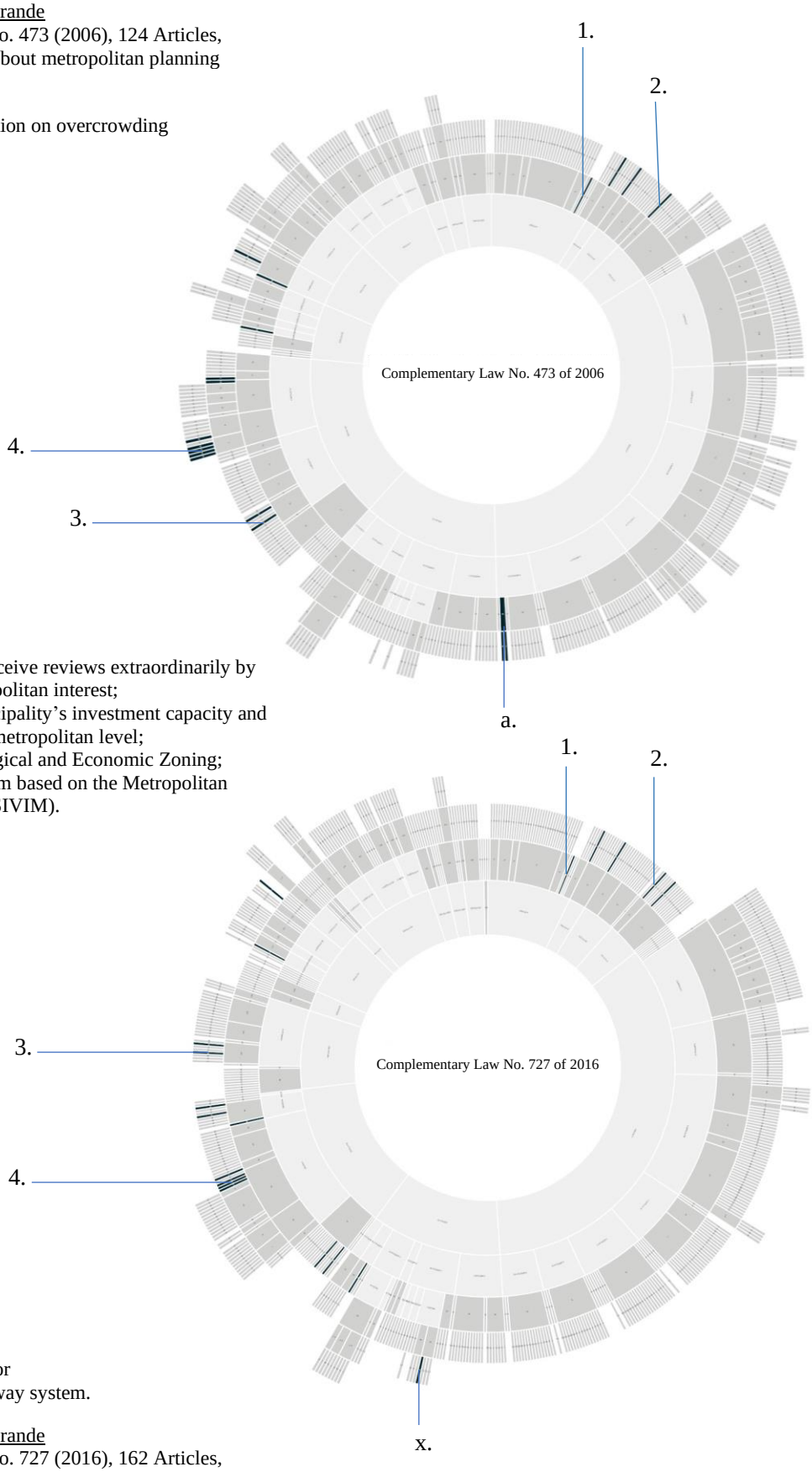


(2015)
x. Land use integration with modalities of metropolitan public transportation;
y. Increase of the municipality's investment capacity and competitiveness at the regional level.

<u>Municipality of Itanhaém</u>
Complementary Law No. 168 (2015), 151 Articles, 1,564 strings, 18 strings about metropolitan planning

Source: Authors.

Figure 12: Clustergrams of the master plans of Praia Grande (2006 and 2016)

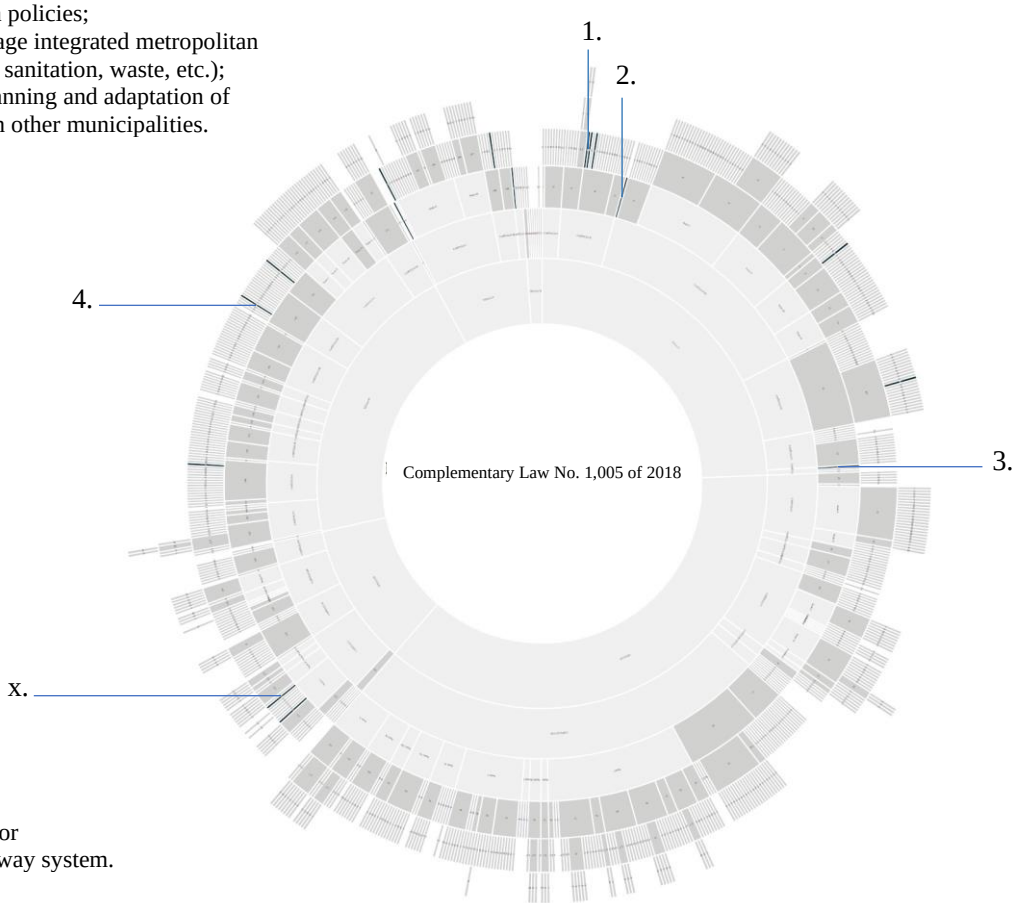


Source: Authors.

