

An Ancient City for People or Profit?

Urban Greening Discourse and Practice: A Mixed-Method Case Study of Plovdiv, Bulgaria

Nadezhda Dimitrova

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Supervisor: Melissa García, LUCSUS, Lund University

Abstract:

Following the collapse of socialism in 1989, Eastern European countries experienced rapid socio-spatial reorganization causing a significant loss of urban greenspace (UGS). Greenspaces provide socio-environmental benefits, making them a crucial component of urban sustainability. This study explores the development of greenspace in Plovdiv (Bulgaria), which serves as a case study to understand discourses related to greenspace and the spatial developments of UGS between 2006 and 2023. Using Fairclough's critical discourse analysis approach coupled with GIS analysis, I identify and build a typology of three leading discourses on greenspace related to ideas of the Ancient City, the Livable City, and the Attractive City. Among other findings, the GIS analysis revealed that greenspace increased before rapidly declining after 2018, mostly due to commercial pressures. An instance of urban inequity towards a minority community was identified. These results provide insight into how UGS planning relates to critical urban theory and sustainable urban development.

Keywords: Urban greenspace, post-socialist cities, GIS analysis, critical discourse analysis, urban sustainability, critical urban theory

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Acronyms and Abbreviations

CDA	Critical Discourse Analysis
CEE	Central and Eastern Europe
CUT	Critical Urban Theory
EE	Eastern Europe
EU	European Union
GIS	Geographic Information Systems
RQ	Research Question
UGS	Urban Greenspace

1. Introduction

With over half of the world's population inhabiting them, cities have become the “defining ecological phenomenon of the 21st century” (While & Whitehead, 2013, p. 1325). This trend is expected to continue with as much as 70% of the global population expected to live in cities by 2050 (World Bank, 2023). As a result of the concentration of people and activities, “what happens in cities will drive the global outcomes of climate change” (While & Whitehead, 2013, p. 1325). Simultaneously, how cities develop will determine urban populations' ability to mitigate and adapt to the impacts of climate change. The sustainable development of cities thus plays a key role in the broader efforts to mitigate and adapt to climate change, whilst also making cities livable for current and future generations.

Urban greenspaces (UGS), which I define as “vegetation found in the urban environment, including parks, open spaces, residential gardens” following Kabisch and Haase (2013, p. 113), have stood out as a solution in urban planning that can provide an array of socio-ecological functions necessary for creating more livable cities. As a result, UGS and its benefits have been extensively studied. *How* greenspaces have developed in cities has also gained much academic attention (Beer et al., 2003; Colding et al., 2020; Dallimer et al., 2011; Kabisch & Haase, 2013). Many cities worldwide have experienced losses of greenspace driven by economic motives (Colding et al., 2020); however, much of the literature studying this has been focused on Western European and North American cities. More recently, a growing number of studies have documented the impacts on greenspace in the Global South due to rapid urban developments (Anguelovski, Irazábal-Zurita, et al., 2019; Enkhbold & Matsui, 2022; Zhou et al., 2018). Nevertheless, a region that lies between the blurry margins of the developed and developing world is post-socialist Eastern Europe, which remains profusely understudied (Ferenčuhová & Gentile, 2016). Because of this, not much is known about the sustainable development of cities in this region, particularly in relation to greenspaces.

Due to their specific socio-historical developments, Central and Eastern European (CEE) cities provide a unique case of post-socialist urban expansion. The few comprehensive studies that document the changes in UGS in CEE show that Eastern European cities have experienced greenspace losses in the post-socialist transition period between 1990 and 2006 (Kabisch & Haase, 2013). Similarly, studies on urban residents' availability to greenspace show much lower levels of UGS in South-Eastern Europe compared to Western Europe (Kabisch et al., 2016). Apart from the direct negative effects of insufficient UGS, declining greenspace also causes baseline shifts in which each new generation perceives “the current condition of the [urban] ecosystem as normal” (Colding et al., 2020, p. 1).

Greenspaces gradually decrease due to 'day-to-day' planning adopted by authorities who "tr[y] to satisfy the short-term requirements of industry and commerce, and tend to emphasize the economic dimension of sustainable development" (Nilsson, 2007, p. 441). Brenner et al. (2012) thus criticize the neoliberal economic imperatives behind contemporary urban planning and advocate for *Cities for People, not for Profit*.

Greenspace provision is part of the broader balancing act of urban planning that aims to satisfy social, economic and environmental objectives at the same time (Campbell, 1996). In the case of the post-socialist cities, this balancing act is further complicated by the post-socialist transition processes, in which free-market development imperatives prevailed over sustainable practices. Unfortunately, the studies documenting changes in UGS in Eastern Europe only reflect developments up until 2006. Comprehensive studies of the current condition of greenspaces in post-socialist Eastern Europe are lacking. As a result, little is known about the spatial developments of greenspace in the last two decades, as well as the overall UGS planning in the region. To contribute to this research gap, this thesis investigates urban greenspace developments in the context of Bulgaria - Eastern Europe's most understudied post-socialist country (Hirt, 2012).

1.1 Research Problem and Aim

Drawing from the experience of the Bulgarian city of Plovdiv, this thesis aims to explore the development of greenspace in a historical context of post-socialist urban planning which has prioritized economic development over nature preservation and societal benefit. Existing research has illustrated that the shift to a free-market economy has had a negative impact on the provision of greenspace in Bulgarian cities between 1990 and 2006 (Hirt & Stanilov, 2007; Kabisch et al., 2016; Kabisch & Haase, 2013). The developments of urban greenspace (UGS) in the past two decades, however, have not been studied and documented. Thus, the overarching aim of this thesis is to understand how the interaction between economic development and socio-ecological sustainability objectives has played out by exploring greenspace development in terms of urban planning discourse and practice in Plovdiv. The study maps UGS developments after 2006 and analyzes all urban planning documents from 2005 onwards. The research problem is addressed by answering the following research questions:

1. *What are the dominant discourses on urban greenspace articulated in Plovdiv's urban planning?*
 - 1.1. *How have the discourses changed over the period of this study?*
2. *How have greenspace area and spatial availability in Plovdiv changed after 2006?*
 - 2.1. *What pressures on greenspace can be identified?*

3. *How are urban greenspace discourse(s) and practice(s) connected in the context of Plovdiv?*

1.2 Contribution to Sustainability Science

By delving into the topic of urban greenspaces and answering the posed research questions, I aim to contribute to the knowledge on sustainable urban development. The implications of the global trend of increasing urban populations are two-fold. On the one hand, the increasingly frequent extreme weather events occurring in cities will impact infrastructure and livelihoods that affect large portions of the population (IPCC, 2023). On the other hand, due to the concentration of people and activities, cities are a considerable source of greenhouse gasses and pollution which have impacts on both the direct living environment, as well as the global natural systems (Kumar, 2021; UN Environment, 2017). Thus, studying the development of cities has taken a central position in sustainability studies (Benton-Short & Short, 2013).

Furthermore, by choosing the city of Plovdiv as a case study, I aim to contribute to the socio-spatial studies of sustainable urban development in Bulgarian cities, which are severely understudied (Hirt, 2012). Despite their historical specificities, CEE countries and Bulgaria in particular have not received much academic attention (Ferenčuhová & Gentile, 2016). This is especially true in relation to their sustainable development. Thus, I aim to expand the corpus of knowledge in this region by exploring the (un)sustainable urban developments in a post-socialist city.

1.3 Thesis Roadmap

After this short introductory chapter, the thesis follows the following structure. *Chapter 2* introduces the theoretical framework which includes perceptions of greenspace, post-socialist cities' position in urban studies, the broader critical urban theory, as well as the role of discourse in policymaking and society. *Chapter 3* then introduces the methodology I employ in this study. *Chapter 4* presents the case study and provides important contextual information that illuminates why this case is worth examining. *Chapter 5* reveals the findings of the discourse and spatial analyses, whereas the discussion in *chapter 6* places the results in relation to the sociohistorical context and existing academic literature. Finally, in *chapter 7* I provide a succinct conclusion with suggestions for potential pathways for further research.

2. Theoretical Framework

2.1 Urban Greenspace and Livability

Promoting sustainable urban development is high on the global agenda (European Commission, n.d.-b; United Nations, n.d.). However, the quest of achieving urban sustainability is highly complex and contested. The ideal of sustainable cities lies between the blurry lines of environmental conservation, social justice and economic development (Campbell, 1996). Urban planning involves dealing with the clash between these priorities. Recently, livability has gained traction as a term that encapsulates cities' quality of life based on a combination of these imperatives. Livability constitutes livelihood (socio-economic equity), on the one hand, and environmental protection on the other (Evans, 2002; Kashef, 2016; Paul & Sen, 2020). Studies have pointed to greenspace as a core component of the physical environment that contributes to urban livability due to the multiplicity of benefits it provides (Parker & Simpson, 2018; Węziak-Białowolska, 2016; Zhan et al., 2018).

2.1.1 Benefits of Urban Greenspace

Urban greenspace (UGS) as a term generally refers to urban vegetated open spaces such as parks, forests, cemeteries, et cetera (Copernicus, n.d.; Taylor & Hochuli, 2017). Studies have long researched the extensive list of societal and environmental benefits that UGS can provide, thus elevating greenspace as a solution to many of our current urban struggles. For instance, greenspaces have been praised for their ability to help us adapt to the warming climate by regulating urban microclimatic conditions and alleviating the urban heat island effect (Bowler et al., 2010; Ghosh & Das, 2018). Similarly, greenspace has been shown to increase urban resilience against heavy precipitation, improve air quality and reduce noise pollution in cities (Diener & Mudu, 2021; L. Liu & Jensen, 2018; W. Liu et al., 2014; Margaritis & Kang, 2017; Moradpour & Hosseini, 2020). Furthermore, healthy and well-connected greenspaces are key to conserving and promoting biodiversity in cities (Lepczyk et al., 2017). Greenspaces have also been documented to provide other benefits to human well-being such as improved physical and mental health by providing space for physical activity, recreation, socialization and interactions with nature (Kondo et al., 2018; Li et al., 2022).

In view of these findings, the World Health Organization (WHO) has suggested that people should live within 300 meters of greenspace, approximating to about a 5-minute walk (European Environmental Agency, 2021). Similarly, the European Union has promoted a 300 meter threshold, as well as a 750 meter one to approximate for the 15-minute city (European Commission, 2016; European Environmental Agency, 2021). Thus, urban greening has become widely adopted in policy

discourses as a method to improve urban environments and increase their capacity to mitigate and adapt to the changing climate.

