

## SUSTAINABLE URBAN PLANNING ACROSS EUROPE, THE WESTERN BALKANS, AND ALBANIA: A SYSTEMATIC LITERATURE REVIEW AND BIBLIOMETRIC ANALYSIS

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### Abstract

*Urbanization processes in the Western Balkan region have intensified over the last decades, exposing persistent challenges related to informal development, institutional fragmentation, environmental degradation, and limited implementation capacity within urban planning systems. While several countries in the region have undertaken legislative and policy reforms aligned with European Union frameworks and the Sustainable Development Goals (SDGs), the transition toward sustainable urban planning remains uneven and constrained by governance, data availability, and coordination gaps. This paper aims to identify the dominant themes, challenges, and opportunities shaping sustainable urban planning in the Western Balkan region, with a specific focus on Albania as a representative case. Methodologically, the study adopts a multi-scalar mixed-methods approach combining bibliometric analysis and keyword co-occurrence network analysis. Scientific literature was analyzed across three levels European, Western Balkan, and national (Albania) using Research Rabbit for publication connectivity and VOSviewer for keyword clustering and thematic mapping. The results reveal a strong emphasis on sustainability indicators, governance, and integrated planning at the European level, contrasted with a focus on institutional frameworks and*

*planning systems in the Western Balkans, and governance, transparency, and implementation challenges in Albania. The findings highlight a structural gap between policy ambitions and implementation capacity, underscoring the need for targeted institutional, individual, and infrastructural capacity-building. The paper concludes by discussing policy implications and the role of initiatives in supporting evidence-based, data-driven, and participatory urban planning practices in the Western Balkan region.*

**Keywords:** urban planning policies; sustainable urban planning, Western Balkan region.

## I.INTRODUCTION

Over the past decades, cities in the Western Balkan region have experienced rapid and often uncoordinated urban growth, shaped by post-socialist transition, economic restructuring, demographic change, and evolving governance frameworks. Urbanization in this context has frequently been accompanied by informal settlements, fragmented land-use patterns, inadequate infrastructure provision, and increasing environmental pressures. These dynamics have posed significant challenges to urban planning systems, which have struggled to balance development demands with long-term sustainability objectives. Sustainable urban planning has emerged globally as a key framework for addressing the social, economic, and environmental impacts of urbanization. Rooted in the principles of sustainable development, it promotes integrated planning approaches that align land use, mobility, environmental protection, economic development, and social inclusion. At the international level, this agenda has been reinforced through the adoption of the 2030 Agenda for Sustainable Development, particularly Sustainable Development Goal 11, which calls for inclusive, safe, resilient, and sustainable cities. Within the European Union, sustainability-oriented planning has increasingly incorporated governance reforms, spatial integration, and data-driven decision-making tools. In the Western Balkan region, however, the translation of sustainable urban planning principles into practice remains complex. Planning systems are still influenced by legacies of centrally planned governance, weak enforcement mechanisms, limited institutional capacity, and fragmented responsibilities across administrative levels. While legislative reforms have been introduced in several countries often driven by European integration processes, implementation has frequently lagged behind policy ambition. As a result, urban development outcomes often remain disconnected from sustainability objectives, particularly at the local level. Albania represents a particularly illustrative case within this regional context. Following the collapse of the socialist regime, the country experienced intense urban expansion, largely driven by internal migration and informal construction. Despite the introduction of new planning legislation, national spatial strategies, and efforts to align with European standards, challenges persist in coordinating institutions, ensuring transparency, and integrating sustainability

considerations into everyday planning practice. These conditions make Albania a relevant case for examining broader structural issues affecting sustainable urban planning across the Western Balkans. Against this background, this paper aims to analyze the key challenges and opportunities shaping sustainable urban planning in the Western Balkan region, with a particular focus on Albania. Rather than evaluating individual projects or plans, the study seeks to identify broader thematic priorities, governance patterns, and capacity gaps that influence how sustainability is conceptualized and operationalized within planning systems. To achieve this aim, the paper addresses the following research questions:

What are the dominant themes and concepts shaping sustainable urban planning research at the European, Western Balkan, and national (Albania) levels?

How do institutional and governance-related challenges differ across these spatial scales?

What lessons can be drawn from the Albanian case to inform sustainable urban planning approaches in the wider Western Balkan region?