Figure 13: Clustergrams of the master plans of Santos (2011 and 2018)

<u>Municipality of Santos</u>
Complementary Law No. 731 (2011), 61 Articles,
455 strings, 12 strings about metropolitan planning

(2011/2018)
1. Strengthen the position of the municipality as the metropolitan area's central node;
2. Adjustment to metropolitan environment protection policies;
3. Promote and encourage integrated metropolitan actions (transportation, sanitation, waste, etc.);
4. Regional tourism planning and adaptation of tourism legislation with other municipalities.



(2018)
x. Passenger terminal for the metropolitan waterway system.

<u>Municipality of Santos</u>
Complementary Law No. 1,005 (2018), 211 Articles,
980 strings, 16 strings about metropolitan planning

Source: Authors.

Analysis of metropolitan land conflicts (Vale do Rio Cuiabá and Baixada Santista)

A conflict arises when there is a need to choose between options considered incompatible. Consequently, a land use conflict occurs when there are conflicting views on the usage given to a certain area, such as when a growing population creates competitive demands for use of the land, or when the government attributes a particular use to the land, causing a negative impact on other land uses nearby. In metropolitan areas, the negative impacts are even more palpable, which adds to a set of historically unresolved issues around the Brazilian federal pact, such as overlapping powers and authorities of land-related entities at the metropolitan scale. These dilemmas can be observed from the perspective of the local actors who experience land conflicts concretely. In this study, conflicts were identified through interviews with municipal planning departments. We verified whether conflicts were identified in master plans, and if solutions to these disputes were proposed in municipal laws. Tables 7 and 8 summarize metropolitan land conflicts found in Vale do Rio Cuiabá and Baixada Santista.

Table 7: Identified metropolitan land conflicts in Vale do Rio Cuiabá and related municipal master plans

Municipality	Metropolitan land conflicts	Municipalities involved	Municipal master plan	Does it provide an answer to the conflict?
Cuiabá	1. Cuiabá light rail system	Várzea Grande	No. 150/2007	No
Várzea Grande	2. Dumping ground/landfill	Nossa Senhora do Livramento	No. 3,112/2007	No
Chapada dos Guimarães	3. Informal settlements	Cuiabá	No. 43/2010	Yes
Nossa Senhora do Livramento	4. MCMV housing program	Cuiabá, Várzea Grande	No	No
Santo Antônio de Leverger	5. Municipal boundaries	Cuiabá	No	No
Acorizal	[not recognized]	–	–	–

Source: Authors, based on analysis of master plans and interviews with municipal planning departments.

Table 8: Identified metropolitan land conflicts in Baixada Santista and related municipal master plans

Municipality	Metropolitan land conflicts	Municipalities involved	Municipal master plan	Does it provide an answer to the conflict?
Itanhaém	1. CDHU housing program	Cubatão	No. 168/2015	Yes
Praia Grande	2. CDHU housing program	Santos, Cubatão	No. 727/2016	Yes
Santos	3. Informal settlements	São Vicente	No. 1,005/2018	No
Bertioga	[not recognized]	–	No. 315/1998	–
Peruíbe	[not recognized]	–	No. 100/2007	–
São Vicente	4. CDHU housing program	Cubatão	No. 270/1999	[Yes, draft law]
Cubatão	[not recognized]	–	No. 2,512/1998	–
Guarujá	5. Port of Santos settlements	Santos	No. 156/2013	Yes
Mongaguá	[not recognized]	–	No. 2,167/2006	–

Source: Authors, based on analysis of master plans and interviews with municipal planning departments.

Metropolitan land conflicts in Vale do Rio Cuiabá

Cuiabá, Várzea Grande

1. *Cuiabá's light rail system*: The VLT (*Veículo Leve Sobre Trilhos*) was a rapid transit system planned prior to the 2014 World Cup, as the main public transportation system connecting Cuiabá's city center with the international airport located in Várzea Grande. Land along a 15-kilometer stretch was set aside for implementation of the VLT, but in 2015, a state court interrupted the construction on suspicion of fraudulent bidding, which later proved to be true. While the area sits unfinished (Figure 14), it is well-known that the railcars that would have run on the tracks (40 in total) are stashed near the airport, now known as a "national symbol of ghost works" (Vargas 2018). In 2018, Governor Mauro Mendes, of the Democrats Party (*Democratas*, DEM), promised a definitive solution for the VLT, either to finish its construction or to announce that it is not viable for the state of Mato Grosso. In 2019, Governor Mendes stated that a solution could not be found and promised a resolution in 2020. The municipal master plan in force in Cuiabá dates to 2007, when the VLT had not yet been proposed. Moreover, Cuiabá's zoning law (Complementary Law No. 389 of 2015) did not mention the VLT but rather regulated the traffic corridor zone 1 (CTR 1) and the historical interest zone (ZIH 1), on which the system sits. While the historical zone regulates the preservation of historical heritage, the corridor zone allows the transfer of development rights.

Figure 14: The unfinished VLT in Cuiabá (left) and one of many unfinished stations (right)

Source: Authors.

Várzea Grande, Nossa Senhora do Livramento

2. *Dumping ground and landfill*: Almost 40% of municipalities in the state of Mato Grosso have never established an appropriate place for disposing urban solid waste, and consequently, they have failed to comply with the deadline set by the National Solid Waste Policy (Federal Law No. 12,305 of 2010). The municipality of Várzea Grande was likewise unable to comply with this policy, which states that garbage should be sent to a sanitary landfill, lined with a waterproof blanket, to avoid soil contamination. The state courts of Mato Grosso ordered the immediate closure of Várzea Grande's dumping ground, allowing only access to trucks from the municipality, which is in charge of collecting household waste and urban cleaning. Várzea Grande has not yet solved this problem, and its garbage has been sent to other areas improperly, including to the neighboring municipality of Nossa Senhora do Livramento.

Chapada dos Guimarães, Cuiabá

3. *Informal settlements*: Chapada dos Guimarães is a tourist destination. It includes many areas that have been occupied irregularly, including environmentally protected areas. Regrettably, it is difficult for the municipal government to control the occupation of its own territory, and many areas have been invaded by poor and homeless families, in particular people who had been living in the municipality of Cuiabá. The municipal master plan for Chapada dos Guimarães identified several irregularly occupied areas and determined land regularization processes in areas outside environmental protection areas. Within environmental protection areas, the plan established restrictions, and the transfer of those occupations to designated areas, such as 'special zones of social interest' (*Zonas Especiais de Interesse Social*, ZEIS).

Nossa Senhora do Livramento, Cuiabá, Várzea Grande

4. *Minha Casa Minha Vida (MCMV) housing program:* The MCMV housing program is Brazil's first effort to provide large-scale public housing funded through federal resources. In the metropolitan area of Vale do Rio Cuiabá, a large population of the city's urban poor moved from Cuiabá and Várzea Grande to attain the benefits of the MCMV program in the municipality of Nossa Senhora do Livramento. There, after applying for the program, they could receive property titles at low cost. The conflict, however, resulted from people from other municipalities — Cuiabá and Várzea Grande — competing with the local population of Nossa Senhora do Livramento for the housing program's benefits. As the 'outsiders' are usually not able to find employment in Nossa Senhora do Livramento, they often rent or sell the low-income houses provided through the MCMV program, then return to Cuiabá or Várzea Grande to available squatter areas.