2.1.2 Nuances of Urban Greening

Despite its undisputed benefits, however, urban greening is a nuanced topic that goes beyond the idealistic idea of greenspaces as an urban panacea. Increasing numbers of studies show that urban greening is associated with issues of social justice. Environmental goods and bads are often distributed unequally among society, with marginalized groups usually being exposed to worse environmental conditions (Benton-Short & Short, 2013). The unequal distribution of greenspaces has repeatedly been associated with race, ethnicity and class factors (Heynen et al., 2006; Sister et al., 2010). Furthermore, as nature and greenspace in cities have increasingly been “linked to the promise of economic redevelopment” (Benton-Short & Short, 2013, p. 11) other issues of social equity have begun to emerge. Green gentrification is one such phenomenon in which urban greening initiatives have been shown to decrease an area’s affordability, thus displacing local, less wealthy inhabitants (Anguelovski et al., 2018, 2022; Wolch et al., 2014). Although usually unintentional, studies indicate that urban greening discourses and practice are sometimes deliberately deployed as a tool to increase property values in neighborhoods (Anguelovski, Connolly, et al., 2019; García-Lamarca et al., 2022). Thus, greening discourses and initiatives require critical examination of their potential impacts and “demand a careful balancing act” (Haase et al., 2017; Wolch et al., 2014, p. 241). Careful consideration of how greening is perceived, and whom it is carried out for are essential. Furthermore, in a context of rapid socio-spatial reorganization such as in Eastern Europe, looking at how greenspace discourses shift over time can provide valuable insight of the logics of its development.

2.2 Post-Socialist Cities and Urban Studies

Before proceeding to the main theory I employ in this study, it is imperative to consider the position that post-socialist countries hold within the broader field of urban studies. This is of importance as “historical difference [is] a fundamental constituent of global urban transformation” (Roy, 2016, p. 281).

Central and Eastern European countries have stood on the ‘periphery’ of Western urban theory and have therefore been mostly excluded from mainstream urban studies (Ferenčuhová & Gentile, 2016; Hirt, 2012). This has been a result of the assumption that the post-socialist cities are “‘anomalous’ [and therefore] subject to gradual correction with the return of ‘normal’ economic relations in the capitalist system” (Ferenčuhová & Gentile, 2016, p. 1). As a result, they have not been perceived as

fit to inform western urban knowledge. On the other hand, however, they have likewise been excluded from the postcolonial critique (Tuvikene, 2016). This exclusion has impaired the creation of place-based concepts and has thus forced the application of mainstream theoretical concepts which do not adequately reflect local realities. Ouředníček (2016) shows that Western concepts related to segregation, social housing, privatization, and gentrification cannot be fully employed to post-socialist CEE countries due to their specific socio-spatial organization.

Given that the expressions of neoliberalism are different in post-socialist cities, the character of capitalist development must be understood in relation to the context (Ferenčuhová & Gentile, 2016). Chelcea & Druță (2016) describe the concept of ‘zombie socialism’, which reflects the “blend of post-1989 anti-communism and neoliberal hegemony” (p. 521) that is currently present in CEE. Zombie socialism is expressed by a “harsher” and more strongly pronounced form of capitalism “than anywhere else in Europe” (Ferenčuhová & Gentile, 2016, p. 6). Power holders leverage zombie socialism to justify immense social, economic, and environmental costs for the sake of progress. The zombie socialism narrative and the inapplicability of Western urban concepts have important implications for urban studies in the CEE region such as this thesis. With these analytical considerations in mind, I now turn to critical urban theory.

2.3 Critical Urban Theory

I adopt Critical Urban Theory (CUT) as the theoretical entry point to this thesis. The theory encapsulates the scholarly works and views of urban geographers such as David Harvey and Henri Lefebvre, among others. CUT builds on critical social theory by integrating the urban as a core component of critical studies. CUT contends that with the “urbanization of the world” (Brenner, 2012, p. 12) urban questions become an inherent part of critical social theory.

The underlying assumption of CUT is that urban space is “ideologically mediated and socially contested” and thus questions “existing urban formations and knowledge” (Brenner, 2012, p. 11). More specifically, it criticizes the dominant neoliberal logic of commodification and the resulting urban expressions of social power relations. Cities are not only sites for commodification but are also “intensively commodified themselves” (Brenner et al., 2012, p. 3). Such profit-driven commodification processes inevitably produce socially inequitable conditions, unequal spatial development and environmentally deteriorated landscapes (Brenner, 2003; Brenner et al., 2012). In the context of urban greenspace, such commodification is expressed in the exchange of greenspace for investment opportunities. CUT contends that commodification and capital accumulation trends

are not merely a result of the “external geo-economic forces” of globalism, but are “actively produced [by the state]” (Brenner, 2003, p. 4).

Critical urban theory therefore aims to critically analyze neoliberal urbanization in three general steps: *expose, propose and politicize* (Marcuse, 2012b, p. 37, 2012a). *Exposing* entails analyzing the cultural and material roots of urban problems. *Propose* is the process of devising solutions and alternative ways of being, whilst *politicize* presents what can and further needs to be done to tackle the underlying problem. The types of ‘solutions’ vary from radical, such as rejecting capitalism overall, to more moderate reforms, such as increased regulation and novel organizational formations (Bridge, 2014). Critical urban theorists often favor the prior (Brenner et al., 2009, 2012); however, other urban scholars argue that completely “rejecting markets out of hand works no better than blind faith in their efficacy” (Bridge, 2014; Evans, 2002, p. 6). Similarly, there are considerable disagreements on the methodologies and theories employed by critical urban scholars. Nevertheless, there is consensus on the ultimate goal of CUT: to create “cities for people and not for profit” (Brenner et al., 2012).

Returning to the geographic context of this thesis, Bruno Flierl argues that the existing post-socialist countries of CEE showcase that simply removing the profit motive in order to create more humane cities is insufficient (Marcuse & Flierl, 2012). Although socialist cities were driven by the imperative to meet human needs as opposed to profit, citizens were limited in their ability to produce urban life due to the undemocratic model of the system. Furthermore, urban policies in CEE were to an extent designed to maintain the power of the regime, as well as demonstrate the supremacy of the planned economy (Marcuse & Flierl, 2012; Stanoeva, 2016, 2017). Hence, cities require a more humane system that does not prioritize profit and upholds democratic principles.

2.4 Discourse and Critical Discourse Analysis

Finally, I turn my attention to the concept of discourse. Examining discourses can help unravel dominant neoliberal ideological imperatives that critical urban theory aims to expose, whilst also helping answer questions regarding whom urban greening is for and how it is framed by policymakers. Discourse has been used to examine the creation and perpetuation of ideologies which shape urban and environmental policymaking (Bäckman et al., 2024; Jacobs, 2006; Leipold et al., 2019). The underlying logic of discourse studies is that language conditions the way we interpret social reality (Jørgensen & Phillips, 2002). As a result, policy language is not neutral as usually

believed, but rather an intentional, political activity (Jacobs, 2006). Thus, looking at discourse can help understand why greenspace develops in certain ways.

In this thesis I draw on the field of critical discourse analysis (CDA) as developed by Norman Fairclough in particular. According to CDA, discourse is a 'social practice' which shapes and is shaped by "the institution(s) and social structure(s) which frame it" (Fairclough & Wodak, 1997, p. 260). This means that discourse constructs meanings, "objects of knowledge, and the social identities of and relationships between people" (Dryzek, 2013; Fairclough & Wodak, 1997, p. 260), but is also shaped by existing social structures (Jørgensen & Phillips, 2002). This reflects Fairclough's critical realist underpinnings, which I likewise adopt in this study. Fairclough asserts that our capacity to construct the world is dependent on "the way reality already is" (Fairclough, 2003, p. 8, 2013b). Discourse is seen as only one part of social reality, whereas non-discursive elements, such as the economic and institutional systems, exist separately. Thus, they are not only shaped by discourse, but they also shape it.

Ultimately, discourse has the ability to condition common values, ideas and assumptions that form a dominant mode of perceiving the world (Dryzek, 2013; Skorstad & Mohus, 2022). These beliefs are built into discursive practices such as texts, which have effects on both the social (e.g. beliefs, identities) and material world (e.g. urban design) (Fairclough, 1992, 2003). In the context of UGS, this can translate to certain perceptions of greenspace, its associated value and thus whether it is prioritized in urban planning.

Given that discourse is only one element of social practice, discourse analysis is not sufficient to analyze phenomena on its own. CDA therefore needs to be coupled with other social theories or concepts that provide a specific logic for analyzing texts (Fairclough, 2003). In this thesis I combine CDA with critical urban theory (CUT) related to greenspace and broader urban development as a theoretical lens. The theories are then further complemented by the contextual knowledge of Plovdiv as a post-socialist European city.

Fairclough (2013c) suggests applying general theories, as opposed to specific conceptual frameworks, particularly in the context of CEE where existing frameworks do not grasp local realities. With this in mind, as opposed to using a specific framework, I outline key considerations drawn from my theoretical framework and background information, which lead me through my study:

- Urban policy documents can contain ideological discourses, which have social and material effects on reality.
- The dominant neoliberal ideology has led to a commodified approach to urban planning which prioritizes economic development.
- Post-socialist CEE states have experienced 'zombie socialism' which translates into a harsher form of capitalism and a narrative of 'development at any cost'.
- Development imperatives result in social and environmental costs, among which is the decrease of greenspace.

3. Methodology

3.1. Research Design

In this thesis, I apply a case study research design which is of particular utility for understanding complex, contemporary phenomena that “involve important contextual conditions pertinent to [the] case” (Yin, 2014, p. 16). Although case studies are not universally generalizable, they can inform theoretical propositions (Yin, 2014). The unit of analysis is the city of Plovdiv - a Bulgarian, post-socialist city located on the Balkan Peninsula in Europe. Given this study’s aims, the analysis involves the city as a geographical unit, but also the city’s governing body which devises urban development strategies.

An advantage of the case study method is that it is suitable for analyses with multiple sources of evidence (Yin, 2014). This is key as I employ a mixed-method approach in which I analyze urban policy documents and geographical records. More specifically, I perform a GIS analysis to understand spatial greenspace changes through time and a critical discourse analysis of policy and planning documents. In urban studies, GIS has been used in combination with qualitative data to complement or triangulate results (Baravikova, 2020; Heynen et al., 2006; Kwan & Ding, 2008). The aim of converging these two different analysis types is to compare the two sets of results for a more complete understanding of the issue (Fig. 1). Convergent mixed-method design can provide complementary information which would otherwise not have been possible “with quantitative or qualitative results alone” (Bryman, 2006; Creswell & Creswell, 2023, p. 251).