## II. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

### II.1 Sustainable Urban Planning: Concepts and Theoretical Foundations

Sustainable urban planning has evolved as a multidisciplinary field that integrates environmental protection, social equity, and economic development within spatial planning and urban governance processes. Early debates on sustainable urban development highlighted the inherent tensions between economic growth, environmental protection, and social justice, often referred to as the “planner’s triangle” (Campbell, 1996). Since then, sustainable urban planning has increasingly been framed as a process-oriented and governance-driven approach, rather than a fixed set of spatial outcomes. Contemporary literature emphasizes the need for integrated planning systems that align land use, mobility, infrastructure, environmental management, and social policies (Wheeler & Beatley, 2004; Yigitcanlar & Teriman, 2015). In this context, sustainability is not limited to environmental performance, but encompasses institutional coordination, participatory governance, and long-term resilience. Scholars such as Bibri and Krogstie (2017) and Angelidou et al. (2017) further argue that sustainable urban planning increasingly intersects with smart city approaches, particularly through the use of data, indicators, and digital tools to support evidence-based decision-making. The adoption of the United Nations 2030 Agenda for Sustainable Development, and particularly Sustainable Development Goal 11 (SDG 11), has reinforced the role of cities as key arenas for achieving sustainability objectives. Several studies highlight the growing importance of indicators and monitoring frameworks in translating global sustainability goals into local planning practice (Klopp & Petretta, 2017; Hansson et al., 2019). However, the literature also

cautions that indicator-based approaches may oversimplify complex urban processes if not embedded within robust governance and institutional frameworks (Mori & Christodoulou, 2012; Michalina et al., 2021).

### II.2 Urban Planning Systems and Governance in the Western Balkans

Urban planning systems in the Western Balkan region are deeply shaped by their post-socialist legacy, characterized by rapid institutional transformation, decentralization, and evolving governance structures. Several comparative studies emphasize that spatial planning systems in the region remain in transition, influenced both by European Union policy frameworks and by domestic political, economic, and institutional constraints (Nedović-Budić & Cavrić, 2006; Cotella & Berisha, 2016). Cotella and Berisha (2016) identify significant institutional fragmentation and path-dependency within Western Balkan planning systems, noting that reforms have often focused on legislative alignment rather than on strengthening implementation capacity. Similarly, Berisha et al. (2018) argue that while European planning principles such as territorial cohesion and integrated development have been formally adopted, their practical application remains uneven across the region. This gap between formal policy adoption and everyday planning practice is a recurring theme in the literature. Governance-related challenges are particularly prominent in the Western Balkan context. Studies highlight limited coordination between national and local authorities, weak enforcement mechanisms, and insufficient public participation in planning processes (Adams et al., 2011; Cotella, 2020). Informal development, especially in peri-urban areas, further complicates sustainable urban planning, undermining spatial coherence and environmental protection (Zegarac, 1999; Tsenkova & Nedović-Budić, 2006). At the same time, the literature acknowledges emerging opportunities linked to European integration, cross-border cooperation, and strategic planning initiatives. Territorial governance frameworks and EU-funded programmes have created spaces for experimentation, learning, and capacity-building, although their long-term impact remains contingent on institutional stability and political commitment (Cotella & Stead, 2011; Medeiros & Van der Zwet, 2020).

### II.3 Sustainable Urban Planning in Albania

Albania's urban development trajectory reflects many of the broader challenges identified in the Western Balkan region, while also exhibiting context-specific characteristics. Following the political and economic transition of the early 1990s, the country experienced rapid urban expansion driven by internal migration, informal construction, and weak regulatory control (Jacobs & Craig, 1997; Mane, 2017). This period significantly altered the urban landscape, particularly in metropolitan areas such as Tirana and along the coastal zone. Several studies highlight the persistent tensions between planning legislation and implementation in Albania. Thomai (2012; 2019) emphasizes that while territorial planning policies increasingly reference sustainable development principles,

institutional coordination and enforcement remain limited. Conflicts within the legislative framework have also contributed to phenomena such as coastal overdevelopment and land-use fragmentation (Musaj, 2016). More recent planning reforms, including the National Spatial Plan and decentralization strategies, signal a shift toward more integrated and sustainability-oriented approaches (Qorri & Fagu, 2016; Republic of Albania, 2006). However, empirical studies point to ongoing challenges related to governance transparency, public trust, and investment coordination (Allkja, 2019; Kiri & Sula, 2023). Issues of corruption, limited access to reliable data, and uneven institutional capacity continue to constrain sustainable urban planning outcomes. Within this context, Albania has increasingly engaged with international sustainability agendas, including the SDGs and nexus-based planning approaches promoted by organizations such as UNECE (UNECE, 2020). While these frameworks offer valuable strategic direction, the literature suggests that their effectiveness depends largely on the strengthening of institutional, technical, and human capacities at both national and local levels.

