

Challenges on Urban Management: Territorial Units in Ponta Grossa - Brazil

Nisiane Madalozzo ¹

¹ Department of Civil Engineering (of Affiliation), Universidade Estadual de Ponta Grossa, Brazil

*Corresponding Author Email: nmadalozzo@uepg.br

ARTICLE INFO	ABSTRACT
Received: 22 Dec 2024	<p>Ponta Grossa is a Brazilian medium city where the dynamics of urban development have occurred through (re)production of social-spatial inequalities related to natural and anthropic conditionings. Locally, there are several challenges on the urban management. Themes related to urban density and territorial units adequation are specifically addressed. This paper aims to discuss the various challenges encountered for local urban management in Ponta Grossa - PR. First, temporal and spatial context is presented. The author then summarizes the local bibliographical and technical production related to the theme. Affairs on the production, interpretation and application of census data in the proposing of public policies are discussed, such as: the exceeding extension of local neighborhoods; the unstandardized radius of coverage used to analyze urban and community equipment; the territorial extension of the census tracts; the fragmented management decisions among municipal departments. Finally, an experience of cooperation connecting the local municipality, University and IBGE – Brazilian Institute of Geography and Statistics – is briefly presented, picturing interinstitutional arrangements as an alternate panorama for more adequate urban management.</p> <p>Keywords: Interinstitutional cooperation, Medium cities, Territorial units, Urban management.</p>
Revised: 12 Feb 2025	
Accepted: 22 Feb 2025	

CONTEXT AND PURPOSE

Ponta Grossa is a Brazilian city located on the State of Paraná with 372.562 inhabitants estimated (IBGE, 2024). The dynamics of the social production of the space have occurred in Ponta Grossa with sensible influence of its strategic geographic location, as much as the presence of intense hydrographic network and rugged terrain. These contribute for the fragmented and inequal spatial distribution of the population. Both the formation of this urban center and the political decisions that led to the definition of the territorial units occurred due to the road circulation networks and water bodies present in the territory. (MADALOZZO e MONASTIRSKY, 2016; IPLAN, 2019a; MADALOZZO, 2022).

The political neighborhood limits itself reinforces this logic. In Ponta Grossa, most neighborhood centers are coincident to terrain spikes, whereas the valleys – where water bodies are – often define neighborhood dividers. Through the decades, the manifestation of social differences have been occurring explicitly related to these spatial landmarks: non aedificandi areas around waterbodies and railways/roadways have been irregularly occupied and re-occupied, which incurs on urban problems related to both environmental risk and lacking of infrastructure on said areas (NASCIMENTO e MATIAS, 2006; SENE et al, 2020). At the same time, higher areas, with smoother terrain, have suffered different urban dynamics, with significant land overvaluation and the increasing of the density of the occupation. On the last decades, coefficients have been approved in an increasingly permissible manner, despite the little existing infrastructure (MADALOZZO e SOUZA, 2018; STAMOULIS e MADALOZZO, 2023; SENE et al, 2024).

Moreover, in spite of the abundance of urban voids in real estate speculation, urban sprawl has been occurring in Ponta Grossa since the decade of 1980 (OLIVEIRA e SAHR, 2012; LARocca JUNIOR, 2020). Peripheralization,

which has always happened interspersed with the urban fabric, has started to occur on the urban fringes as well, especially social housing complexes. This dynamic has gained power since the implementation of Minha Casa Minha Vida Housing Program, on early 2000s (SCHEFFER, 2006; MARTINS e POLLI, 2018; STAMOULIS e MADALOZZO, 2023). The losses for the population living in these areas are countless, ranging from the difficulty of access adequate infrastructure equipment and networks to the existence of serious conflicts related to the proximity of rural areas, such as direct contact with pesticides used on neighboring crops (DE ARAÚJO LEITE e SCHEFFER, 2021).