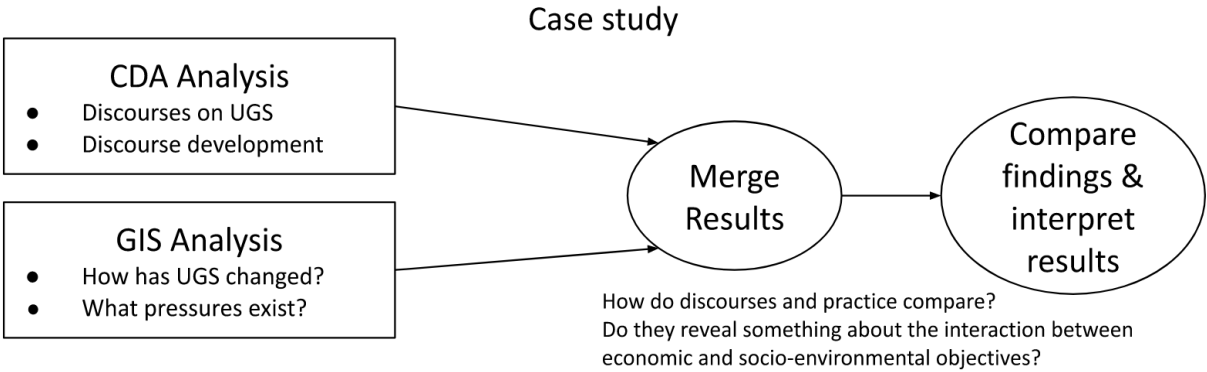


Figure 1 Convergent mixed-method design

Visualization of the study design in which CDA and GIS analysis results are combined for a better understanding of the studied phenomenon. Based on Creswell & Creswell’s (2023).

The CDA is carried out on urban planning policy documents and aims to reveal dominant discourses related to UGS, thus answering the first research question (RQ) and RQ1.1. The GIS analysis, on the

other hand, is conducted to determine most recent developments in UGS and document the changes in UGS which relates to RQs 2 and 2.1. Combining the results from the previous questions reveals how they relate to one another, thus answering research question 3. Overall, this aims to shed light on the overarching research problem which explores the interaction between economic and socio-environmental objectives.

3.2. Data and Methods

3.2.1. Critical Discourse Analysis of Policy Documents

To answer the first research question, I adopt Fairclough’s three-dimensional model. The model distinguishes between three dimensions of a discursive event (Fairclough, 1992, 2013a). These are 1) *text* which can be a written text, image, or speech; 2) instance of *discursive practice* which involves the production and consumption of the *text*; and 3) the wider structure of *social practice* which the discursive event is a part of (Fig. 2). An analysis of discourse can be viewed in terms of these three dimensions, where the *discursive practice* mediates *text* and wider *social practice*. The three dimensions are always linked; however, the analysis of the *text* and *discursive practice* are particularly interwoven, whilst the analysis of *social practice* relates to connecting the former two to the wider social context.

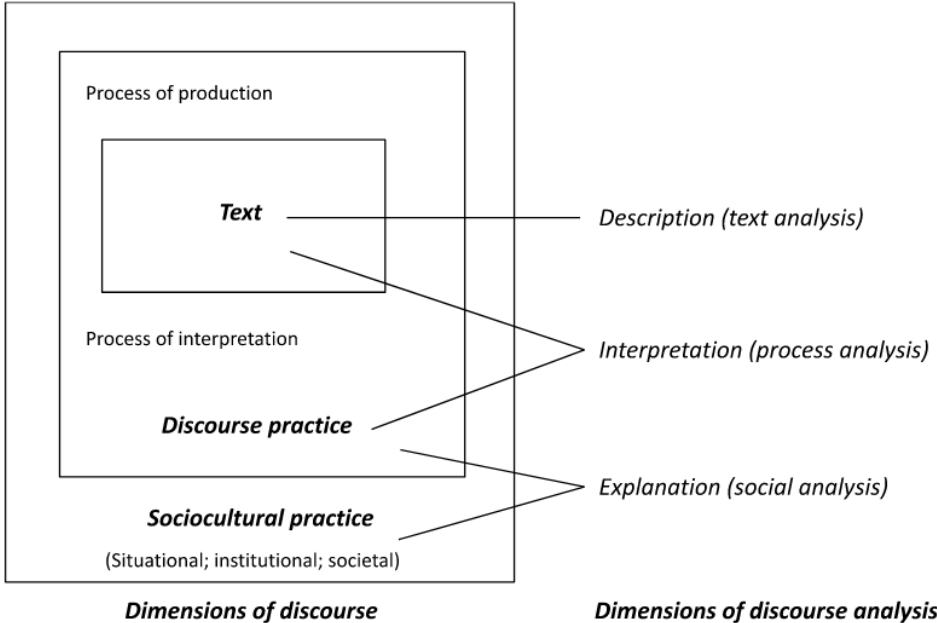


Figure 2. Dimensions of discourse and discourse analysis (Fairclough, 2013d)

The figure presents the three dimensions of discourse and the respective dimensions of critical discourse analysis. Although the conceptual model includes all three dimensions, analyses tend to focus on one element more than the other. From “Discourse, change and hegemony” by Norman Fairclough in *Critical Discourse Analysis: The Critical Study of Language*, 2018. (2. ed.). Routledge.

A core analytical concept of CDA, which links discursive practices to the wider social practice is *interdiscursivity*. Interdiscursivity aims to explore how various discourses coexist and are articulated together in texts. *Intertextuality* is another element of CDA which focuses on the development of discourses over time and how new discourses draw on older ones. Together, these two concepts guide me through the analysis to answer RQs 1 and RQ1.1. Through *interdiscursivity* I identify and position the different discourses, whereas *intertextuality* constitutes following how they evolve between texts.

The CDA process closely followed Fairclough's (2013c) approach of analyzing discourses in Romanian strategy-planning documents due to the similar socio-historical context. It was conducted in accordance with Fairclough's three dimensions of discourse; however, there was a deeper focus on the *sociocultural practice*, i.e. interdiscursivity, intertextuality, and articulation of discourses. Text and social analysis were still key components of the research process; however, less emphasis was placed on them.

To determine the discourses on UGS, I analyzed municipal urban development documents. Official documents are considered authentic sources of information, which hold biases and hidden intentions that can be revealed (Bryman, 2012). This is why documents are often used in CDA (Fairclough, 2013b). They are shaped by the message they aim to convey, whom they represent and the sociocultural context of their production, which are all core components of CDA (Bryman, 2012). The documents I analyze can thus provide insight into UGS management discourses that reveal perceptions of greenspace and the rationale for its expansion/reduction. Given that qualitative research aims to produce in-depth analyses, the entirety of the documents could not be analyzed (Creswell & Creswell, 2023; Fairclough, 1992). Therefore, samples were selected from the corpus based on their relevance to UGS. Sections were extracted if they contained a definition of UGS, an evaluation of its benefits, an analysis of its current condition or development plans.

To determine discourses in the selected corpus, I employed an inductive approach. This is common practice in social research but was also done on the grounds that existing discourses on greenspace may not be suitable for the CEE context. Furthermore, there is no exhaustive list of discourses as they constantly change and new ones emerge (Fairclough, 1992). Therefore, identifying discourses is usually arbitrary, although they are nevertheless "influenced by the point of departure of one's analysis" (Fairclough, 1992, p. 230). The discourses were derived as per qualitative research coding procedures (Creswell & Creswell, 2023): After the sections were selected, recurring ideas and topics

were identified and coded using the NVivo 14 software for easier data management [See Appendix A, B, C]. I then grouped them into relevant categories representing discourses. Once this stage of the analysis was complete, I positioned the discourses in relation to the sociocultural context, which is elaborated in the discussion section.

The analyzed documents represent all the planning and greenspace-related policies available from 2005 onwards (Table 1). They were identified on the municipality’s website. Documents prior to 2005 could not be found digitally. This is likely because such do not exist given that Plovdiv’s first Masterplan after the collapse of the socialist regime in 1989 was implemented in 2007 (Hirt, 2012). Furthermore, all archives concerning the urban planning of the green system prior to 1989 are missing (Plovdiv Municipality, 2013, p. 72). Ultimately, the analyzed documents include three Development plans (2005-2013, 2014-2020 and 2021-2027), one greenspace development strategy (2012-2025) and two documents related to the newly implemented Masterplan (2022). The strategies in the documents are meant to be mutually complementary and each new strategy builds on the previous’ objectives.

Table 1. Planning Documents Employed in the Discourse Analysis

Document	Reference Years
Integrated Development Plan for Plovdiv Municipality	2021 - 2027
Development Plan for Plovdiv Municipality	2014 - 2020
Development Plan for Plovdiv Municipality	2005 - 2013
Program for the Development, Maintenance and Protection of the Green System in Plovdiv	2012 - 2025
Environmental Impact Assessment of the Amendments in Plovdiv Municipality's Masterplan. Non-technical Resume	2022 onwards
Task for the Amendment of Plovdiv Municipality’s Masterplan – 2007	2022 onwards

3.2.2. GIS Analysis

To answer the second research question, a spatial analysis was conducted in ArcGIS Pro 3.2.2. to determine changes in green space area and availability over the years. I used the 2018 urban core polygon to delimit the city’s boundaries and land-use data from the European Environmental Agency’s *Urban Atlas* datasets (Table 2). The *Urban Atlas* is updated on a 6-yearly basis and thus datasets were available for 2006, 2012 and 2018. As my analysis aims to determine the most recent changes in UGS, I additionally created an updated version of the 2018 dataset based on the most recently available high-definition aerial imagery. The aerial imagery was obtained from Esri’s Wayback Living Atlas and represents images captured in September 2023. My detailed knowledge of the city further aided my ability to map out the most recent changes in UGS.

Creating 2023 Updated Layer

For the creation of the 2023 layer, I mapped both negative and positive changes in UGS by placing the 2018 land-use layer over the aerial imagery. I then searched for changes in greenspace, which are represented by the 'Urban Green Area' and 'Forest Area' classes as they constitute vegetated areas that provide societal benefits i.e. recreational opportunities in addition to their environmental functions. To observe negative changes in UGS, I checked all features belonging to the 'Urban Green Area' and 'Forest' classes to see whether the polygon still functions as a greenspace. If it was not, the feature was removed from the UGS class. In instances when only a part of the feature has been repurposed, the polygon was split ['Split' function] and the repurposed part was reclassified. The new function of the repurposed greenspaces was determined by referencing Google Maps. This was done to identify the pressures on UGS. For positive changes in UGS, greenspace-related press releases on the Municipality's website were gathered and reviewed to find new park projects [See Appendix D]. Completed new parks were added as UGS regardless of their size.

Documenting Changes in UGS Over Time

Once the new 2023 layer was created, to quantify the overall changes in UGS, the 'Urban Green Area' and 'Forest' classes were selected. Cemetery spaces which the *Urban Atlas* classifies as UGS were removed as such for the purpose of this analysis. Despite their provision of ecosystem services, cemeteries do not serve a societal recreation function in the Bulgarian context as they do in some Western European and Nordic countries (Grabalov & Nordh, 2022; Nordh et al., 2023). New layers were made from the resulting selection and the area of UGS was calculated for each dataset to observe changes over time. The distribution of UGS was derived by intersecting the UGS layer with the city's six administrative districts, which I mapped out based on municipal maps.