#### II.4 Sustainable Urban Planning Models and Best Practices

The literature on sustainable urban planning models highlights a gradual shift from sectoral and regulation-driven approaches toward integrated, governance-oriented planning frameworks. Early conceptual models emphasized the need to reconcile environmental protection, economic development, and social equity, acknowledging the inherent trade-offs between these objectives (Campbell, 1996). This foundational perspective has informed subsequent planning models that view sustainability as a balancing process rather than a fixed spatial outcome. More recent approaches stress the importance of integrated and multi-scalar planning systems. Wheeler and Beatley (2004) argue that sustainable urban planning requires coordination across land use, transportation, environmental management, and economic development, supported by long-term strategic vision and institutional coherence. Similarly, Yigitcanlar and Teriman (2015) propose an integrated planning and development model that links spatial planning with governance structures, stakeholder engagement, and monitoring mechanisms, emphasizing process-oriented rather than project-based interventions. In parallel, indicator-based and performance-oriented planning models have gained prominence, particularly in the context of international sustainability agendas. Mori and Christodoulou (2012) and Michalina et al. (2021) review a wide range of urban sustainability indicators and assessment frameworks, highlighting their role in supporting evidence-based decision-making and comparative evaluation. At the urban level, such models are increasingly aligned with Sustainable Development Goal 11, which has stimulated the development of monitoring tools and indicator systems tailored to local planning contexts (Klopp & Petretta, 2017; Hansson et al., 2019). However, the literature cautions that indicator-driven approaches risk becoming technocratic if not embedded within robust governance and participatory planning processes. The intersection between sustainable and smart city paradigms has further influenced

contemporary planning models. Angelidou et al. (2017) and Bibri and Krogstie (2017) demonstrate how digital technologies, data platforms, and analytical tools can enhance the implementation of sustainability objectives by improving coordination, transparency, and monitoring. Nevertheless, these approaches are most effective when adapted to local institutional capacities and socio-economic conditions, rather than applied as standardized technological solutions. From a governance perspective, comparative studies emphasize that best practices in sustainable urban planning are closely linked to institutional arrangements and territorial governance models. Medeiros and Van der Zwet (2020) show that integrated urban development strategies in European cities tend to perform better when supported by strong vertical and horizontal coordination mechanisms. In contrast, planning systems characterized by institutional fragmentation and weak enforcement—such as those identified in the Western Balkan region—often struggle to translate sustainability principles into tangible outcomes (Cotella & Berisha, 2016).

<b>Author(s)</b>	<b>Year</b>	<b>Title / Concept</b>	<b>Main Contribution to Sustainable Urban Planning</b>
Scott Campbell	1996	<i>Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development</i>	<i>Introduced the “planner’s triangle,” highlighting trade-offs between economic growth, environmental protection, and social equity in sustainable urban planning.</i>
Stephen M. Wheeler; Timothy Beatley	2004	<i>The Sustainable Urban Development Reader</i>	<i>Established sustainability as an integrated, long-term planning process combining land use, transport, environment, and governance.</i>
Tan Yigitcanlar; Suharto Teriman	2015	<i>Rethinking Sustainable Urban Development: Towards an Integrated Planning and Development Process</i>	<i>Proposed an integrated planning model linking spatial planning, governance, stakeholder engagement, and implementation mechanisms.</i>
Koichiro Mori; Aris Christodoulou	2012	<i>Review of Sustainability Indices and Indicators: Towards a New City Sustainability Index (CSI)</i>	<i>Developed indicator-based frameworks to assess and monitor urban sustainability performance.</i>
Jacqueline M. Klopp; Danielle L. Petretta	2017	<i>The Urban Sustainable Development Goal: Indicators, Complexity and the Politics of Measuring Cities</i>	<i>Examined SDG 11 indicators and their role in translating global sustainability goals into local urban planning practice.</i>