This paper aims to discuss the various challenges encountered for local urban management in Ponta Grossa - Brazil. As presented, many of these challenges are related to the inadequacy of the territorial units used.

METHODOLOGY / APPROACH

Regarding urban planning in Ponta Grossa – Brazil, tools such as Urban Master Plans and Sectoral Plans have been developed disconnected from the punctual urban management actions done by the organs of the same municipal government. Analyzing local Master Plans (published in 1967, 1992, 2006, 2022), it is possible to comprehend the same structure repeatedly: extensive and detailed diagnoses are typically followed by proposed corrective actions that are, however, rarely implemented, causing subsequent Master Plan diagnoses to closely mirror previous ones—only with urban issues becoming progressively more severe and urgent.

The current Master Plan was developed with the support of a third-party consultancy, between 2016 and 2019. However, the approval on the City Council has not happened up to 2022 (PONTA GROSSA, 2022). On the strategical section of the document (Caderno Síntese de Revisão do Plano - IPLAN, 2019a, and Relatório 10: Plano de ações e investimentos (PAI) para a Institucionalização do PDM – IPLAN, 2019b), it is determined that several municipal management bodies take responsibility as to yearly guarantee the review of the goals established, as an effort to effectively implement the current Master Plan in spite of the historical difficulties. That is the context in which the Municipality of Ponta Grossa, through the Municipal Infrastructure and Planning Secretary and the IPLAN – Institute of Research and Urban Planning – have sought technical support from the University.

Initially, the cooperation has started specifically to discuss ways to enhance the neighborhood borders. As the GEUR – Group of Urban and Regional Studies– and other researchers of the State University of Ponta Grossa started analyzing the whole context, more demands were identified. As corroborated by authors such as NASCIMENTO e MATIAS (2006), OLIVEIRA e SAHR (2012), MADALOZZO, GADOWSKI e STARON (2024) and others, it is urgent to completely rethink some of the territorial units that have been used in territorial management in Ponta Grossa. In addition to IPLAN/PMPG and GEUR/UEPG, the cooperation encompasses the IBGE – Brazilian Institute to Geography and Statistics – as well. Local representation of IBGE, which is the body responsible for data collections such as the census, for example, endorses the need to seek more adequate borders regarding physical, natural and anthropic characteristics of the municipal territory.

On this paper, the author presents the results of a profound analysis of the bibliographical local production regarding the challenges to urban management encountered in Ponta Grossa, seeking to enlighten the relation among them and the problematic territorial units currently used to manage urban areas.

FINDINGS: CHALLENGES RELATED TO TERRITORIAL UNITS ON URBAN MANAGEMENT IN PONTA GROSSA - BRAZIL

As discussed, in Ponta Grossa there are certain complexities on territorial management, mostly due to its sparse, low-density occupied territory, significantly sprawled. Moreover, the abundance of urban voids, many related to the relieved terrain and water bodies that are hard to transpone, contributing to scarce alternative roads for circulation. The author presents the main challenges identified by the researchers related to the GEUR-IPLAN-IBGE cooperation, specifically on the impact of the territorial units used for local management. The results are originating from the bibliographical review of the local academic production on the themes of urban management, urban plans, municipality actions and other terms related.

In conclusion, the way neighborhood boundaries were historically defined have not contributed to facilitating the urban reading of these realities. Because data on social indicators of residents of the entire neighborhood is grouped into urban diagnoses that promote public policies, there is a great possibility that certain perspectives will be made invisible.

Census sectors defining data isolation on cases of low dense occupations

Decisions regarding urban management make extensive use of information provided periodically through the Census conducted by the IBGE. If, in readings of data on social indicators grouped by neighborhood, the authors realize that certain dynamics escape the view of researchers and public managers, greater depth of information could be sought by isolating data in more specific territorial units. Census sectors are the smallest unit to which the specification of population data can be reduced, such as information on income, education, population composition, among others. It is from this smaller territorial scale that data can be aggregated on a municipal, urban, district, or neighborhood scale (IBGE, 2024).