Determining the Spatial Availability of UGS

To determine the spatial availability of greenspace, the *Urban Atlas* land-cover datasets and 1km² population grids were combined as per the method employed by Kabisch et al. (2016) (Fig. 3). Buffers around UGS were created through the network analysis tool. The network analysis tool was preferred over a simple radius buffer zone as it accounts for the city's transportation network. The network buffer zone around the UGS was intersected with the relevant population grid. As the population datasets were not always published for the same year as the land-cover dataset, the one closest to the land-cover reference year was used (e.g. 2011 population grid and 2012 land-cover). Once the intersection was done, the population residing within the buffer zones was derived by

multiplying the population in the 1km² grid with the portion of the grid that the buffer zone occupies. In this analysis, 300m and 750m buffer zones were used based on the WHO’s and EU’s recommended guidelines (European Commission, 2016; European Environmental Agency, 2021).

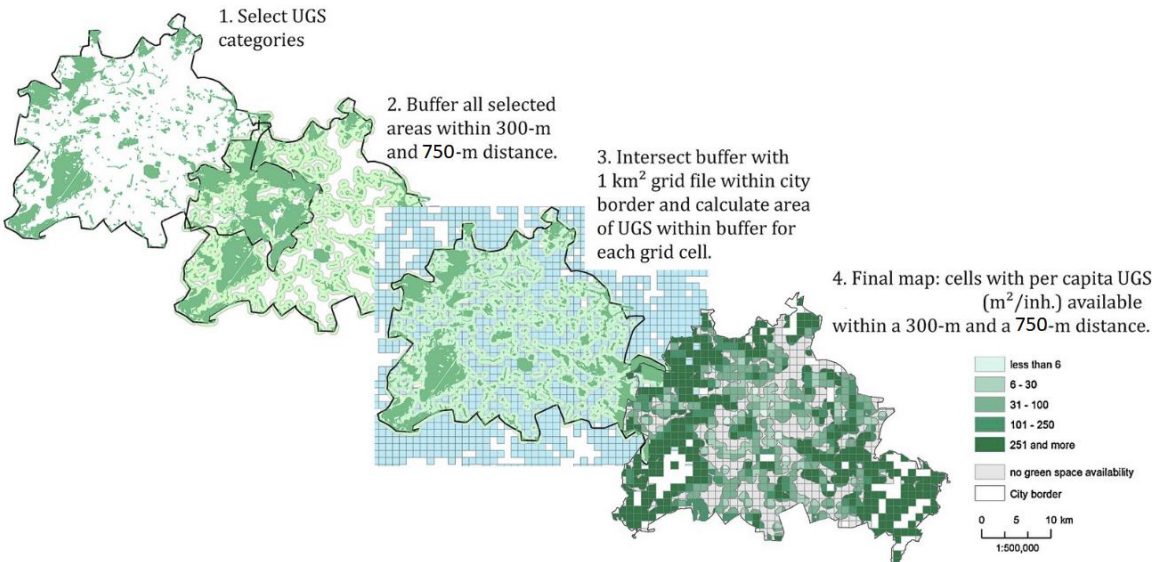


Figure 3. Method for Spatial Availability Calculation (Kabisch et al., 2016)

Visualization of the steps taken for the spatial availability analysis. Adapted from “Urban green space availability in European cities” by Kabisch, N., Strohbach, M., Haase, D., & Kronenberg, J. (2016). *Ecological Indicators*, 70, p. 588. Copyright 2024 by Elsevier.

Table 2. Datasets Employed in the Spatial Analysis

Data Type	Reference Year(s)	Source
Aerial Imagery	2023	ESRI World Imagery Wayback
Land Use	2006, 2012, 2018	Urban Atlas Land Use, Copernicus Databases
Population Grids	2006, 2011, 2018, 2021	GEOSTAT in GISCO Databases
Roads Network	2024	OpenStreetMap
Urban Core Outline	2018	Urban Atlas Land Use, Copernicus Databases

3.2.3. Limitations

The variety of geospatial data available online enabled the execution of a GIS analysis; however, the lack of more detailed data related to the geographic area of my case study imposed some limitations. For instance, using Municipal geodata records, as opposed to the *Urban Atlas* Land Use that I employ, would have enabled a more accurate analysis of the greenspace changes as they account for

the existing UGS more precisely. Unfortunately, my request to access Municipal GIS records was rejected.

Furthermore, detailed block- or neighborhood-level census data would have allowed me to carry out a much more rigorous analysis of socio-spatial dynamics in relation to greenspace change. Detailed census data could have allowed me to analyze greenspace in relation to demographic-, ethnicity- and race-related factors; however, such fine-scale census data is not gathered in Bulgaria, which is a major limitation. Similarly, accounting for property rights could have contributed to this study by examining greenspaces in relation to public/private ownership dynamics; however, national cadaster data was only viewable on the cadastre website and could not be downloaded for analysis purposes.

A final aspect of the spatial analysis that needs to be acknowledged is that it examines greenspace purely in terms of its quantity. The qualitative aspects of UGS are just as important as they influence the extent of benefits provided by greenspace (Ta et al., 2021; Zhang et al., 2017). Examining the quality of greenspaces, however, is beyond the scope of this study.

4. Case Study

Plovdiv is Bulgaria's second most populated city, located on the Eastern edge of the Balkan Peninsula (National Statistical Institute, n.d.). The city prides itself with its long history which dates back to 6000 BC making it one of Europe's oldest cities (Fig. 4) (Nieuwenhuijsen, 2021; Tsoleva, 2019). Today, Plovdiv is the economic center of Southern Central Bulgaria. The city experienced particularly high economic growth in the recent decade. With a 113% increase in its GDP over the last ten years, Plovdiv was the fastest growing economic region in Bulgaria (Ganev & Nikolov, 2023). As a result, the city has been expanding rapidly. However, this development has put pressure on the city's already limited urban greenspaces. Green areas are crucial for Plovdiv due to its high population density, as well as the poor air quality, persistent noise pollution and high temperatures that characterize the urban environment (European Council, 2024; Plovdiv Municipality, n.d.-e). Thus, as introduced earlier, this study aims to analyze the spatial and discursive developments related to greenspace in the period from 2006 to the present. Looking at the historical evolution of greenspace, however, is necessary to understand why the greenspace developments in the last few decades stand out in particular.



Figure 4. Panoramic view of Plovdiv from Nebet Tepe

The picture captures the city's spirit with the archaeological excavation in front, the green hills in the back, and the city center inbetween. Photo by Община Пловдив [Plovdiv Municipality] 2017, [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/).

4.1. Urban Development and Greenspace Pre-1989

The most comprehensive historic account of UGS in Plovdiv can be found in municipal documents, based on which I provide the following short overview of the city's historic urban development (Plovdiv Municipality, n.d.-b, 2013). The oldest known plans that provide detailed descriptions of

Plovdiv's urban configuration date back to the mid-19th century. They confirm what had been written centuries before in traveler's memoirs documenting the city's design. Being situated on a plain, the city had almost no urban greenery and the few greenspaces could only be found in private gardens. The city's hills, which serve the function of urban green islands today, were described as plain rocks. In combination with the city's geographic location, the hills retained immense heat in the warm months, thus creating unfavorable microclimatic conditions.

Urban greenspace development dramatically increased after Bulgaria's liberation from Ottoman rule in 1878. Mass greening practices were initiated to improve the urban environment and alleviate the hot climate. Geographic and visual records suggest that between 1878 and 1944 the city experienced 17-fold increase in greenspaces. These greening practices continued throughout most of the 20th century. Despite the rapid urban expansion processes that took place in the latter half of the socialist regime in Bulgaria (1970s-1980s), greenspaces remained a core component of city planning. Overall, in the period after Bulgaria's liberation from Ottoman rule, the implemented urban governance plans gradually created many of the emblematic green areas in Plovdiv known to citizens today. This extensive period of UGS expansion, however, came to a sudden end with the shift to a free-market economy in 1989.

4.2. Urban Development and Greenspace Post-1989

The collapse of the socialist regime marked the beginning of sudden change in land-use practices throughout all Central and Eastern Europe. The transition from a planned to a free-market economy initiated a series of processes which directly impacted the urban environment and provision of public spaces and green areas (Hirt & Stanilov, 2007). Urban governing power was transferred from a centralized to a local level. Alongside these structural changes and the liberalization of the economy, mass land restitution processes were undertaken. In the context of vague and weakly implemented laws, property privatization led to uncontrolled urban expansion (Stanilov, 2007b). In Bulgaria, loose privatization and land-use policies were embraced as a strategy for achieving economic development, as well as satisfying clientelist networks (Simeonova & Van Der Valk, 2016; Stanilov, 2007b). The elites' "strikingly predatory attitudes toward public assets, including space" (Hirt, 2012, p. 102) during the early transition period greatly influenced urban developments in Bulgaria. Furthermore, municipalities' inability to compose Masterplans up until 2007 exacerbated the unregulated nature of urban expansion (Hirt, 2012). Overall, this led to "unregulated, politicized, corrupt, and unstable mode of 'wild' urban development practices" (Sýkora, 1999, p. 82).

The imperative of profit accumulation for the municipalities, which struggled financially in the newly decentralized and liberalized market economy, took precedence over any other societal and environmental concerns (Stanilov, 2007b). The spatial reconfiguration led to “increasing levels of social stratification of the once homogenous urban fabric” (Stanilov, 2007a, p. 11). In Plovdiv, such was the case with Roma minority communities, which retreated into isolated urban ghettos in the city’s periphery during the transition period (Ivanova-Zlatkova, 2013). Furthermore, new urban governance facilitated complete negligence towards urban nature conservation, especially with regards to UGS. In Plovdiv, much like the rest of Eastern Europe, the policy of economic development at any cost resulted in significant degradation of urban greenspaces (Elbakidze et al., 2023; Enkbold & Matsui, 2022; Hirt & Stanilov, 2007; Niță et al., 2018; Plovdiv Municipality, n.d.-b). The urban green system in Plovdiv was cut nearly in half within two decades, with UGS declining from 20m² per resident in 1991 to 11.2m² in 2011 (Plovdiv Municipality, n.d.-b).

Several dynamics began to change these uncontrolled urban expansion trends. On the one hand, rapidly advancing social and environmental urban crises made the necessity for governmental intervention in urban affairs evident and increasingly pressing as public awareness and discontent grew (Stanilov, 2007a). On the other hand, Bulgaria’s accession to the European Union (EU) necessitated the development of sustainable urban development plans (Stanilov, 2007b). Furthermore, EU financing opportunities created incentives for local governments to create urban governance plans in exchange for development funds (Dąbrowski & Piskorek, 2018). The EU Cohesion Policy is one such mechanism that provides financial support to municipalities which formulate a strategic framework for urban development (Cohesion and Regional Development, 2023; *New Cohesion Policy*, n.d.). Among other things, the plan stimulates the development of ‘Integrated territorial development plans’ which combine economic, social, and environmental imperatives. The goal is to encourage cohesive and sustainable long-term urban development based on territories’ specific characteristics.