Stina Hansson; Helen Arvidsson; David Simon	2019	<i>Governance for Sustainable Urban Development: The Double Function of SDG Indicators</i>	<i>Highlighted the role of indicators as both monitoring tools and governance instruments in sustainable urban development.</i>
Margarita Angelidou et al.	2017	<i>Enhancing Sustainable Urban Development through Smart City Applications</i>	<i>Explored the integration of smart city tools and digital technologies to support sustainable urban planning objectives.</i>
Simon Elias Bibri; John Krogstie	2017	<i>Smart Sustainable Cities of the Future</i>	<i>Developed a theoretical framework linking smart city concepts with sustainability goals through data-driven planning.</i>
Eduardo Medeiros; Arno Van der Zwet	2020	<i>Sustainable and Integrated Urban Planning and Governance in Metropolitan and Medium-Sized Cities</i>	<i>Identified governance-based best practices for integrated urban planning across European cities.</i>
Giancarlo Cotella; Erblin Berisha	2016	<i>Changing Institutional Framework for Spatial Planning in the Western Balkan Region</i>	<i>Analysed institutional and governance constraints affecting the transfer of sustainable planning models to the Western Balkan context.</i>

Table 1. Grouping of literature by subject

Source: Based on the literature listed and summarised by the author.

Note: For more information, see References.

Table 1. summarizes the main sustainable urban planning models and conceptual frameworks identified in the literature, highlighting their relevance for integrated planning, governance, and sustainability-oriented urban development. The table illustrates the evolution of sustainable urban planning from early conceptual debates on the inherent trade-offs between economic, environmental, and social objectives toward more integrated, indicator-based, and governance-oriented planning models. It also demonstrates the increasing emphasis on multi-sectoral coordination, monitoring frameworks, and data-supported decision-making as core components of contemporary sustainable urban planning. Importantly, the selected contributions provide both theoretical foundations and practical reference points, while also revealing the institutional and governance conditions necessary for the effective transfer of these models to different planning contexts, including those of the Western Balkan region.

In conclusion, the literature suggests that successful sustainable urban planning models share several common characteristics: integrated and multi-sectoral planning frameworks, alignment between strategic vision and implementation tools, effective governance and coordination mechanisms, and the use of indicators and data to support monitoring and evaluation. While these models provide valuable reference points, their transferability to the Western Balkan context requires careful adaptation to local institutional capacities, governance structures, and socio-economic conditions.

## II.5 Case Studies in Urban Planning in Albania

The literature on urban planning in Albania provides a series of case-based insights into the country's efforts to transition toward more sustainable and integrated planning approaches. Much of this body of work focuses on the post-socialist transformation of Albanian cities, highlighting how rapid urbanisation, informal development, and institutional restructuring have shaped planning outcomes. Early analyses underline that the absence of effective regulatory frameworks during the transition period led to significant spatial fragmentation, particularly in metropolitan areas and along the coastal zone (Jacobs & Craig, 1997; Mane, 2017). Several studies examine territorial and spatial planning initiatives introduced to address these challenges. Thomai (2012; 2019) analyses territorial planning policies in Albania, emphasizing their alignment with sustainable development principles, including environmental protection and balanced regional development. However, these studies also point to persistent gaps between strategic objectives and implementation, largely due to weak institutional coordination and limited enforcement capacity. Similar concerns are raised in assessments of legislative conflicts, particularly in coastal areas, where overlapping regulations and development pressures have contributed to unsustainable land-use patterns (Musaj, 2016). Urban development in Tirana has received particular attention in the literature, often serving as a reference case for broader national planning dynamics. Studies on sustainable urban mobility and transport planning initiatives highlight progress in strategic planning and policy alignment with European standards, while also noting challenges related to data availability, inter-institutional coordination, and long-term monitoring (Mazniku et al., 2014). These findings suggest that while sector-specific planning instruments have improved, their integration within a comprehensive sustainability framework remains limited. At a broader scale, national-level planning instruments such as the National Spatial Plan have been discussed as key milestones in Albania's planning reform process. Qorri and Fagu (2016) argue that such instruments contribute to territorial cohesion and strategic coordination, yet their effectiveness depends heavily on governance quality and investment capacity at the local level. Complementary analyses further highlight governance-related issues, including transparency, public trust, and administrative capacity, as critical factors influencing planning outcomes (Allkja, 2019; Kiri & Sula, 2023).