Santo Antônio de Leverger, Cuiabá

5. *Municipal boundaries*: Santo Antônio de Leverger is the largest municipality in the metropolitan area of Vale do Rio Cuiabá and has waged lawsuits against eight different municipalities related to its municipal boundaries. The major threat if municipalities lose their territorial area is the possibility of also losing population, which could reduce the transfer of constitutionally guaranteed federal funding (*Fundo de Participação dos Municípios*).

Metropolitan land conflicts in Baixada Santista

Itanhaém, Cubatão

1. *CDHU housing program:* The Housing and Urban Development Company of the State of São Paulo (CDHU) is the largest provider of social housing in Brazil. The purpose of CDHU is to carry out housing programs throughout the state, serving exclusively those with low household incomes, ranging from one to ten times the minimum wage (USD 270 per month, as of December 2019). Those who qualify to purchase a CDHU-financed property must register for a waiting list in the municipality where they live. In 2008, a low-income housing settlement was approved in the municipality of Itanhaém for families from the municipality of Cubatão. These families were relocated from informal settlements, including one within the Serra do Mar state park. As families were embedded in Cubatão through employment, family, and friends, the settlement was not fully occupied, and people rented or sold the properties and returned to Cubatão. Thus, Itanhaém's master plan determined that newly established low-income housing settlements should implement commercial units, aiming to help newcomers develop roots within the local neighborhood.

Praia Grande, Santos, Cubatão

2. *CDHU housing program*: In 2012, the Brazilian government announced the Pre-Salt program (*Pré-Sal Petróleo S.A.*), which affected land prices in municipalities where the activities of Petrobras, a semi-public oil company, were located. The Pre-Salt program relies on drilling light oil of excellent quality and high commercial value in deep waters. In the metropolitan area of Baixada Santista, primarily Santos and Cubatão contain Petrobras facilities, and the increase in economic activities generated have increased migration of the urban poor. As the neighboring municipality of Praia Grande had implemented new low-income housing settlements, families from Santos and Cubatão were temporarily relocated there. However, these families went back to squatting, driven by previous roots, including family ties, public schools, and job opportunities. Praia Grande's municipal master plan determined that newly established low-income housing settlements should implement commercial units, aiming to help newcomers put down roots. In addition to state housing policies that might lead people from other municipalities to relocate inside its boundaries, Praia Grande has a resettlement policy to relocate local families up to two kilometers from their original home.

Santos, São Vicente

3. *Informal settlements*: In 2015, the municipality of Santos initiated an urban intervention known as the New Entrance Project (*Projeto Nova Entrada*). As of May 2019, the municipal government had invested USD 74 million, funded by the federal government in four installments. In addition to a new public transportation corridor, a new bridge, and an overpass, the project also provides improvements to the city's road access and some rainwater infrastructure, aiming to reduce the impacts of rainfall, prevent floods, and improve traffic flow. The intervention plans to make major road improvements but will also affect the informal settlements in the project area's surroundings (Figure 15). The municipality of Santos has stated that people from the informal settlements should be relocated and are likely to be relocated to the neighboring municipality of São Vicente because of the scarcity of available land for new low-income settlements in Santos. Neither Santos's municipal master plan, nor its land use zoning law, mentions land use changes in the 'entrance' area of Santos. According to both laws, regulation of road directives should be included in a 'municipal road plan' (*Plano Viário Municipal*), to be enacted by a future municipal complementary law that does not yet exist.

Figure 15: The main road entrance to Santos (left) and its informal settlements (right)

Source: Authors.

São Vicente, Cubatão

4. *CDHU housing program*: Cubatão is the only municipality in the metropolitan area of Baixada Santista that does not have access to the sea. As a gateway to the metropolitan area, Cubatão is also one of the leaders in terms of number of informal settlements, including within environmental protection areas, such as the Serra do Mar state park. In recent years, more than 4,000 families living in areas at risk of landslide have been awarded new low-income housing certificates. However, due to the lack of municipal land in Cubatão, some families need to be relocated to other municipalities, such as São Vicente. However, relocation did not happen, because of fear that families would return to previous illegal settlements. The draft law of São Vicente's municipal master plan of 2018 established the implementation of a 'municipal social housing policy' (*Política Municipal de Habitação Social*), ensuring the integration of several databases to prevent families' from duplicating their applications in the CDHU housing program, and returning to their previous settlements. When the draft law of São Vicente's municipal master plan is enacted, it will likely deliver social housing using a single registry, including data from the metropolitan area's municipalities, the CDHU, and AGEM Baixada Santista.

Guarujá, Santos

5. *Port of Santos settlements* (Sítio Conceiçãozinha favela, Prainha favela, etc.): The international port of Santos is the largest port in Latin America and is responsible for most of Brazil's international trade. For decades, it has been struggling with the expansion of the flow of goods, largely due to its lack of infrastructure and the logistical access network. In the 1970s, the international port of Santos expanded to the other side of the Santos estuary, towards the municipality of Guarujá, where traditional fishing communities were located. Cargo terminals were built, piers were laid a few meters away from houses, and companies were established. As more people arrived, starting in the 1980s, the bucolic fishing village became a cluster of shacks, poor houses on stilts, and narrow alleys. Many of these migrants took advantage of the atypical environment to make money off of the ships' occupants from around the world, and an intense and curious trade between the residents and the sailors flourished. After the 1980s, the expansion of the port of Santos continued until it began to conflict with the poor settlements in its surroundings.

Guarujá's current municipal master plan mentions the Sítio Conceiçãozinha favela, among other favelas around the port of Santos, as a 'special zone of social interest' (*Zona Especial de Interesse Social*, ZEIS). It also recognizes Sítio Conceiçãozinha as a native, traditional, coastal '*caiçara*' community, subject to municipal heritage protection. The 2012 Development Plan of the Port of Santos (*Plano de Desenvolvimento e Zoneamento do Porto de Santos*, PDZ Porto) did not mention the Sítio Conceiçãozinha favela but provides guidelines for developing specific solutions for resettlement or urbanization of favelas located inside the port area. In addition, Guarujá received funding from the federal government through its MCMV housing program to build a new low-income housing settlement to relocate 1,600 families. However, favela residents are divided on what is best for them. Some of the residents, mainly those who have been there for decades, are radically against the idea of relocation. In addition, Guarujá has claimed a share of the gains from the port of Santos, since over 40% of the port's activities occur within Guarujá's municipal boundaries. This revenue would support the construction of more low-income housing settlements. Since the National Registry of Legal Entities (*Cadastro Nacional da Pessoa Jurídica*) of the port of Santos relies on Santos, any taxes collected remain in that municipality, despite the fact that Guarujá endures the challenges resulting from the port and its surrounding activities.

6. Conclusions

While the enactment of the Statute of the Metropolis in 2015 created considerable expectations in Brazil, only years later we will be able to analyze the practical changes currently underway in metropolitan areas across the country. Thus far, however, it is difficult to make a comprehensive assessment of it. As this study has demonstrated, the process of building metropolitan governance requires time, technical and financial resources, just as it requires political will. Consequently, it is very difficult to evaluate the results of this governance approach in every metropolitan area across the country's states. In this case, the scenario predicted at the outset did not materialize within the time frame delimited for the delivery of this study. In the metropolitan area of Vale do Rio Cuiabá, none of the municipalities has reviewed a master plan since enactment of the Statute of the Metropolis. Only one out of three municipalities that announced the review process effectively started it (Várzea Grande). In the metropolitan area of Baixada Santista, among its nine municipalities, only three reviewed and enacted their master plans (Itanhaém, Praia Grande, and Santos) and three other municipalities produced draft laws that were never submitted to their city councils for enactment due to political reasons. As a result, the conclusions herein will certainly undergo additional changes as more information becomes available in the future.