Thus, Census Sectors are subdivisions of neighborhoods. When defining the layout of the sectors, these boundaries between neighborhoods, physical barriers that are difficult to overcome (such as rivers, railroads, etc.) and other elements, such as important urban roads, are taken into consideration. In order to ensure continuity in the interpretation of data collected at different times, the census sectors remain the same since their delimitation. In general, Census Sectors are composed of 200 to 400 households. In the case of substandard clusters – identified by IBGE agents due to the characteristics of the properties and the lack of infrastructure to serve them – a separate sector is created when there are 50 or more households in the occupation. In cases where there are few households in substandard conditions, less than 50 units, the cluster is not isolated, and the data on irregular occupations are incorporated into those of the other properties in the census sector in which they are located.

In Ponta Grossa, where urban occupation is primarily horizontal and mainly not dense, the fact that there is always a grouping of at least 200 households in each census sector makes them large enough that each one covers 15, 20 or more blocks so they may reach the minimal stipulated. Still, as can be seen in Figure 7, occupations just a few meters apart can have completely different patterns. It is possible to notice, by simple observation, that there are clear inequalities in the same block or in neighboring blocks, in various parts of the city. Since individual data of each of these households are not available to urban managers, for the data are aggregated on the census sector, there clearly are data invisibilities as to poverty interspersed in middle-class neighborhoods.

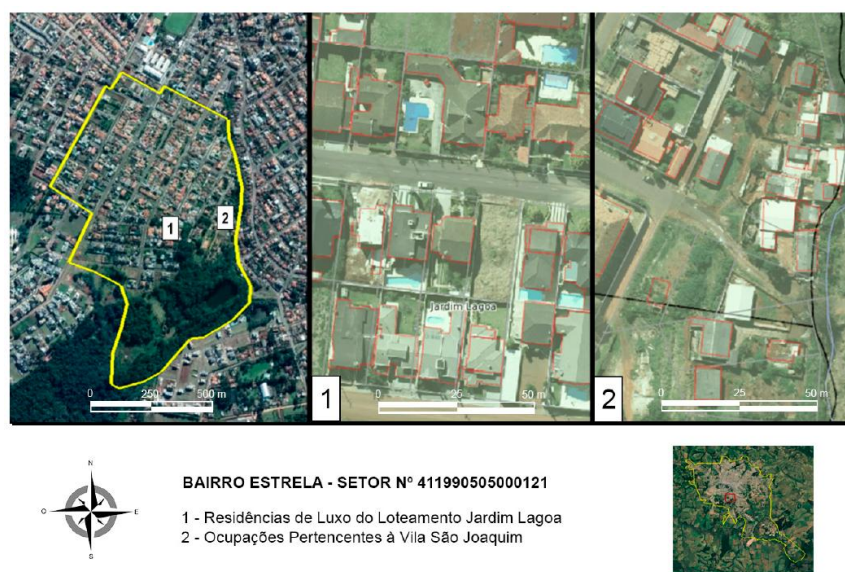


Figure 7: Example of an extense Census Sector on *Estrela* neighborhood in Ponta Grossa. Source: MADALOZZO, 2022.

Diagnoses of urban infrastructure equipment and networks based solely on the analysis of coverage radius

The development and assessment of the adequacy of urban and community public facilities in Ponta Grossa, particularly with respect to their quantity and spatial distribution, is extensively addressed in the 2022 Master Plan (IPLAN, 2019a). This plan frequently indicates that a significant portion of the urban area is well-served by facilities related to health, education, transportation, urban infrastructure, and other essential services. However, when the analysis exclusively focuses on the coverage radius of each facility—a technique commonly employed in local urban planning efforts—the outcomes suggest an overly positive view of the implementation policies. The quantity and distribution of these facilities are often regarded as adequate to meet the needs of the entire population (MADALOZZO, GADOWSKI, AND STARON, 2024).