In compliance with the EU Cohesion Policy, Plovdiv Municipality began formulating strategic development plans in 2005 (European Commission, n.d.-a). The plans continuously call attention to the insufficient provision of UGS and highlights the necessity of maintaining existing green areas and developing new ones. The most recent plan (2021 - 2027) goes a step further by placing “Clean, Green City” and “Improved Urban Environment” (Plovdiv Municipality, n.d.-f, p. 7) as the top two priorities of the city plan. The priorities are accompanied by strategic actions, among which is the development of new urban greenspaces with the aim of improving public wellbeing and increasing

the provision of ecosystem services. Despite the existence of specific strategic imperatives that aim to improve the environment and its greenspaces, there is often a mismatch between environmental planning objectives and their application (Nowak et al., 2022; Simeonova & Van Der Valk, 2016). The city of Plovdiv is no exception to this trend (Plovdiv Municipality, 2013). Dąbrowski & Piskorek (2018) note that CEE countries often view EU institutions as funding “milking cows” and therefore “superficial compliance to EU requirements” (p. 585) is common. Thus, monitoring and analyzing the progress of “local authorities in weak planning systems common in southeast European countries” (Niță et al., 2018, p. 158) is critical for ensuring the sustainable and equitable development of cities. In line with this, by investigating the discourses and practices of urban greening in Plovdiv, I intend to unravel how greenspace has developed and why.

5. Findings

The findings of this study are divided into two sections representing the two analyses which I conducted. Section 5.1 presents the results from the discourse analysis thus revealing the discourses in urban planning, which RQs 1 and 1.1 address. Section 5.2 presents the results of the spatial analysis thus answering the questions posed in research questions 2 and 2.2. The third research question which represents the convergence of the two analyses is discussed in chapter 6 of the thesis [Discussion].

5.1. Discourse Analysis

The strategic documents I analyzed followed a structure consisting of an analysis component followed by the strategic plan. According to the documents, the strategies are formulated based on the preceding analysis, national and EU frameworks, and public consultations. The sum of these socioeconomic considerations results in a series of visions and goals which shape each plan's strategic framework. Based on the analyses, strategies, and visions in each document, three general discourses of greenspace in the city emerged which encapsulate how greenspace is perceived in relation to the city. The three identified discourses persist throughout all the analyzed policy documents. Although some of the features of the discourses overlap, they develop differently over time. First, I succinctly present the three discourses I have identified. Then I outline how the discourses have changed over time in more detail to align them with the spatial analysis findings.

5.1.1. Discourses on Greenspace

Ancient City: Greenspace as a component of the Ancient City that must be preserved

One of the themes which emerged was that of greenspace as a component of the natural, urban heritage. As such, existing *notable* greenspace, which is deemed of cultural importance, needs to be preserved and displayed. This idea of greenspace as heritage is inextricably linked to the historical heritage of the city, which together create the image of Plovdiv as an ancient city (Fig. 5).

“A unified approach towards the natural components, cultural heritage and cultural life is the premise for highlighting Plovdiv’s identity and atmosphere.”

(Plovdiv Municipality, n.d.-c, p. 148)

Although this discourse was occasionally discussed in terms of the recreational and educational benefits it could bring to the local population, its primary focus was on the development of the city as a tourist destination. The planning documents mostly referred to the natural heritage in terms of

“the intelligent utilization of its economic potential” (Plovdiv Municipality, n.d.-f, p. 94) and its ability to make the city a “preferred European tourist destination” (Plovdiv Municipality, n.d.-c, p. 146). Likely, this discourse was amplified by the city’s ambitions to become a European Capital of Culture, which it ultimately was chosen to host in 2019.



Figure 5. The Ancient Theatre in Plovdiv

The Ancient Theatre is one of the city’s tourist destinations, where concerts and theatrical plays take place. Photo by N. Lazarov, 2006, [CC BY 2.5](https://creativecommons.org/licenses/by/2.5/).

Livable City: Greenspace contributes to the creation of an ecologically resilient city with a high quality of life

A second discourse on greenspace that emerged was in relation to the creation of a livable city. Greenspace was continuously referred to as a prerequisite of a high urban quality of life - socially and ecologically. For instance, the role of greenspace in providing ecosystem services such as microclimate moderation, alleviating the urban heat island effect (UHI), managing noise and air pollution, were continuously acknowledged and reiterated. Furthermore, greenspace was often presented as a space that could serve multiple functions - for leisure, recreation, and sport, in addition to the ecosystem services it provides. Interestingly, the benefits of UGS to mental health

were never explicitly mentioned, despite the overall strong emphasis on greenspaces' ability to improve residents' quality of life.

Apart from its benefits, all documents touched upon issues of equity. They highlighted the need for accessibility to greenspace for all people equally; however, what this entails was never elaborated. For instance, although all the documents acknowledged the unequal distribution of greenspace, the analysis of this issue only had spatial dimensions. There was no consideration of the implications of the unequal distribution of greenspace. Similarly, the proposed UGS development projects were presented in terms of how they increase the city's overall greenspace, yet there was no critical consideration of whom they will serve and what the consequences may be.

Attractive City: Greenspace as a component of an attractive urban environment for residents and investors

The final theme was that of greenspace as a component of the urban environment that enhances the attractiveness of the city. To an extent, the attractive city discourse overlaps with that of the livable city; however, whereas the latter talks about increasing the quality of life in general, attractiveness focuses on retaining and attracting people, ideas, and capital through an aesthetically pleasing, green and modern urban environment. Greenspace as a prerequisite for city attractiveness is described in relation to two different groups: the *already existing* human capital and the *potential* human capital and investments that can be won over by satisfying today's "high standards towards the environment" (Plovdiv Municipality, n.d.-d, p. 156).

5.1.2. Discourse Development

The three identified discourses were present in all the analyzed documents; however, while some remained relatively constant, others evolved in terms of their relative importance and the specific focus of the discourse. For instance, the discourse on greenspace as a component of the *ancient city* remained almost the same between all three planning periods. The sum of the city's cultural and green components was viewed as a tourist *product* that could be marketed and sold. A slight variation is that in the early planning period (2005 - 2013), greenspace was not a centerpiece in this product, whereas the latter two plans talk about the enhancement and utilization of greenspace to increase the city's appeal as a tourist destination. Nevertheless, this discourse remained essentially the same as it as a constant and integral part of the city's identity (Ivanova-Zlatkova, 2013). The ancient city discourse was most prominent during the 2014-2020 planning period when Plovdiv was preparing for its European Capital of Culture mandate in 2019.

On the other hand, the *livable city* discourse on greenspace shifted more noticeably. Whilst also present in the earlier planning period, references to the ecological functions of greenspace became increasingly frequent in the two most recent plans. The ecosystem functions of UGS were continuously underlined and were used as justification for the necessity to increase and better manage greenspace. Despite this, however, the most recent plan's analysis counterintuitively reveals that landscapes with high natural resilience are expected to decrease, whereas it is the man-made landscapes with low natural resilience that will increase if the new master plan is fulfilled. This shows a mismatch between the discourses on greenspace and the proposed strategies.

Another noticeable development in the greenspace as livability discourse concerns the multiple functions of UGS. The earlier plans talk about *combining* the different ecological and recreational functions that greenspace can provide. The most recent plan (2021-2027), however, rapidly switches the narrative to *utilizing* and *taking advantage of* the "unrealized potential of existing greenspace" (Plovdiv Municipality, n.d.-f, p. 126) to provide additional benefits such as sport and recreation, and ultimately economic development. Whilst this may be perceived as a negligible change in discourse, there are practical implications of switching the statute of existing greenspaces to greenspaces with certain functions. For instance, legally changing the statute to greenspace with sport functions enables the construction of ground-level infrastructure on up to 80% of the territory (Plovdiv Municipality, n.d.-a). Thus, such miniscule changes in narrative must be scrutinized to reveal potential hidden intentions, in addition to the general consequences that changes in discourse can bring.

Similarly, I identify subtle yet potentially important changes in the discourse on greening as a component of the attractive city. As described above, this discourse relates to retaining and attracting *existing* and *potential* human and material capital. Whilst both existing and potential components persist throughout all the documents, the latest plans substantially increase the emphasis on the role of greenspace in attracting people and investments. The 2021-2027 plan refers to the "Gladno Pole" neighborhood in particular, where greening practices are planned in order to turn the area into a high-tech center. Greening is perceived as a way to create a modern environment that can attract scientific capital, investment and long-term profit (Plovdiv Municipality, n.d.-f, p. 107). An important detail is that the "Gladno Pole" project is in close proximity to one of the Roma minority neighborhoods. Thus, it has the potential to increase UGS in an area with critically low levels of greenspace, but it also raises questions about who this greenspace will be for, in other

words, potential gentrification. Greening, however, is only perceived in a positive light, according to which added value can be created through increased investments and technological development.

5.1.3. Inconsistencies in Greening Discourses

In addition to the specific discourses on greenspace, two other important aspects of the texts stand out. First, the analytical component of the documents becomes increasingly less critical of the causes of insufficient greenspace. Earlier documents refer to illegal construction and pressures from investment interests, whereas the most recent strategic document (2021-2027) does not mention the causes of UGS decline. When pressures are brought up, they are discussed in an abstract and general manner, e.g. “anthropogenic pressures” (Plovdiv Municipality, n.d.-e, p. 565) without specification of what is inflicting these negative changes. Nevertheless, the need to expand the area of UGS is emphasized within all planning documents. Despite this, however, looking at the planned greenspace area reveals that the most recent Masterplan actually allocates less land to greenspace. All strategic documents make claims for increasing UGS, yet greenspace only increases in comparison to the current condition, but not in comparison to the previously allocated urban area for greenspace (Plovdiv Municipality, n.d.-e, p. 713). Although the decrease is negligible (~4 hectares), this reveals a mismatch between policy claims and the actual plans.

A second noteworthy inconsistency is the role of public opinion within the planning process. The urban strategies are partially based on the results from public consultations. This is highlighted early on in all the strategic documents as a hallmark of the democratic processes within urban planning; however, this is not entirely true in practice. In the 2021-2027 plan, citizens’ top priority for the city can be summarized as: *A green and livable city with sufficient greenspaces and good public services, and which can deal with the environmental challenges of our times.* Economic and institutional priorities are placed only after this primary goal. Despite this, the document later asserts that citizens’ priorities do not dictate the urgency of implementing certain policies, nor are they an indicator of what would contribute most to the city’s socioeconomic development. Thus, this raises questions about the true extent of citizens’ democratic contribution to urban planning, as well as whether urban planning reflects citizens’ needs or is solely oriented towards economic development goals.