Overall, this study's results show two divergent processes, one in the metropolitan area of Baixada Santista, and the other in the metropolitan area of Vale do Rio Cuiabá. Indeed, the selected areas exhibit very different metropolitan contexts and strategies.

First, the metropolitan area of Baixada Santista has a long history of metropolitan governance. However, this important legacy seems to impede new possibilities and innovative practices. While Baixada Santista has many years of experience with metropolitan governance, the approach is less confrontational towards municipal autonomy, and less technically adaptive towards possible innovations made possible through the Statute of the Metropolis. Even with clear regulation of the Statute, the São Paulo state government is still quite resistant to including civil society in deliberative bodies. Despite attempts made in technical debates related to the PDUI, it was not possible to solve the problem of civil society's participation in a deliberative body in the PDUI draft law. Civil society's inclusion is a requirement of the Statute of the Metropolis that may lead to a future lawsuit brought by the *Ministério Público* (Brazil's collective body of public prosecutors). Yet civil society participation in the CONDESB planning subcommittee was the only achievement made possible thus far.

Moreover, the classical problems of municipal master plans remain a feature of metropolitan governance: municipal master plans continue to be designed and approved in the same way as academic research has criticized for years (Caldeira and Holston 2015; Villaça 2005). The analysis of municipal master plans in the metropolitan area of Baixada Santista — comparing before and after enactment of the Statute of the Metropolis — demonstrated that post-2015 municipal master plans saw an increase in density, with more content, but almost the same metropolitan-related content as before. The use of clustergrams to analyze changes associated with the Statute of the Metropolis was not visually expressive, which differed from the initial assumption, that expected considerably more changes to occur through making municipal master plans compatible with the PDUI. The municipal master plans analyzed herein continued to be lengthy and loaded with infinitive programmatic verbs, such as 'to develop,' 'to promote,' and 'to improve,' without indicating how such actions could be carried out, and with few self-enforcing provisions, which will merely be treated as an optional menu of actions by municipal mayors.

In addition, the issue of metropolitan autonomy is still controversial. An analysis of the enacted municipal master plans of the metropolitan area of Baixada Santista thus far shows three possible views on municipal autonomy: (i) that the municipality depends upon metropolitan dynamics, and therefore, its autonomy is relative and it must comply with the decision-making processes of the metropolitan collegiate; (ii) that the municipality depends upon metropolitan dynamics if it decides and agrees to integrate certain politics or projects, relative to the understanding of each political administration; and (iii) that the municipality is sovereign in its decisions and is not susceptible to external influences. Not surprisingly, the relationship between the land use planning in municipal master plans and the Ecological and Economic Zoning (ZEE) is expressed in three different ways in the case of Baixada Santista: (i) complete compliance with the zoning provisions, even if they diverge in nomenclature; (ii) partial compliance, generally respecting areas of environmental protection in state parks; and (iii) a complete disregard for, or any mention of, zoning provisions. Importantly, the draft law of the PDUI of Baixada Santista included the ZEE pursuant to the Statute of the Metropolis, which established macro-zoning as a prerequisite. However, the ZEE is a detailed diagnosis of the existing scenario, including possible restrictions and directions that — although approved by a complementary state law — are not mandatory. Even so, some municipalities decided to completely disregard the ZEE. Therefore, the promise that some provisions of the Statute of the Metropolis might lead to (i) greater technical advances, (ii) more consistent proposals for solutions to metropolitan land conflicts, and (iii) restrictions on the interests of the unbridled real estate market, was not fulfilled in the case of Baixada Santista.

Second, the metropolitan area of Vale do Rio Cuiabá has a very short history of metropolitan governance, yet over the past few years it advanced considerably during the development process of its PDDI. Based on documentation from the enacted metropolitan plan (Complementary Law No. 609 of 2018), it seems that the process of drawing up the plan to promote its content was praiseworthy: the many training workshops for municipal staff and for the general population likely produced a 'metropolitan consciousness,' although it is too soon to know whether such efforts and the resources used for this process will have long-term effects. In addition, the PDDI's content closely followed the technical prerequisites of the Statute of the Metropolis, even responding to some points that were considered controversial in the law, such as the limit of its performance on municipal land, and the problem of financing public functions of common interest. Upon evaluating this PDDI, the promise that some provisions of the Statute of the Metropolis might lead to (i) greater technical advances, (ii) more consistent proposals for solutions to metropolitan land conflicts, and (iii) restrictions on the interests of the unbridled real estate market, was fulfilled in the case of Vale do Rio Cuiabá. Yet it is still early to know if this will be practically folded into the municipal master plans of the metropolitan area of Vale do Rio Cuiabá, given the lack of enacted plans for evaluation. This limitation is an evident concern, following the termination of AGEM Vale do Rio Cuiabá in early 2019.

Importantly, one key question is: Has the adoption of the Statute of the Metropolis influenced and/or changed land use planning practices — focusing on metropolitan land conflicts — in some metropolitan areas of Brazil? The enactment of the Statute of the Metropolis certainly influenced land use planning processes as the debate on its adaptation happened intensively for a couple of years after 2015. However, considering all the possibilities of the 'new' metropolitan-related law, it did not effectively change land use planning practices in both metropolitan areas studied. As mentioned before, on the one hand, a comparison of municipal master plans from the metropolitan area of Baixada Santista before and after enactment of the 2015 Statute of the Metropolis demonstrated that post-2015 municipal master plans saw an increase in density, with more content, but almost the same metropolitan-related content as before 2015. All the studied municipal master plans that presented solutions for metropolitan land conflicts did so without any guidance from the

PDDI. Surprisingly, on the other hand, some important metropolitan facilities, such as the construction of the Cuiabá VLT and the New Entrance of Santos, were not part of their respective municipal master plans, nor in the respective PDDI and PDUI metropolitan plans. Clearly, some government decisions are made outside the realm of master planning, given that in Brazil the timing of planning can be quite different from political timelines.

To address the outcomes of the enactment of the Statute of the Metropolis, this study has been framed within historical institutionalism, which focuses on changes in institutions over time and can be particularly useful in understanding change towards metropolitan governance in Brazil. The suggestion by Sorensen (2015) to pay attention to the moment when new policies and approaches are established was therefore key. Indeed, if all prerequisites as established by the theoretical framework based on critical junctures were met, then enactment of the Statute of the Metropolis in 2015 could have been a critical juncture. The Statute produced significant change in Brazil's institutions, expressed through its enactment, newly established government departments, and new jurisprudence to deal with court cases related to it. A range of efforts from all government levels — federal, state, and municipal governments — was made to understand how a new metropolitan scenario in Brazil might look through the lens of the Statute of the Metropolis. In addition, as shown by this research, different decisions from similar actors led to different outcomes, allowing variation in different contexts, and increasing the overall leverage of the analysis. As shown above, the areas selected for this study entailed very different metropolitan contexts, strategies, and content in terms of their metropolitan plans. However, critical junctures usually share self-reinforcing mechanisms, generating the continuity of a given public policy. Within urban studies and planning, the idea of positive feedback — or self-reinforcement — holds that each step on a given path increases the possibility of further steps along the same path, increasing the cost of reverting to a previously available alternative. The year 2015 may turn out to be a milestone for planning culture in Brazil, where urban planning is often referred to as 'optional,' 'selective,' and 'elitist'; however, critical decisions made in the years thereafter may limit positive feedback on metropolitan governance in the country.