However, a more in-depth examination of Ponta Grossa's urban space, focusing on aspects overlooked in this initial assessment, reveals that the coverage radius methodology is inadequate as the sole analytical tool for ensuring access to the networks and services provided. While this technique serves as a useful preliminary approximation of local demands, it fails to account for critical technical factors, such as topography, discontinuities in the road network, and physical barriers—both insurmountable and those that impede circulation.

Besides that, urban density has not been taken into consideration on the diagnoses executed to support equipment distribution policies in Ponta Grossa, as noted by Madalozzo, Gadowski and Staron (2024). Clearer comprehension of the actual covery of said services would depend on variables that go far beyond the simple spatial delimitation of their service areas. Still, even if the equipment were numerically sufficient, and adequately distributed in the territory, simple existence of buildings such as health centers, schools, sport courts or others does not guarantee actual accessibility to the population.

The main point of attention is the fact that much of the urban planning and management of these facilities has been done based exclusively on the reading of coverage radii. In the 2022 Master Plan (IPLAN, 2019a), there is not even a methodological explanation regarding the reasons for adopting the values chosen for each type of facility.

Neighborhoods with heterogeneous characteristics and excessive territorial extension

In an attempt to make it easier for citizens and visitors to read the city, and in a way that is very present in texts that deal with the image of the city and what is considered a good form for the city, it is common to understand a 'neighborhood' as a relatively large portion of the territory, which presents certain characteristics that are minimally convergent, and that differ from others, enough as to be read as a unit. This general view of what a neighborhood is is present in works such as *Urban Landscape*, by Gordon Cullen (1961); *The Death and Life of Great American Cities*, by Jane Jacobs (1961); *The Image of the City*, by Kevin Lynch (1982), and many other authors who discuss the city and the landscape.

Excessive size and noticeable heterogeneity in-neighborhood is a matter pointed on the 2022 Master Plan (IPLAN, 2019b), which recommends a review of the neighborhood boundaries in Ponta Grossa. With the perimeter expansions described previously, there are cases of neighborhoods with clearly disproportionate boundaries when compared to others. Besides, in neighborhoods with vast territorial extension, a diversity of vocations can be noted: there are cases in which a portion of the neighborhood presents typically industrial characteristics and infrastructure, for example, while other urban areas completely diverge from this logic.

On Figure 8, presenting the Social Services facilities on Uvaranas Neighborhood, it is noticeable that there is lack of coverage of this type of service, and also, that riverbanks, railroads and urban voids impact significantly on the pattern of occupation even though it is one only neighborhood pictured. There are major differences between the dynamics that occur in the vicinity of the central avenue of this neighborhood, for example, and those experienced by residents on the banks of urban voids, whether rivers and their non-buildable areas, the campus of the State University of Ponta Grossa or the facilities of the 13th Armored Infantry Battalion, which act as traffic blocks in many cases. This situation does not only occur in Uvaranas, but throughout the entire urban perimeter of Ponta Grossa.