5.2. GIS Analysis

The results of the GIS analysis reveal that the city’s greenspace area experienced slow but steady growth of 4.6% between 2006 and 2018 (3.5% in 2006-2012 and 1.1% in 2012-2018), thus reversing the previously documented trend of greenspace decline. Between 2018 and 2023, however, UGS

once again declined rapidly with over 6.5% of the greenspace disappearing compared to 2018 levels. This reduction brings greenspace area below the levels of 2006 thus nullifying the growth that had occurred in the previous decade. Although new parks and greenspaces were created in the 2018-2023 period, the repurposing of existing UGS outpaced their creation as illustrated in Figure 6 below.

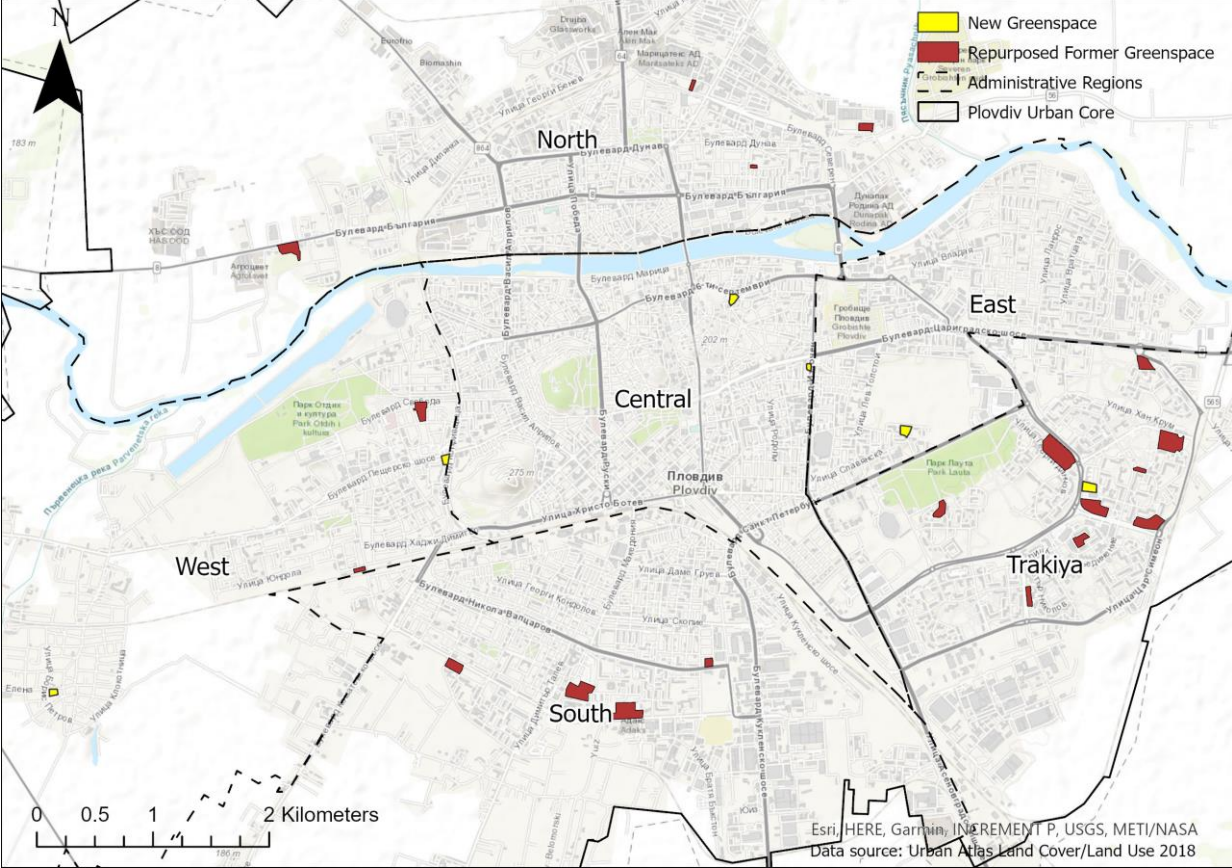


Figure 6. Visualization of the newly created greenspaces and repurposed former greenspaces between 2018 and 2023

The map shows that the repurposed greenspaces are far greater than the newly created ones. Biggest losses are visible in the South and Trakiya administrative regions.

The investigation of the pressures on UGS shows that commercial investment was the primary pressure on greenspace. More than a quarter of the former greenspace area was transformed for commercial uses such as supermarkets and office buildings. Residential housing was built on approximately 15% of the former greenspace area, despite the population shrinking by nearly 9% between 2018 and 2021, whereas 10% was repurposed into public infrastructure such as parking lots and one newly built kindergarten. Unfortunately, half of the former greenspace area was still under construction at the time of the analysis. Hence, the respective pressures could not be identified.

Despite the overall decrease in UGS between 2018 and 2023, however, the area of greenspace per inhabitant in 2023 reached its highest level since 2006, which can be explained by the population

decline that began in 2020. The current 12.1 m² of greenspace per inhabitant are still far below the legal norm of minimum 20m² per person as stipulated in the Municipality’s urban planning legislation (Plovdiv Municipality, 2013). Furthermore, although m²/inhabitant has increased, the population living within 300m of UGS in 2023 is lowest compared to all other studied years (Fig. 7). My spatial analysis revealed that accessibility to greenspace within 300m peaked in 2012 and has been declining until 2023. On the other hand, the population living within 750m has fluctuated over the years with a slight increase in 2023. On average, only 39% of the population has lived within 300m of greenspace, whereas about 60% have lived within 750m of UGS during the study period.

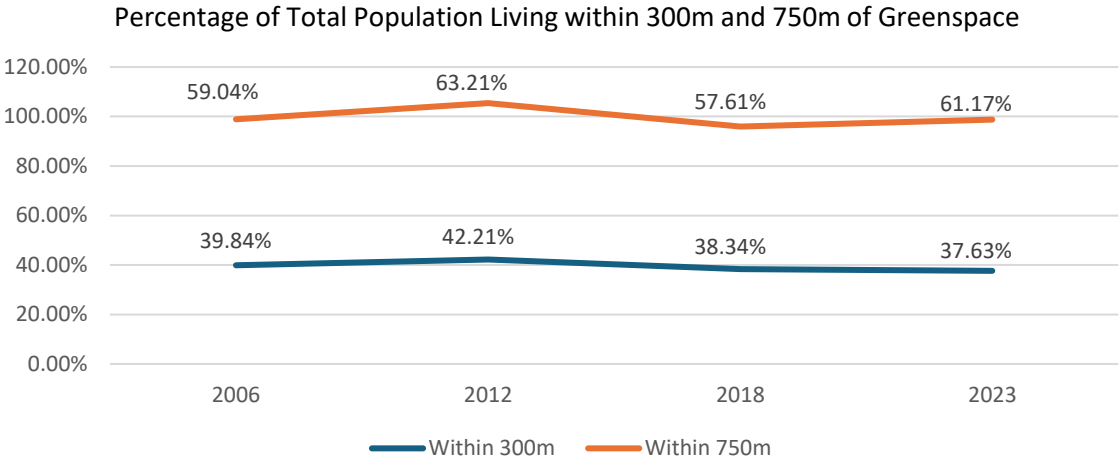


Figure 7. Percentage of Total Population Living within 300m and 750m of Greenspace

A gradual decline in the availability of greenspaces within 300m of citizen’s residency after 2012 can be observed. The 750m availability trendline, which approximates for the 15-minute city, fluctuates over the years.

Apart from the overall insufficient urban greenspace, the known unequal distribution of greenspace in the city continues to persist as illustrated in Fig. 8. Given the overall decline in UGS in the most recent period, greenspace has declined in all the city’s administrative regions except for the Central and Eastern areas. The highest decrease has occurred in two of the three most populated residential districts - Trakiya (South-Eastern) and the Southern district. The latter already suffers from lack of greenspace being the district with second least greenspace available whilst also being the most populous. Conversely, although the Central region already has relatively high concentrations of greenspace for its small area, UGS has been slightly expanded there.

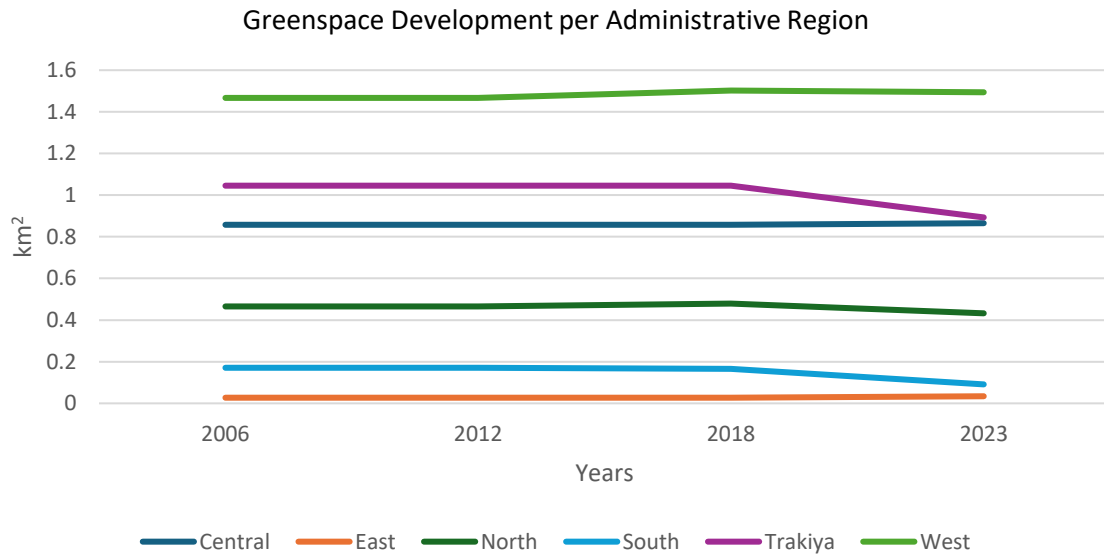


Figure 8. Greenspace Development per Administrative Region

The figure shows the critically low levels of UGS in the Eastern district, which is characterized by the Roma minority population. Significant decreases between 2018 and 2023 are visible in the South and Trakiya administrative districts, which are the main residential parts of the city.