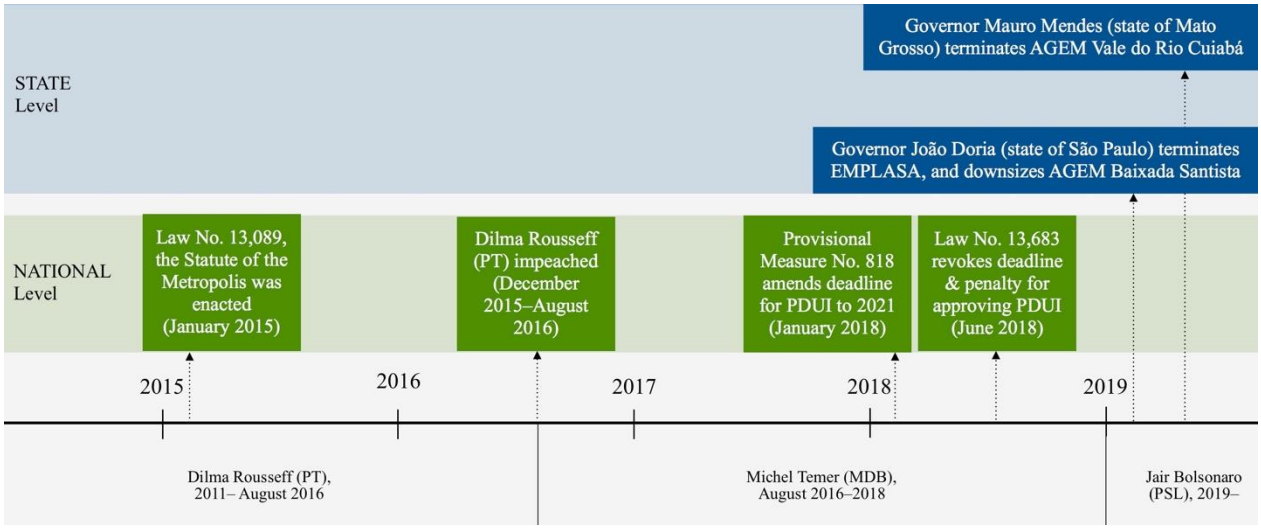
Federal legislation amending the content of the Statute of the Metropolis, and state actions weakening or terminating metropolitan agencies, may limit or dismantle the possibility of positive feedback on metropolitan governance, at least in the cases studied. In January 2018, then-President Michel Temer (MDB) issued Provisional Measure No. 818, amending the deadline for approving the metropolitan plans from 2018 to 2021. In June 2018, Federal Law No. 13,683 revoked the deadline and penalty obligations for approving the PDUI. In other words, the Statute of the Metropolis' obligation to finalize 'integrated urban development plans' (PDUI) for metropolitan areas interested in being eligible for federal public funds earmarked for such agglomerates is not in force anymore. Nor would state governors incur the penalty of administrative misconduct if they failed to conclude the metropolitan plan. As a result, the São Paulo state government decided to halt the process of approving the draft law for the PDUI of Baixada Santista. In fact, the metropolitan area of Baixada Santista had been quite advanced in its PDUI development process. As early as November 2017, CONDESB had approved the draft PDUI, and the proposal had been submitted to the São Paulo state government's legal counsel before being sent to the Legislative Assembly. Some efforts were made by several subcommittees of CONDESB to advance the metropolitan plan's approval; however, those efforts were disregarded by the Geraldo Alckmin (PSDB) administration.

In terms of state actions limiting or dismantling the possibility of positive feedback on metropolitan governance, the current governor of the state of São Paulo, João Dória (PSDB), authored a law to terminate the Paulista Metropolitan Planning Company S.A. (*Empresa Paulista*

de Planejamento Metropolitano S.A., EMPLASA), responsible for the state's cartography and regional planning. Dória also dismissed all non-tender employees of AGEM Baixada Santista, and as a result, only a few staff remained at its headquarters. While the current administration has promised to restructure AGEM Baixada Santista, there is no prediction or certainty that this will happen. Concurrently, AGEM Vale do Rio Cuiabá was terminated by the current Governor of the state of Mato Grosso, Mauro Mendes (DEM), and its activities were to be absorbed by a newly established mixed-capital company known as *Mato Grosso Participações e Projetos S.A.* The consequence of Mendes' actions is the abrupt interruption of the metropolitan agenda in the metropolitan area of Vale do Rio Cuiabá, despite considerable efforts by government officials from the previous political administration and some innovations in the process. While the enacted PDDI law proposed a metropolitan institutional framework to be led by AGEM, with a series of metropolitan regulations for future municipal master plans, it is not yet known if, after termination of AGEM Vale do Rio Cuiabá, such rules will be obeyed, and if the public functions of common interest will be effectively executed.

These events may signal the rise of a more neoliberal view of a minimal state in Brazil, and the loss of many of the institutional and technical achievements made with regard to metropolitan areas since the 1990s. This vision is included in political speeches and national decrees and laws that reinforce a refusal to impose planning on state governors and municipal mayors, while weakening institution building and strengthening the influence of the real estate market on land use planning practices. Path dependence may be illustrated by either this refusal to impose planning or by the real estate market's influence, which seems to be the institution that has become path dependent in Brazil. Figure 16 shows what laws and provisional measures were enacted under each President of the country (Dilma Rousseff, PT; Michel Temer, MDB; Jair Bolsonaro, PSL). At the top, the figure shows when governors of São Paulo and Mato Grosso took actions to weaken metropolitan institutions.

Figure 16: Important moments in the implementation of the Statute of the Metropolis



Source: Authors.

Finally, the strength of this research comes from the importance placed on metropolitan governance and the promises of the Statute of the Metropolis, while offering an analytical model that allows future efforts to be monitored and assessed, including these two case studies, as time passes. On the one hand, the research demonstrates the use of a conceptual and analytical

framework, as well as a baseline assessment of two relevant cases. On the other hand, it became clear that the original scope and promise of the analytical framework requires more time than a few years to be effective. The historical institutionalism framework for emergent policies and practices is not precise in a specific time period, and probably cannot be, as different social processes in different social contexts move at different speeds. That fact is the main limitation on this work: to embrace historical institutionalism, more time is needed to have more municipal master plans enacted after 2015 in different metropolitan areas. Of course, an early effort to tackle this topic with this framework at such an early stage, and with a survey approach to data gathering, had its merits. The research serves as an alert, for processes to come, that variables sensitive to metropolitan planning may not be effective, or have continuity, due to various factors. These factors include political ones, such as Temer's revoking the deadline for approving metropolitan plans, the abrupt termination of AGEM Vale do Rio Cuiabá, or the lack of compliance with technical documents such as the Ecological and Economic Zoning (ZEE), established prior to the approval of the Statute of the Metropolis. However, the ineffectiveness of parts of these processes or lack of continuity should not detract from the long and arduous technical work done so far to construct a process of metropolitan governance in Brazil.