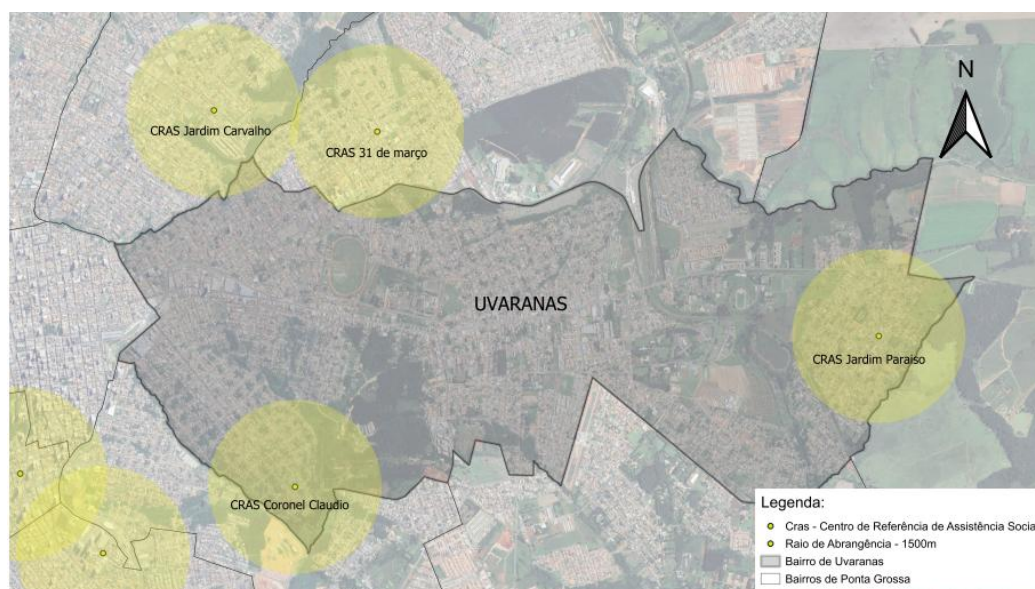


Figure 8: Social services facilities and coverage radius in *Uvaranas* neighborhood– Ponta Grossa. Source: Google Satellite, 2024, with data from IPLAN, 2019a.

Fragmented urban management and divergent territorializations

In addition to the usual discontinuity and fragmentation caused by the alternation of political groups in the municipality, it has been possible to identify striking inconsistencies in the management of actions carried out by different bodies of the Municipal Government of Ponta Grossa. Citing researchers of the local reality: DE FÁTIMA FLACH and DA SILVA SAKATA (2016), who discuss municipal education; MIRANDA and LUIZ, (2016) and Cruz et al (2023), who deal with health management; PEREIRA et al (2024), regarding welfare establishments and many others already mentioned in this document. In line with many scholars of the reality and planning of Ponta Grossa, the authors of this text also identify conflicts between the different management bodies and within each of them. Among the most serious problems, the unavailability or lack of interest in keeping georeferenced cartographic bases and other databases common to public administration fully updated and accessible is noteworthy.

Another significant problem is the fact that the diagnoses contained in the current Master Plan, as well as the proposals developed based on these diagnoses, follow systems for interpreting urban space that are not necessarily the same as those used by the Secretariats and Superintendencies to guide their actions. As an example, we can mention the fact that health, education or social assistance facilities, although their sufficiency and locational suitability are presented in the Current Master Plan based on the metric of coverage radius, have their implementation logic based on specific territorializations, which are different from each other and decided autonomously by those responsible for each of the agencies.

CONCLUSIONS

Given the many complex, historically consolidated problems with little prospect of a definitive resolution, the following is an experience report on inter-institutional cooperation that has proven to be an interesting potential strategy for dealing with the issues raised throughout this text. Whether by simply recording and reporting the situations identified or, in a more utopian and hopeful perspective, so that there is a significant improvement by the population in the way urban planning and management actions are handled locally.

In June 2024, cooperation between GEUR and IPLAN/PMPG was established, and an invitation was also extended to IBGE – Brazilian Institute of Geography and Statistics to collaborate with the discussions and proposals. After investigating and understanding the problems presented by PMPG and IPLAN employees, GEUR members proposed an action plan for 2024 and 2025, with only the first stage of the actions having been carried out until present date.

Given the diversity of areas of knowledge involved in the issues raised, GEUR proposed the creation of a group of researchers, teachers and professionals specialized in each of the knowledge sectors involved in the theme. Thus, study and work meetings are being held, aiming at the technical contribution of professionals in determining criteria and guidelines for the new way of thinking about the limits of Ponta Grossa territorial units. The operationalization of the actions has been carried out by members of GEUR, and it is proposed that the georeferenced cartographic modeling of these proposals be carried out by students of the Civil Engineering and Geography courses at UEPG, in extension curricular actions that will take place in the 2025 school year.