Case studies in Albania reveal a recurring pattern: while planning frameworks and strategic instruments increasingly reflect sustainability principles, their practical outcomes are constrained by governance and institutional limitations. These experiences underscore the importance of strengthening implementation mechanisms, improving coordination across administrative levels, and embedding sustainability objectives into everyday planning practice. As such, Albanian case studies provide valuable lessons for understanding the challenges and opportunities of sustainable urban planning in other Western Balkan contexts.

## II.6 Research Gap

The reviewed literature reveals several critical gaps in relation to sustainable urban planning in the Western Balkan region and Albania. First, while a substantial body of research addresses planning systems, legislative reforms, and institutional frameworks, fewer studies systematically examine the thematic evolution of sustainability concepts across different spatial scales. In particular, limited attention has been given to how sustainability is framed and prioritized at European, regional, and national levels, and how these framings influence planning practice. Second, governance- and capacity-related challenges—such as institutional fragmentation, weak enforcement, and limited coordination between administrative levels—are widely acknowledged in the literature. However, empirical evidence directly linking these challenges to specific planning outcomes remains limited, particularly in the context of post-socialist and transition economies. As a result, the mechanisms through which governance structures shape sustainable urban development remain insufficiently explored. Finally, there is a clear need for comparative and multi-scalar analytical approaches that connect European policy discourses on sustainable urban development with regional and national planning realities in the Western Balkans. Existing studies often focus on individual countries or planning instruments, without systematically situating them within broader transnational sustainability debates. By applying a bibliometric and keyword co-occurrence analysis across European, Western Balkan, and Albanian contexts, this study contributes to addressing these gaps. It offers a structured overview of dominant research themes and highlights how sustainability is conceptualized and operationalized differently across spatial scales, providing insights that are relevant for policy development, institutional learning, and future research on sustainable urban planning in the region.

## III. METHODOLOGY

### III.1 Research Design

This study adopts a systematic literature review design supported by bibliometric analysis. The research is based exclusively on the analysis of published scientific literature and does not involve

primary data collection methods such as interviews, surveys, or questionnaires. The objective of the methodology is to systematically identify, classify, and analyze existing academic research on sustainable urban planning across different spatial scales. This approach was selected because the aim of the paper is to explore how sustainable urban planning is conceptualized, framed, and discussed within the academic literature, rather than to evaluate the performance of specific projects or capture stakeholder perceptions. A systematic literature review combined with bibliometric techniques allows for a transparent and replicable examination of large volumes of research, enabling the identification of dominant themes, conceptual trends, and research gaps. Furthermore, bibliometric analysis is particularly suitable for addressing the research questions of this study, as it supports comparative analysis across spatial scales by revealing patterns in keyword usage, thematic clustering, and citation networks. This methodological framework enables the study to connect European-level sustainability discourses with regional and national planning debates in the Western Balkan context.

### III.2 Systematic Literature Selection Process

The literature selection process followed a structured and replicable procedure. Scientific publications were identified using the Research Rabbit platform, which enables systematic exploration of publication networks and citation linkages. The initial search was conducted using the keyword "Sustainable Urban Planning", combined with spatial identifiers corresponding to the three analytical levels: European, Western Balkan, and national (Albania). The temporal scope of the review covered publications from 2014 to 2021, a period reflecting the consolidation of sustainability-oriented urban planning debates in relation to the adoption of the Sustainable Development Goals and evolving European planning policies. The initial search yielded a core set of publications for each analytical level. Subsequently, Research Rabbit was used to identify additional relevant studies through citation connectivity and thematic similarity, ensuring that closely related contributions were included in the final dataset. Only peer-reviewed academic publications and key policy-oriented scientific works were considered, ensuring consistency and academic rigor across the reviewed material.

### III.3 Bibliometric and Keyword Co-occurrence Analysis

Following the selection of relevant publications, bibliographic data were exported in RIS format and analysed using the VOSviewer software. Bibliometric analysis was conducted through keyword co-occurrence mapping, which enables the identification of dominant concepts, thematic clusters, and relational structures within the literature. For each analytical level, a threshold was applied to retain the most relevant keywords based on frequency of occurrence. Specifically, the software was configured to select the top 60% of most relevant terms, allowing for a balance between thematic comprehensiveness and analytical clarity. The resulting keyword networks were then automatically

clustered by VOSviewer, revealing groups of related concepts associated with sustainable urban planning, governance, spatial planning systems, and implementation challenges. This analytical step transformed large volumes of textual data into interpretable thematic structures, supporting a systematic comparison across the three spatial scales.