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Appendices

Appendix I: Federal Law No. 13,089 of 2015 (as of December 2017)

LAW No. 13,089, OF JANUARY 12, 2015

Establishes the Statute of the Metropolis, amends Law No. 10,257, of July 10, 2001, and sets forth other provisions.

THE PRESIDENT OF THE REPUBLIC I hereby make known that the National Congress decrees and I sanction the following law:

CHAPTER I
PRELIMINARY PROVISIONS

Article 1. This Law, denominated Statute of the Metropolis, establishes general guidelines for the planning, the management and the execution of the public functions of common interest in the metropolitan areas and in the urban agglomerations instituted by the states, general rules on the integrated urban development plan and other instruments for inter-federative governance, and criteria for the Union [Federal Government] to support actions that involve inter-federative governance in the field of urban development, based on the subparagraphs XX of article 21, IX of article 23 and I of article 24, in paragraph 3 of article 25 and in article 182 of the Federal Constitution.

Paragraph 1. In addition to the metropolitan areas and the urban agglomerations, the provisions of this Law shall apply, whenever pertinent:
I – to the micro-regions instituted by the states based on public functions of common interest with predominantly urban characteristics;
II – (VETOED) to the cities that though situated in the territory of only 1 (one) municipality, form a metropolis.

Paragraph 2. The application of the provisions of this Law shall observe the general norms of urban legislation as established by Law No. 10,257 of July 10, 2001 — Statute of the City — which regulates the articles 182 and 183 of the Federal Constitution, establishes urban policy guidelines and makes other provisions; those in other Federal laws, as well as the rules that govern the national urban development policy, the national policy for regional development and the sectoral policies for housing, sanitation, urban mobility and environment.

Article 2. For the purposes of this Law, the following are considered:
I – urban agglomeration: an urban territorial unit constituted by the grouping of 2 (two) or more bordering municipalities, characterized by functional complementarity and integration of geographical, environmental, political and socio-economic dynamics;
II – public function of common interest: public policy or action therein whose realization by a single municipality may be infeasible or impacts adjacent municipalities;
III – full management: dependent upon the metropolitan area or the urban agglomeration that has:
a) formalization and delimitation by means of a state complementary law;
b) own structure of inter-federative governance, according to article 8 of this Law; and
c) integrated urban development plan approved by means of a state law;

IV – inter-federative governance: share of responsibilities and actions among entities of the Federation in terms of organization, planning and execution of public functions of common interest;
V – metropolis: urban space with territorial continuity that, by reason of its population and political and socioeconomic relevance, has a national influence or over a region that configures, at least, an area of influence of a regional capital, according to the criteria adopted by the Brazilian Institute of Geography and Statistics – IBGE;
VI – integrated urban development plan: instrument that establishes, based on a permanent process of planning, guidelines for urban development of the metropolitan area or the urban agglomeration;
VII – metropolitan area: urban agglomeration that comprises a metropolis.

Sole paragraph. The criteria for the delimitation of the region of influence of a regional capital, provided in subparagraph V of the head paragraph of this article will consider the goods and services supplied by the city to the region, covering industrial products, education, health, banking, commerce, employment and other pertinent items, and will be made available by IBGE on the world wide web.

CHAPTER II
OF THE ESTABLISHMENT OF METROPOLITAN AREAS AND URBAN AGGLOMERATIONS

Article 3. The States may, by means of a complementary law, institute metropolitan areas and urban agglomerations, constituted by the grouping of bordering Municipalities, in order to integrate the organization, the planning and the execution of public functions of common interest.

Sole paragraph. State and Municipalities included in metropolitan area or in urban agglomeration formalized and delimited as prescribed by the head paragraph of this article shall promote inter-federative governance, without prejudice to other relevant determinations of this Law.

Article 4. The legislative assemblies of each one of the States involved shall formalize the institution of metropolitan areas or urban agglomerations that entail Municipalities belonging to more than one State by means of the approval of complementary laws.

Sole paragraph. Until the approval of the complementary laws provided in the head paragraph of this article by all the States concerned, the metropolitan area or the urban agglomeration shall be valid only for the Municipalities of the States that have already approved the respective law.

Article 5. The State complementary laws referred to in articles 3 and 4 of this Law shall define, at least:
I – the Municipalities that make up the urban territorial unit;
II – the functional fields or the public functions of common interest that justify the institution of the urban territorial unit;
III – the conformation of an inter-federative governance structure, including the administrative organization and the integrated system for resource allocation and accountability; and
IV – the means for social control of the organization, the planning and the execution of public functions of common interest.

Paragraph 1. In the process of drafting the complementary law, the technical criteria adopted for the definition of the content provided in subparagraphs I and II of the head paragraph of this article will be explained.

Paragraph 2. Respecting the urban territorial units created by means of a complementary state law until the date of entry into force of this Law, the institution of the metropolitan area imposes the compliance of the concept established in subparagraph VII of the head paragraph of article 2.

CHAPTER III
OF THE INTER-FEDERATIVE GOVERNANCE OF METROPOLITAN AREAS AND URBAN AGGLOMERATIONS

Article 6. The inter-federative governance of metropolitan areas and urban agglomerations shall respect the following principles:
I – prevalence of common interest over the local;
II – share of responsibilities for the promotion of integrated urban development;
III – autonomy of entities of the Federation;
IV – observance of regional and local peculiarities;
V – democratic governance of the city, according to articles 43 to 45 of Law No. 10,257, of July 10, 2001;
VI – effective use of public resources;
VII – pursuit of sustainable development.

Article 7. In addition to the general guidelines established in article 2 of Law No. 10,257, of July 10, 2001, the inter-federative governance of the metropolitan areas and the urban agglomerations shall observe the following specific guidelines:
I – implementation of a permanent shared process of planning and decision-making in regard to urban development and sectoral policies related to public functions of common interest;
II – establishment of shared means of administrative organization for public functions of common interest;
III – establishment of an integrated system for resource allocation and accountability;
IV – shared execution of public functions of common interest, by means of apportionment of costs previously agreed under the inter-federative governance structure;
V – participation of civil society representatives in planning and decision-making processes, in the monitoring of provision of services and in the execution of works related to public functions of common interest;
VI – make compatible the multi-annual plans, the budgetary directives laws, and the annual budgets of the entities involved in inter-federative governance;
VII – compensation for environmental services or other services provided by the Municipality to the urban territorial unit, as prescribed by law and by the agreements signed within the inter-federative governance structure.

Sole paragraph. In applying the guidelines established in this article, the specificities of the Municipalities that are part of the urban territorial unit must be considered in regard to its population, income, territory and environmental characteristics.

Article 8. The inter-federative governance of metropolitan areas and urban agglomerations shall comprise in its basic structure:
I – an executive body composed of representatives of the Executive Branch of the federal entities of the urban territorial units;
II – a deliberative body with representatives from civil society;
III – a public organization with technical-advisory roles; and
IV – an integrated system for resource allocation and accountability.