Thus, professors from various departments of the State University of Ponta Grossa and also professionals from other agencies and institutions are involved in the project, in a technical committee format. As in the experience of MAROSTEGAN and CARNEIRO (2017), DIAS et al (2023) and DE VASCONCELOS CASIMIRO (2024), the group has been looking for ways for cooperation between the government and universities in tackling urban management difficulties. It is understood that research centers, study groups and other entities at the core of universities have the potential to make an effective contribution not only in the field of technical advice, but also because of the powerful endorsement that these institutions carry. Ultimately, it is the responsibility of the University, particularly public institutions, to actively foster inter-trans-disciplinarity and drive innovation in addressing the daily challenges faced by society.

The actions of GEUR and all participants in the 'Technical-Scientific Support Extension Project for the review and reconfiguration of the territorial boundaries of the neighborhoods of the Municipality of Ponta Grossa' are still in their initial phase. The success in bringing together professionals and researchers from so many different institutions and knowledge sectors, in pursuit of such a relevant and transdisciplinary objective is a type of cooperation rarely seen in the context of Ponta Grossa, and a reason for expectation. There is potential for this to be just the first step among all the interinstitutional cooperation that can be promoted in the context of Ponta Grossa.

REFERENCES

- [1.] CASTRO, L. de. **Invisibilidade das favelas de Londrina nos dados censitários do IBGE: implicações nos diagnósticos urbanos de vulnerabilidade**. Dissertação (Mestrado em Geografia) - Universidade Estadual de Londrina, 2024. Available at <https://tinyurl.com/zye4dmnz>.
- [2.] CRUZ, L.; BINI, P. J.; COSTA, C. **Controle social e a dinâmica das redes interinstitucionais: um estudo sobre o Conselho Municipal de Saúde de Ponta Grossa**. Anais da Jornada Científica dos Campos Gerais, v. 21, 2023. Available at <https://iessa.edu.br/revista/index.php/jornada/article/view/2495/1053>.
- [3.] CULLEN, G. **Paisagem Urbana**. 1961. Lisboa: Edições, 1996.
- [4.] DE ARAÚJO LEITE, C. M.; SCHEFFER, S. M. **Os Riscos do uso de agrotóxicos na saúde da população de Ponta Grossa-PR**. In: POLÍTICAS PÚBLICAS E MOBILIDADE URBANA: UMA COMPREENSÃO CIENTÍFICA DA ATUALIDADE. Editora Científica Digital, 2021. p. 258-274. Available at <https://downloads.editoracientifica.com.br/articles/210102827.pdf>.
- [5.] DE FÁTIMA FLACH, S.; DA SILVA SAKATA, K. L. **O princípio da gestão democrática na educação pública e sua efetivação no âmbito do sistema municipal de ensino de Ponta Grossa-PR**. Revista Brasileira de Política e Administração da Educação, v. 32, n. 2, p. 549-569, 2016. Available at <https://seer.ufrgs.br/rbpae/article/view/63863>.
- [6.] DE VASCONCELOS CASIMIRO, M. et al. **A cooperação entre poder público e universidade no enfrentamento às mudanças climáticas: o Plano de Trabalho entre a Prefeitura de Suzano e a FAU-Mackenzie**. In: Seminario Internacional de Investigación en Urbanismo. Universitat Politècnica de Catalunya, Grup de Recerca en Urbanisme, 2024. Available at <https://upcommons.upc.edu/handle/2117/404233>.
- [7.] DIAS, F. T.; PEREIRA, D. M.; CLEMENTE, C. M S. **Planejamento Urbano no contexto da Pesquisa e Extensão: Reflexões e contribuições de um Centro de Pesquisa Aplicada no Sudoeste do Semiárido baiano**. Urbe. Revista Brasileira de Gestão Urbana, v. 15, p. e20220130, 2023. Available at <https://www.scielo.br/j/urbe/a/Ck4TLYKWnmJvzbw6ypMtqwj/>.