### 3.4 Multi-Scalar Analytical Framework

The bibliometric analysis was conducted across three spatial scales to enable comparative interpretation:

- European level, focusing on dominant sustainability concepts, planning models, and governance approaches in the broader academic discourse;
- Western Balkan level, examining literature related to spatial planning systems, institutional frameworks, and governance challenges in post-socialist and transition contexts;
- National level (Albania), concentrating on country-specific planning debates, with particular attention to governance, transparency, and implementation capacity.

Applying the same analytical procedure at each level ensured methodological consistency and enabled meaningful cross-scale comparison.

### 3.5 Methodological Limitations

Despite its strengths, the adopted methodology presents certain limitations. First, the analysis is limited to peer-reviewed academic literature and selected scientific policy documents, potentially excluding relevant grey literature or local planning reports. Second, keyword co-occurrence analysis captures the prominence of concepts but does not fully reflect their qualitative interpretation within individual studies, requiring careful contextual reading. Finally, the temporal scope of the review may limit the visibility of emerging themes that have gained prominence after the selected time frame. Nevertheless, the systematic literature review combined with bibliometric analysis provides a robust and transparent methodological framework for addressing the objectives of this study and for exploring sustainable urban planning discourse across multiple spatial scales.

## IV. RESULTS

### IV. 1 Sustainable Urban Planning / Europe”

#### Phase I

Phase I of the analysis focused on the systematic identification and preliminary structuring of the scientific literature related to sustainable urban planning in Europe. Using the Research Rabbit platform, a keyword-based search (“Sustainable Urban Planning / Europe”) resulted in the selection of 54 core publications, which served as the initial corpus for analysis. This phase aimed to assess both the temporal distribution of the literature and the connectivity among key contributions, in order to identify influential studies and thematic focal points within the field. The first set of visualisations illustrates the timeline distribution of the selected publications and their immediate citation networks. The temporal analysis shows a clear concentration of research outputs after 2015, with a notable increase between 2017 and 2021. This trend reflects the growing academic interest in sustainable urban planning following the consolidation of sustainability agendas, including the Sustainable Development Goals and climate-oriented urban policies. Earlier contributions appear more isolated, while recent publications demonstrate higher levels of interconnection, suggesting an increasingly structured and cumulative research field.