CHAPTER IV
OF INSTRUMENTS OF INTEGRATED URBAN DEVELOPMENT

Article 9. Without prejudice to the list in article 4 of Law No. 10,257, of July 10, 2001, for the integrated urban development of the metropolitan areas and the urban agglomerations, the following instruments, among others, shall be used:
I – integrated urban development plan;
II – inter-federative sectoral plans;
III – public funds;
IV – inter-federative consorted urban operations;
V – zones for shared application of the urban instruments provided by Law No. 10,257, of July 10, 2001;
VI – public consortia, subject to Law No. 11,107, of April 6, 2005;
VII – cooperation agreements;
VIII – management contracts;
IX – compensation for environmental services or other services provided by the Municipality to the territorial unit, according to subparagraph VII of the head paragraph of article 7 of this Law;
X – inter-federative public-private partnerships.

Article 10. The metropolitan areas and the urban agglomerations shall rely on an integrated urban development plan, approved by means of a state law.

Paragraph 1. Respecting the provisions of the plan referred to in the head paragraph of this article, inter-federative sectoral plans may be formulated for public policies targeting the metropolitan area or the urban agglomeration.

Paragraph 2. The preparation of the plan referred to in the head paragraph of this article does not exempt the Municipality that is part of the metropolitan area or the urban agglomeration to formulate its respective master plan, in accordance with paragraph 1 of article 182 of the Federal Constitution and Law No. 10,257, of July 10, 2001.

Paragraph 3. In metropolitan areas and the urban agglomerations instituted by means of a complementary state law, the Municipality must make compatible its master plan with the integrated urban development plan of the urban territorial unit.

Paragraph 4. The plan provided by the head paragraph of this article shall be drafted within the inter-federative governance structure and approved by the deliberative body as referred to in subparagraph II of head paragraph of article 8 of this Law, before its submission to the respective state legislative assembly.

Article 11. The state law that establishes the integrated urban development plan of the metropolitan area or the urban agglomeration shall be reviewed at least every 10 (ten) years.

Article 12. The integrated urban development plan of the metropolitan area or the urban agglomeration shall consider the group of municipalities that comprise the urban territorial unit and shall cover urban and rural areas.

Paragraph 1. The plan provided in the head paragraph of this article should include, at least:

I – the guidelines for the public functions of common interest, including strategic projects and priority actions for investments;
II – the macro-zoning of the urban territorial unit;
III – the guidelines in regard to the articulation of Municipalities to parceling, use and occupation in urban land;
IV – the guidelines in regard to the inter-sectoral coordination for public policies related to the urban territorial unit;
V – the delimitation of areas with restrictions on urbanization aimed at protecting environmental or cultural heritage, as well as areas subject to special control due to the risk of natural disasters, if any; and
VI – the system for monitoring and control of its provisions.

Paragraph 2. In the process of drafting the plan provided in the head paragraph of this article and overseeing its application, the following shall be ensured:
I – holding public hearings and debates with the participation of representatives of civil society and the population, in all Municipalities part of the urban territorial unit;
II – publishing documents and information produced; and
III –follow-up by the Public Prosecutor's Office.

CHAPTER V
OF THE ACTIONS OF THE UNION

Section I. The Union's Support of Integrated Urban Development

Article 13. In its actions included in the national policy for urban development, the Union will support initiatives of the States and Municipalities directed to inter-federative governance, observing the guidelines and objectives of the multi-year plan, the goals and priorities set by the budget guideline laws, and the limit of availability provided by the annual budget laws.

Article 14. For the Union's support of inter-federative governance in a metropolitan area or in an urban agglomeration, it will be required that the urban territorial unit has the full management, according to subparagraph III of the head paragraph of article 2 of this Law.

Paragraph 1. In addition to the provisions of the head paragraph of this article, the Union's support for inter-federative governance in a metropolitan area requires compliance with subparagraph VII of the head paragraph of article 2 of this Law.

Paragraph 2. The support of the Union for the elaboration and revision of the integrated urban development plan according to articles 10 to 12 of this Law.

Paragraph 3. Additional requirements for the Union's support to inter-federative governance shall be established for further regulation, as well as for micro-regions and cities referred to in paragraph 1 of article 1 of this Law and for the public consortia established for acting in public functions of common interest in the field of urban development.

Article 15. A metropolitan area instituted by means of a complementary state law that does not meet the criteria according to subparagraph VII of the head paragraph of article 2 of this Law shall be classified as urban agglomeration for the purpose of public policies under the responsibility of the Federal government, regardless of whether the actions in this regard involve or not the transfer of financial resources.

Article 16. The Union shall maintain actions toward the integration between twin cities located along the frontier with other countries, in relation to urban mobility, according to Law No. 12,587, of January 3, 2012, and other public policies related to urban development.

Section II. The National Fund of Integrated Urban Development

Article 17. (VETOED) The National Fund for Integrated Urban Development (FNDUI) is hereby established, for both accounting and financial purposes, with the aim of raising financial resources and supporting actions of inter-federative governance in metropolitan areas and in urban agglomerations, in micro-regions and cities referred to in paragraph 1 of article 1 of this Law and in public consortia established for acting in public functions of common interest in the field of urban development.

Article 18. (VETOED) The resources of FNDUI comprise:
I – (VETOED) budget funds from the Union destined to it;
II – (VETOED) resources arising from the apportionment of costs among states and municipalities, related to the provision of services and realization of works related to the public functions of common interest;
III – (VETOED) contributions and donations from individuals or legal entities;
IV – (VETOED) contributions from entities and organizations for national or international cooperation;
V – (VETOED) operational and property revenues from operations undertaken with the Fund's resources; and
VI – (VETOED) other resources that may be allocated to it as prescribed by law.

Paragraph 1. (VETOED) The application of FNDUI's resources shall be supervised by a deliberative council, with the participation of the Union, the States and the Municipalities, as well as representatives of civil society.

Paragraph 2. (VETOED) The regulation shall provide for FNDUI's management body and the technical advisory group to the Fund.

Paragraph 3. (VETOED) It is forbidden the use of FNDUI's funds for the payment of debts and meeting fiscal deficits of bodies and entities of any level of government.

Paragraph 4. (VETOED) The resources referred to in subparagraph II of the head paragraph of this article, if allocated by a State, can only be applied in that very unit of the Federation and, if allocated by a Municipality or by the Federal District, in that very metropolitan area or urban agglomeration to which it belongs.

CHAPTER VI
FINAL PROVISIONS

Article 19. (VETOED) Subject to the prohibition of its division into Municipalities established in the head paragraph of article 32 of the Federal Constitution, the Federal District may integrate a metropolitan area or urban agglomeration, applying to it the provisions in article 4 and the other provisions of this Law.

Article 20. The application of the provisions of this Law shall be coordinated by public entities that integrate the National System of Urban Development – SNDU, ensuring the participation of civil society.

Paragraph 1. SNDU shall include a subsystem of metropolitan planning and information, coordinated by the Union and with the participation of state and municipal governments, as prescribed by regulation.

Paragraph 2. The subsystem of metropolitan planning and information shall gather statistical, cartographic, environmental, and geological data and other relevant data for the planning, management and execution of public functions of common interest in metropolitan areas and urban agglomerations.

Paragraph 3. The information referred to in paragraph 2 of this article shall be preferably geo-referenced.