- [8.] IBGE. **Censo Demográfico 2022: Ponta Grossa**. 2022. Available at <https://www.ibge.gov.br>.
- [9.] IPLAN. **Caderno Síntese: revisão do Plano Diretor de Ponta Grossa**, 2019a. 178 p. Available at <https://iplan.pontagrossa.pr.gov.br/plano-diretor-participativo-2018/>.
- [10.] IPLAN. **Relatório 10: Plano de ações e investimentos institucionalização do PDM**. Sistema de planejamento e gestão: estrutura organizacional - ações da 4^o fase, volume 01, 02 e 03. Revisão do Plano Diretor Municipal de Ponta Grossa, 2019b. 678 p. Available at <https://iplan.pontagrossa.pr.gov.br/plano-diretor-participativo-2018/>.
- [11.] JACOBS, J. **Morte e vida de grandes cidades**. 1961. 3a Edição. São Paulo: Editora WMF Martins Fontes, 2011.
- [12.] LARocca JUNIOR, J. **O papel dos programas habitacionais públicos na expansão das periferias em cidades médias: custos financeiros e sociais das práticas recentes em Ponta Grossa (PR)**. 2020. Tese de Doutorado. Universidade de São Paulo. Available at <https://www.teses.usp.br/teses/disponiveis/16/16133/tde-29032021-002037/>.
- [13.] LYNCH, K. **A imagem da cidade e seus elementos**. Lisboa: Edições, v. 70, p. 57-102, 1982.
- [14.] MADALOZZO, N.; MONASTIRSKY, L. B. **Memória social e cidade contemporânea: o velho centro ferroviário de Ponta Grossa-PR**. Patrimônio e memória, v. 12, n. 2, p. 232-253, 2016. Available at <https://dialnet.unirioja.es/servlet/articulo?codigo=5762466>.
- [15.] MADALOZZO, N.; SOUZA, E. B. C. de. **Hidrografia urbana: desigualdade socioespacial em áreas irregulares em Ponta Grossa, Paraná/Brasil**. Revista NUPEM, v. 10, n. 21, p. 34-51, 2018. Available at <https://periodicos.unespar.edu.br/index.php/nupem/article/view/5577>.
- [16.] MADALOZZO, N. **Rio e ferrovia: a produção social do espaço urbano em Ponta Grossa-PR**. Porto Alegre, RS: Editora Fi, 2022. Available at <https://www.editorafi.org/ebook/459nisiiane>.
- [17.] MADALOZZO, N.; BARRETO, G. **Repensando a habitação de interesse social em Ponta Grossa-PR: Alternativas diante dos desafios contemporâneos**. Revista Arquitetura e Lugar, v. 2, n. 7, p. 60-74, 2024. Available at <https://revistas.editora.ufcg.edu.br/index.php/arql/article/view/4386>.
- [18.] MADALOZZO, N.; GADOWSKI, M. A.; STARON, G. **Metodologia de análise da distribuição de equipamentos públicos em uma cidade média: estudo de caso no bairro Chapada em Ponta Grossa – PR**. Revista Políticas Públicas & Cidades, v. 13, n. 2, p. e1101-e1101, 2024. Available at <https://journalppc.com/RPPC/article/view/1101>.
- [19.] MAROSTEGAN E CARNEIRO, D. **A extensão universitária e o campo das assessorias técnicas**. Anais ENANPUR, v. 17, n. 1, 2017. Available at <https://anais.anpur.org.br/index.php/anaisenanpur/article/view/1994>.
- [20.] MARTINS, B. C.; POLLI, S. A. **Tanta gente sem casa, tanta casa sem gente: O direito ao centro da cidade**. Emancipação, v. 18, n. 1, p. 94-111, 2018.
- [21.] MIRANDA, P. F. M.; LUIZ, D. E. C. **Ações estratégicas desconectadas da Política de Saúde nas Conferências de Saúde de Ponta Grossa/PR: óbice à efetiva participação social**. Emancipação, v. 16, n. 2, p. 303-316, 2016. Available at <https://revistas.uepg.br/index.php/emancipacao/article/view/8842>.
- [22.] NASCIMENTO, E.; MATIAS, L. F. **O processo de favelização na cidade de Ponta Grossa (PR): notas sobre a dinâmica recente (1989-2004)**. Simpósio Nacional o Rural e o Urbano no Brasil, 2006. Available at <https://tinyurl.com/248j9wrp>.
- [23.] OLIVEIRA, A. C. R.; SAHR, C. L. L. **Induções nas transformações do uso e ocupação do solo urbano em Ponta Grossa-PR**. Terr@ Plural, v. 6, n. 1, p. 109-124, 2012. Available at <https://revistas.uepg.br/index.php/tp/article/view/3310>.
- [24.] PERA, C. K. L.; BUENO, L. M. de M. **Revendo o uso de dados do IBGE para pesquisa e planejamento territorial: reflexões quanto à classificação da situação urbana e rural**. Cadernos Metr pole, v. 18, n. 37, p. 722-742, 2016. Available at <https://www.scielo.br/j/cm/a/q6McCKhzM9dSK3KyQPykHCQ/>.
- [25.] PEREIRA, S.; SCHEFFER, S. M.; DE ARA JO LEITE, C. M. **O direito   cidade sob a perspectiva da interterritorialidade dos equipamentos de sa de e assist ncia social no Munic pio de Ponta Grossa**. In: Congresso Internacional de Pol tica Social e Servi o Social: desafios contempor neos; Semin rio