On the other hand, slight UGS growth in the Eastern district has occurred in view of the fact that it is the most greenspace deprived region with barely 0.03 km² of UGS. It is characterized by a predominant Roma minority population. More specifically, the district hosts Stolipinovo, which is estimated to be the most populous Roma neighborhood on the Balkan Peninsula and is perceived as Plovdiv’s ghetto (Panchev, 2021). The network analysis reveals that most of the neighborhood does not have greenspace accessible within 750m (Fig. 9). This finding led me to investigate the other Roma minority neighborhoods in the city, from which I concluded that three out of the four Roma neighborhoods have not had proper access to greenspace within 300m over the study period. That is, the 300m buffer barely touches the edges of two of the neighborhoods, as can be seen in figure 9. This is particularly important given that Roma neighborhoods are extremely densely populated and nearly half of the Roma population in Plovdiv does not leave its neighborhood (Ilieva et al., 2019). This finding raises questions about how urban planning accounts for difference and whether it acknowledges issues of environmental equity in the city.

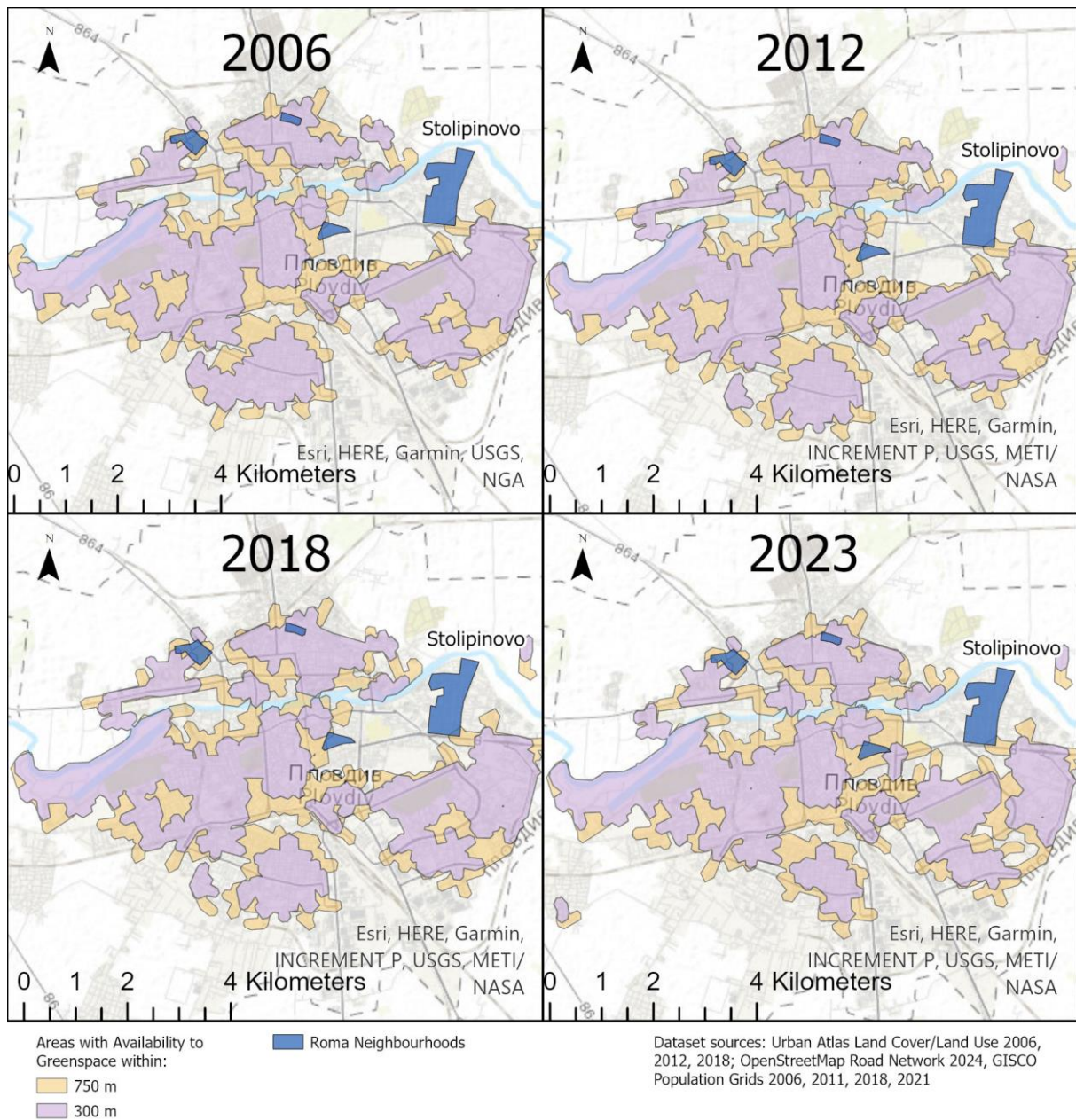


Figure 9. Visualization of City Area with Greenspace Availability within 300m and 750m between 2006 and 2023

The map shows that the Eastern District where the Stolipinovo Roma neighborhood is located completely lacks greenspace, thus raising concerns about environmental equity issues. Low levels of greenspace availability can also be seen in the Southern part of the city where the most populated residential district is located.

6. Discussion

In order to unpack the main findings in depth, I now turn to integrate and interpret the discourse and spatial analysis findings by placing them with the broader context in which they are situated and in relation to the literature.

6.1. Change on the horizon?

The increase in greenspaces occurred after a period of UGS collapse between 1989 and 2006 when the city's greenspaces were cut nearly in half. This was a result of the socio-spatial reorganization that took place after the fall of communism in CEE. This reorganization was characterized by a philosophy of development-at-any-cost that led to the demise of UGS in Plovdiv and other parts of post-socialist CEE. The uncontrolled urban expansion was facilitated by the zombie-socialism narrative (Chelcea & Druță, 2016) throughout CEE, which combined neoliberal development logic with anti-communist sentiments, as well as poor planning and weakly implemented laws (Stanilov, 2007b). Thus, the identified growth of greenspace in Plovdiv that began in 2006 could be interpreted as a mark of the end of this period of urban expansion that did not consider societal and environmental factors. The discourses on greenspace in this period also suggested that urban design was oriented towards societal benefit. The *livable* city discourse in the 2005-2013 and 2014-2020 strategies envisioned greenspace as a component of the city which combined recreational, health and environmental benefits. Similarly, greenspace as a component of the *attractive* city in the 2005-2013 and 2014-2020 documents was presented as a way to create a pleasant urban environment for the existing residents of the city, and in turn contribute to the city's livability. In this period, greenspace was only actively referred to in economic terms when it came to its potential in elevating the city as a touristic product as part of the *ancient city* discourse. Within the planning documents after 2020, however, the economic appeal of urban greening became increasingly pronounced.

6.2. Commodifying, utilizing, reaping the economic potential

The discourses identified in the 2021-2027 strategy began placing a much bigger emphasis on the economic potential of greenspaces. The role of greenspace in the *attractive city* discourse no longer focused on creating an appealing environment for the existing population but emphasized the ability of urban greening to attract capital in the form of investment and people, and thus increase the economic value of certain areas. Similarly, within the *livable* city discourse, greenspaces were referred to as spaces that needed to be utilized to take full advantage of their economic potential.

The incremental UGS growth which began in 2006 only continued until 2018, after which greenspaces declined again. Although the relationship between the discourses and practice is not

necessarily causal, observing their parallel development can enable hypothesizing potential links. As discourses on greenspace became increasingly associated with economic gains, UGS also began to decline between 2018 and 2023. Conversely, greenspace increased between 2006 and 2018 when discourses referred to UGS in terms of its societal benefits. This reveals how discourse and practice may relate to each other (Fig. 10). Additionally, this strongly resonates with Fairclough’s (1992, 2003) claim that texts are mediators of subtle ideologies and beliefs which shape the material world. That is, as greenspaces began to be perceived in terms of their economic potential in urban planning, it resulted in negative effects on their material configuration. Furthermore, these developments reflect critical urban theory’s critique of cities as sites of commodification but also as objects of commodification within the broader neoliberal ideology (Brenner et al., 2012). Greenspaces in Plovdiv in the 2018-2023 period were transformed into commercial sites, which represent the main pressure on UGS. Former UGSs were primarily substituted by office buildings and store chains that bring direct economic benefit, displaying the commodification of greenspace in the city. CUT contends that such commodification processes not only produce suboptimal environmental conditions but also socially inequitable outcomes (Brenner et al., 2012). As socially contested spaces, urban forms expose how some groups in society are favored, whilst others are excluded from participating fully in urban life. In line with this, this study identifies communities that are excluded from the provision of greenspace in the city.

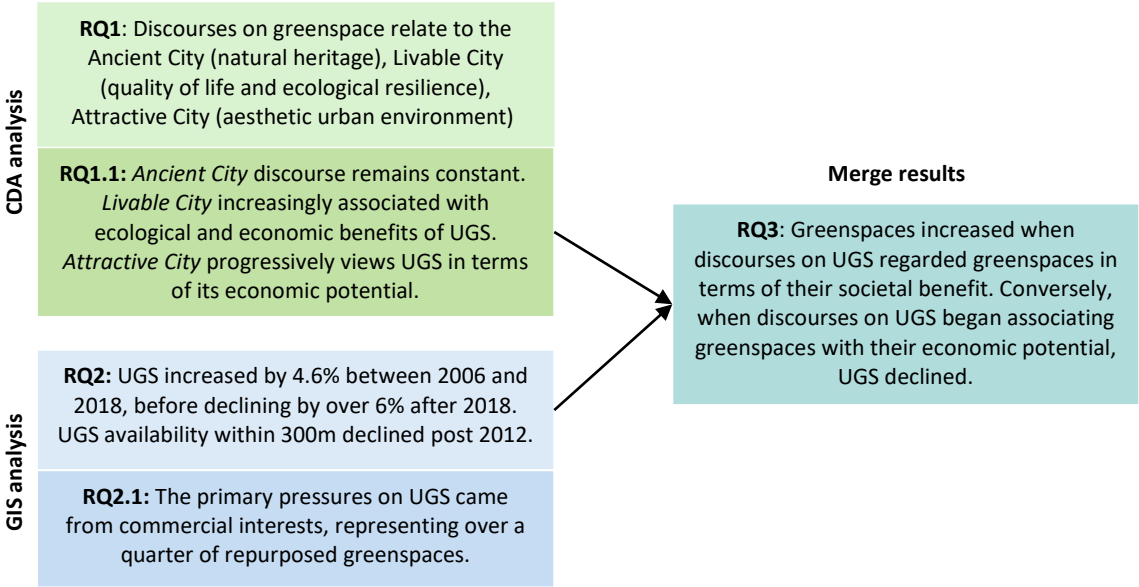


Figure 10. Convergence of CDA and GIS Analyses' Results
 Reproduction of the convergent mixed-method design with the results incorporated. Illustrates the main findings in relation to the research questions.