Article 21. The following shall incur administrative misconduct under the terms of Law No. 8,429, of June 2, 1992:
I – the governor or public officer engaged in the inter-federative governance structure that fails to take the necessary steps to:
a) ensure the compliance of the provisions of the head paragraph of article 10 of this Law, within 3 (three) years of the institution of the metropolitan area or the urban agglomeration by means of a state complementary law;
b) draft and approve, within 3 (three) years, the integrated urban development plan for the metropolitan areas or the urban agglomerations instituted until the date of entry into force of this Law by means of a complementary state law;
II – the mayor who fails to take the necessary steps to ensure the compliance of the provisions of paragraph 3 of article 10 of this Law, within 3 (three) years from the approval of the integrated urban development plan by means of a state law.

Article 22. The provisions of this Law shall apply, whenever pertinent, to integrated development regions [RIDEs] that have characteristics of a metropolitan area or urban agglomeration, created by means of a federal complementary law, based on article 43 of the Federal Constitution, until the date of entry into force of this Law.

Sole paragraph. From the date of entry into force of this Law, the establishment of urban territorial units that involves Municipalities belonging to more than one State shall occur as prescribed by article 4, without prejudice of the possibility of setting up inter-municipal consortia.

Article 23. Independent of the provisions of this Law, Municipalities may formalize cooperation agreements and constitute public consortia to operate in public functions of common interest in the field of urban development, subject to Law No. 11,107, of April 6, 2005.

Article 24. Law No. 10,257, of July 10, 2001, shall apply with the following article 34-A:

> "Article 34-A. In metropolitan areas or in urban agglomerations instituted by a complementary state law, inter-federative urban partnership operations may be undertaken when approved by specific state laws.

Sole paragraph. The provisions of articles 32 to 34 of this Law apply to inter-federative urban partnership operations set forth in the head paragraph of this article, whenever pertinent."

Article 25. This Law shall take effect on the date of its publication.

Brasília, January 12, 2015; 194th of the Independence and 127th of the Republic
(DILMA ROUSSEFF, Joaquim Levy, Nelson Barbosa, Gilberto Kassab)

Appendix II: Interview guide

Topic 1: Local planning system — municipal master plan

1. Does the municipality have an enacted master plan (after the 2001 Statute of the City)?
2. What were the main problems with its drafting and implementation?
3. Is the municipal master plan being reviewed or has it already been reviewed?
4. What are the differences between the drafting and reviewing processes between the previous and current municipal master plans?

Topic 2: Metropolitan dynamics — role of a municipal federated entity

According to the Statute of the Metropolis (Law No. 13,089 of 2015) and the understanding of the Federal Supreme Court (ADI No. 1,842 of 2013), the metropolitan issue concerns a division of powers among federated entities (especially with respect to decision-making power and the financing of public functions of common interest).

1. What is the current municipal administration's view of belonging to a metropolitan area? What are the burdens and benefits?
2. What is the predominant role (or roles) of your municipality in the metropolitan area? Hub, periphery, or dormitory? Are there major industries, agriculture areas, or leisure facilities?
3. Is there any conflict with neighboring municipalities or with the municipal hub where your municipality would like to have greater decision-making power?

Topic 3: Metropolitan dynamics — metropolitan-scale land conflicts

This study focuses on land conflicts, not local ones, but those identified as metropolitan. For example, the metropolitan area of Baixada Santista includes land connected to the international port of Santos where there are informal settlements preventing the expansion of facilities of metropolitan/national interest. In the metropolitan area of Vale do Rio Cuiabá, land has been acquired for the implementation of housing projects through the MCMV housing program, where part of the population living in favelas in the municipality of Cuiabá have not become used to the distance of the new settlements in the municipality of Várzea Grande, and '*re-favelized*' neighborhoods of the municipality of Cuiabá.

1. What areas do you consider — within the boundaries of your municipality — to have land conflicts of a metropolitan nature or on a metropolitan scale?

Topic 4: Metropolitan dynamics — municipal autonomy and the metropolitan agency

There are two possible constitutional readings on the issue of municipal autonomy in metropolitan areas. The first is that the municipality is sovereign in its decisions and not subject to external influences. The second is that the municipality depends on metropolitan dynamics and, therefore, its autonomy is relative to the decision-making processes of the metropolitan body.

1. How does the current municipal administration understand the issue of municipal autonomy?
2. What is the role of the metropolitan agency (AGEM) in dealing with municipal autonomy?
3. What is your assessment (positive and negative) of the actions of the metropolitan agency in recent years, especially after enactment of the Statute of the Metropolis in 2015?

[1] The established metropolitan areas were: Belém, Belo Horizonte, Curitiba, Fortaleza, Porto Alegre, Recife, Salvador, and São Paulo (Complementary Law No. 14 of 1973). The metropolitan area of Rio de Janeiro was established in the following year (Complementary Law No. 20 of 1974).

[2] See Appendix I for the full text of the Statute of the Metropolis (as of December 2017).

[3] Originally, metropolitan areas had until January 2018 to complete their PDUIs, but this deadline was extended until December 2021 by Provisional Measure No. 818 of 2018. In June 2018, Federal Law No. 13,683 revoked the deadline and penalty obligations for approving the PDUI.

[4] OODC, established by the 2001 Statute of the City, allows developers to build at higher-than-permitted densities in return for financial compensation to be, theoretically, used for social benefits. Using a standardized formula to calculate the charge levied on developers as established in a municipal master plan, money from OODC is deposited into a fund. A management council, composed of equal numbers of government staff and civil society representatives, is responsible for allocating the money (Friendly 2020).

[5] At the beginning of this study (mid-July 2017), 20 out of the 27 Brazilian states were in serious debt, which likely impacts the outcomes of their adaptation to the Statute of the Metropolis.

[6] In Portuguese, the term '*compatibilização*' is translated as 'making the master plan compatible,' given that there is no word recognizing the process of making something compatible in English.

[7] The Statute of the City (Federal Law No. 10,257 of 2001) requires the review of municipal master plans every 10 years.

[8] After 2011, the master plan for Santos was reviewed in 2013 (Municipal Law No. 821 of 2013) because the municipal government's idea at the time was to review the municipal master plan followed by a review of the Land Use Law. Indeed, reviewing master plans is a precondition to reviewing the Land Use Law. During Mayor Paulo Alexandre Barbosa's first term (PSDB, 2013–2016), the government staff had a progressive attitude towards inclusive policies and redistributive urban planning tools in the Land Use Draft Law's proposal, which displeased representatives from the real estate market. Therefore, in 2013, there was an attempt to regulate and enact several urban planning tools, such as the 'charges for additional building rights' (*Outorga Onerosa do Direito de Construir*, OODC) and others in the draft law. Before the end of the Mayor's first term, real estate market representatives managed to stop the review and enactment of the proposed Land Use Law, and during the Mayor's second term (PSDB, 2017–2020), they successfully pressured the mayor to reassign the planning secretary and advisory board to other government positions. In 2018, the new master plan for Santos was enacted (Municipal Law No. 1,005 of 2018) and it remained as generic as possible, serving only as an excuse to allow the review of the Land Use Law. This time, it incorporated the changes demanded by real estate market actors. To date, no law regulates and enacts the planning instruments that are allowed by the 2001 Statute of the City in Santos. The exception is Municipal Law No. 53 of 1992, which refers to 'special zones of social interest' (ZEIS), and the Municipal Law No. 551 of 2005, which was repealed by Land Use Law No. 1,006 of 2018.