- Nacional de Território e Gestão de Políticas Sociais; Congresso de Direito à Cidade e Justiça Ambiental. 2024. p. e3859-e3859. Available at <https://anais.uel.br/portal/index.php/conserdigeo/article/view/3859>.
- [26.] SCHEFFER, S. M. **Espaço urbano e política habitacional: uma análise sobre Ponta Grossa**. Emancipação, v. 6, n. 1, 2006. Available at <https://revistas.uepg.br/index.php/emancipacao/article/download/82/80>.
- [27.] SCHEFFER, S. M.; DOS SANTOS, C. S. **O Serviço Social na política urbana: questões provenientes da relação urbano-rural em Ponta Grossa**. Brazilian Journal of Development, v. 6, n. 4, p. 21429-21439, 2020. Available at <https://ojs.brazilianjournals.com.br/ojs/index.php/BRJD/article/view/9251>
- [28.] SENE, T. S.; DOS SANTOS, C. S.; SCHEFFER, S. M.; DE MOURA, R. R.; DA COSTA, L. C. **Política urbana da cidade de Ponta Grossa/PR: a ordenação do solo urbano e a sua relação com os recursos hídricos**. Serviço Social em Revista, v. 23, n. 1, p. 160-177, 2020. Available at <https://ojs.uel.br/revistas/uel/index.php/ssrevista/article/view/38549>.
- [29.] SENE, T. S.; DA COSTA, L. C.; SCHEFFER, S. M. **Indicativos de gentrificação na cidade de Ponta Grossa, PR: uma análise a partir da relação entre a legislação urbana municipal e as transformações no espaço urbano**. Terr@ Plural, v. 18, p. 1-19, 2024. Available at <https://revistas.uepg.br/index.php/tp/article/view/22539>.
- [30.] STAMOULIS, K. V. G.; MADALOZZO, N. **Expansão urbana em Ponta Grossa-PR: uma análise sobre seu processo e suas consequências**. Revista Ciência Geográfica, v. 27, n. 4, p. 2715-2739, 2023. Available at <https://ppg.revistas.uema.br/index.php/cienciageografica/article/view/3581>.