6.3. Equal provision of greenspace... for whom?

The geospatial analysis revealed a particularly evident instance of greenspace insufficiency in the Eastern district of the city, which is characterized by the Stolipinovo neighborhood that has a predominant Roma minority population. As the largest Roma neighborhood on the Balkan peninsula, the critically low levels of greenspace in this area expose a significant case of environmental inequity. This resonates with other studies which identify the recurrence of worse environmental conditions in marginalized communities (Benton-Short & Short, 2013; Heynen et al., 2006; Sister et al., 2010). The complete lack of greenspaces within 750m of the neighborhood has considerable negative implications for the Roma minority which rarely leaves the boundaries of its community (Ilieva et al., 2019). This group of society is denied access to urban greenspace and the social and environmental benefits it provides.

In parallel with these findings, however, the discourses on UGS in all the planning documents continuously underline the necessity of *equal access* to greenspace for all the city's residents. Although the urban policies acknowledge the unequal distribution of greenspaces, the issue is not problematized beyond its spatial dimensions. Greenspace equity is presented as an abstract, all-encompassing goal with no critical consideration of what it entails and how urban injustices are expressed in the current urban formations. As a result, issues of justice, such as the lack of UGS in one of Eastern Europe's biggest Roma neighborhoods, are overlooked in urban planning, whether intentionally or not. Consequently, measures that target this specific issue do not exist either. Nevertheless, greenspace projects in this area do exist.

The envisioned large scale greening project in the Gladno Pole neighborhood, described in the 2021-2027 strategy, is situated in proximity to Stolipinovo and thus could contribute to alleviating the issue with lack of greenspace near the minority neighborhood. The Gladno Pole greening initiative, however, is described as an opportunity to attract investments and create a high-tech park, thus raising the overall value of the area. Greening is therefore perceived as an investment opportunity, similarly to what has been described in previous studies on green gentrification (Anguelovski, Connolly, et al., 2019; García-Lamarca et al., 2022). In this case, raising value through greening is perceived solely as a positive phenomenon. Potential displacement of less wealthy groups such as the Roma is not acknowledged within the planning documents. It is worth considering that gentrifying effects may not play out as they have in Western Europe, as has been noted by scholars who underline the inadequacy of western theories to inform Eastern European urban phenomena

(Ouředníček, 2016). Therefore, further research is necessary to understand how and whether green gentrification occurs in Plovdiv and Bulgaria overall.

6.4. A city for people or profit?

In addition to revealing who is explicitly excluded from urban life, the geospatial analysis also raises questions about whether the city is governed for any of its inhabitants at all. Particularly because greenspace has continuously decreased in two of the three most populated residential areas in the city. Conversely, greenspace increases in the Central administrative region where UGS is already concentrated. While further study is needed to understand why this is occurring, one possible explanation is to increase the attractiveness of the city center, where the tourist destinations are concentrated, to enhance the tourist product that the *Ancient City* offers. The insufficient and decreasing UGS available to residents, as well as the increasing commodification of greenspace in the 2021-2027 planning period indicate that city planning is focused on economic growth logics over environmental and social dimensions.

Furthermore, as critical urban scholars have pointed out, socialist cities have shown that apart from being governed for the people as opposed to profit, urban decision-making needs to uphold to democratic principles in order to make cities livable (Marcuse & Flierl, 2012). Although public participation is highlighted in the planning documents, the discrepancy between municipal discourses and practice, and citizens' demands raises doubts about the true extent of citizens' ability to influence decision-making. The 2021-2027 strategy itself declares that citizens' priorities, which have been derived through municipality-organized public consultations, do not reflect what contributes most to the city's socioeconomic development. Thus, the citizens' primary demand for a green and livable city is not necessarily treated as a priority concern for the future development of Plovdiv. Furthermore, the declining UGS shows that not only are citizen's demands not prioritized, but urban development contradicts them. Therefore, whilst the democratic component within urban planning does exist, its actual role is questionable.

The analysis also pointed towards the necessity of scrutinizing claims that were made in the planning strategies. For instance, the ambiguous claim that the 2021-2027 strategy would increase greenspaces was only half true. Although greenspaces would increase compared to the status quo, the 2022 Masterplan shows that the allocated area for future greenspaces was in fact less compared to the previous Masterplan. This is critical given that this study found that just over a third of the population lives within 300m of greenspace, echoing previous study's findings of low levels of

greenspace availability in South-Eastern Europe (Kabisch et al., 2016). Such ambiguous claims enable concealing controversial development schemes by falsely presenting them as positive initiatives in urban planning.

Similarly, other mismatches in the planning discourse and actual strategies exist. Despite the growing emphasis on the necessity of increasing the city's ecological resilience through greenspaces, the 2022 Masterplan reveals that naturally resilient landscapes are decreasing in exchange for man-made less resilient ones. I hypothesize that this recent emphasis on the ecological functions of greenspace is done to comply with the EU cohesion policy which requires comprehensive urban plans to allocate funds. This resembles the "formalistic compliance to EU requirements" in other post-socialist countries which perceive EU institutions as a 'milking cow' for development funds (Dąbrowski & Piskorek, 2018). Thus, as the EU's requirements towards sustainable urban design increase, Plovdiv's planning documents reflect this, at least superficially. Ultimately, this demonstrates that urban development does not fully abide by the city's planning objectives, which is consistent with other studies in the CEE region that identify mismatches between policy and practice (Nowak et al., 2022).

In the face of all these findings, a final observation was that the municipal documents became less critical of the causes of greenspace decline between 2005 and the present. As the city and its greenspaces are becoming increasingly commodified, Plovdiv's planning documents exhibit a growing disregard towards the profit-oriented causes of the diminishing UGS. This aligns with critical urban theory's view that commodified cities are not just victims of global neoliberal trends, but are also "actively produced [by the state]" (Brenner, 2003, p. 4).

7. Conclusion

The overarching aim of this study was to investigate the interactions between economic development imperatives and sustainable urban planning by analyzing greenspace discourses and practice in Plovdiv, Bulgaria. An analysis of the city's urban planning documents between 2005 and the present revealed three leading discourses related to greenspace. I characterize these UGS discourses as constituents of the *Ancient*, *Livable* and *Attractive City*, which increasingly associate greenspace with its economic potential, and I uncover inconsistencies regarding why UGS is declining and the role of public opinion. The GIS analysis then complemented the study by providing evidence of the actual urban greenspace developments that occurred in parallel to these discourses. The results show that UGS increased slightly between 2006 and 2018 before declining again, primarily due to commercial pressures. The availability of greenspaces within 300m has continuously declined, with a significant lack of greenspace identified in the largest Roma minority neighborhood. Converging the two analyses revealed that UGS grew in a period when discourses on greenspace were associated with societal benefit, whereas they declined once discourses became more focused on greenspaces' economic potential, denoting the connection between discourse and practice. This suggests that as urban planning became more oriented towards economic development, the city and its greenspaces became increasingly commodified, thus shedding light on the interactions between economic and socio-ecological sustainability objectives in Plovdiv.

Returning to Critical urban theory's agenda to expose, propose and politicize urban problems, this thesis *exposed* the increasingly commodified city of Plovdiv in relation to greenspace discourse and practice, and problematized seemingly unsustainable urban expansion processes in relation to greenspace development. Analyzing these dynamics has given several valuable insights into broader theoretical and practical dimensions. The first is who greenspace is for in Plovdiv, and possibly other cities in Eastern Europe that carry the post-socialist urban heritage and follow similar urban development logics. The increasing concentration of greenspaces in the town centre, which likely aims to bolster the Ancient City's tourist potential, strongly contrasts with the greenspace-deprived Roma neighbourhoods, as well as the city's residential districts where UGS continues to decline. Second, the study brings up questions about who has the ability to influence and decide how, when and where greenspace develops. In Plovdiv, the alleged role of public participation remains questionable, and the claims of citizens' engagement seem empty; however, this question transcends the present case and underscores the importance of democratic, bottom-up initiatives in urban planning. All this stands to show the socially contested nature of urban space, and the need for

critical urban scholars to continually problematize its expressions and *propose* visionary alternatives on the quest for equitable urban sustainability.

The findings of this study contribute to a better understanding of sustainable urban development in the Eastern European context. As an understudied region, discerning the problems which impede more sustainable urban futures is crucial. My examination of greenspaces, which are major contributors to social and environmental well-being, provides initial insights into these urban problems. Nevertheless, due to the limited spatial data for this region, my ability to carry out a more sophisticated analysis that could have considered important socioeconomic factors was limited. Thus, further research can attempt to integrate spatial data relating to, for example, income, education, race or country of origin, occupation and so forth. Potential topics for further research include examining the quality of existing greenspaces, as well as green gentrification processes and greenspace inequity issues associated with the Roma minority community. Whereas green gentrification has barely been examined in post-socialist Eastern Europe, the exclusion of the largest Roma neighborhood on the Balkans is a noteworthy issue that environmental justice scholars can explore. Ultimately, studies need to take the sociohistorical specificities into account in order to first identify inequities and then enable the creation of place-based solutions based on principles of justice, democracy and long-term sustainability.

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9. Appendix

Appendix A. Inductive codes of benefits/values ascribed to greenspaces in the planning documents.

Code	Code Count	Included in ___ files?	Themed into:
Ecosystem services	26	6	Livable City
Natural Heritage	14	4	Ancient City
Leisure/Sport	13	4	Livable City
Ecological Environment	12	5	Attractive City
Livability	12	5	Livable City
Attractiveness	11	5	Attractive City
Biological Diversity	8	2	Livable City
Economic Development	7	4	Attractive City
Social Equity	3	3	Livable City

Appendix B. Codes of goals and policy actions associated with greenspaces. The codes were used as an aid for the textual dimension of CDA.

Code	Code Count	Included in ___ files?
Expansion	17	6
Revitalization	14	4
Utilization	6	1
Protection	4	3
Management	4	3
Integrating different functions	4	3

Appendix C. Codes of problems associated with greenspaces. The codes were used as an aid for the textual dimension of CDA.

Code	Code Count	Included in ___ files?
Insufficient UGS	12	6
Unequal distribution	7	5
'Pressures' on UGS	5	4
Polluted	4	3
Disconnected UGS	2	2
Illegal construction	1	1

Appendix D. Sources for identification of the newly created parks as part of the GIS analysis

	Street Name / Approximate Location	OBJECTID in ArcGIS Project Package	Link
1	Proslav, Elena str.	3504	Plovdiv Municipality Website
2	Boul. Osvobozhdenie	3505	Plovdiv Municipality Website
3	Boul. Knyagina Maria Luiza; Boul. Iztochen	1104	Plovdiv Municipality Website
4	Slavyanska str. 81	601	Plovdiv Municipality Website
5	Boul. Peshtersko Shose; Boul. Koprivshitsa	3502	Plovdiv Municipality Website
6	"Shahbazyan" Square / Zhiten Pazar	3238	Plovdiv Municipality Website