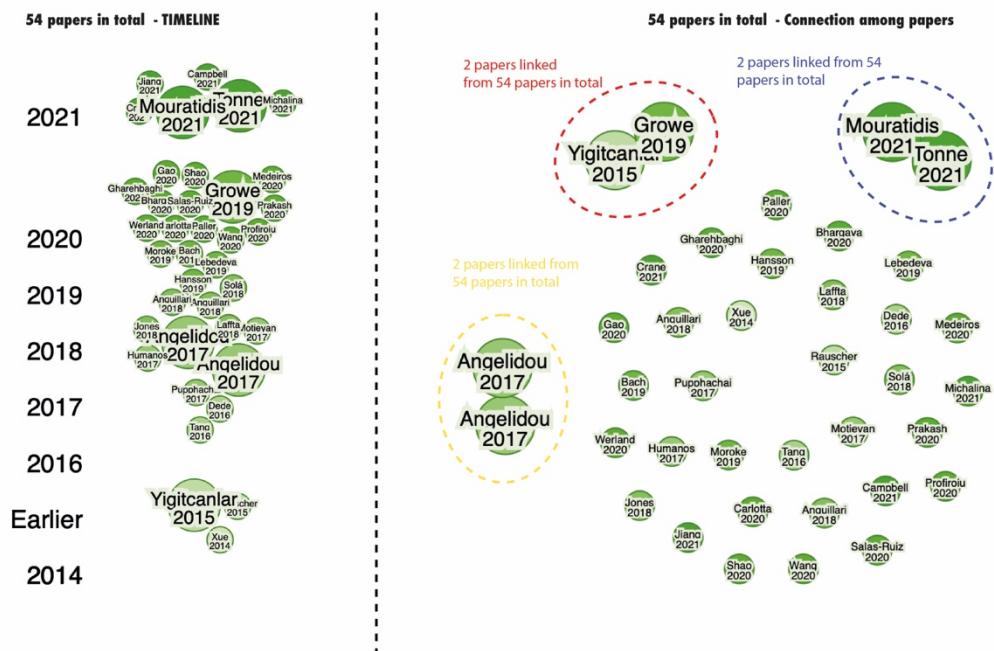


Figure 1. Connected papers in Research Rabbit

Source: Research Rabbit Platform

Clus.	Author	Title	Cit.
1	Margarita Angelidou, et al. (2017)	Enhancing sustainable urban development through smart city application	167
	Margarita Angelidou, Artemis Psaltoglou (2017)	An empirical investigation of social innovation initiatives for sustainable urban development	81
2	Tan Yigitcanlar, Suharto Teriman (2015)	Rethinking sustainable urban development: towards an integrated planning and development process	137
	Anna Growe, Tim Freytag (2019)	Image and Implementation of Sustainable Urban Development: Showcase Projects and other Projects in Freiburg, Heidelberg and Tübingen, Germany	6
3	Cathryn Tonne et al. (2021)	Defining pathways to healthy sustainable urban development	24
	Kostas Mouratidis (2021)	COVID-19 and the Cimpact City: Implications for Well-being and Sustainable Urban Planning	3

Table 2. Main connected papers

Source: Research Rabbit platform

The connectivity analysis further reveals that only a limited number of publications function as central nodes within the literature network. In particular, the works of Yigitcanlar and Teriman (2015), Angelidou et al. (2017), and Tonne et al. (2021) emerge as highly connected references, linking multiple studies across different thematic clusters. These publications act as conceptual anchors, bridging discussions on integrated planning, smart and sustainable city approaches, and health-oriented urban development. In contrast, a significant share of the selected papers remain weakly connected, indicating thematic specialization or limited cross-referencing within the broader sustainability discourse.

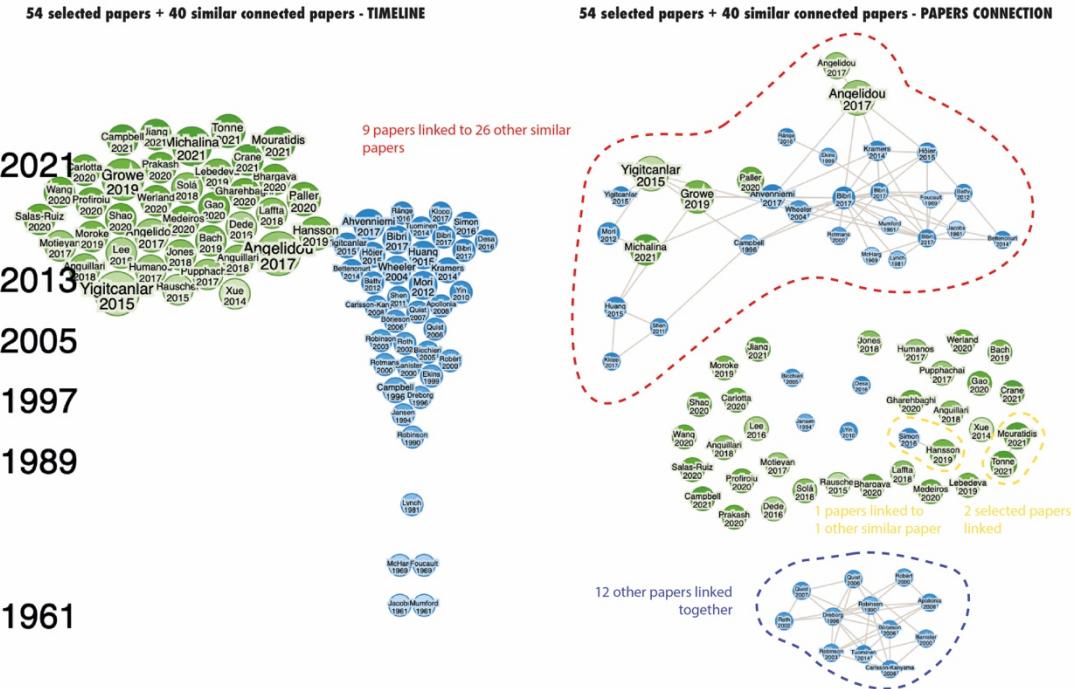


Figure 2. Connected papers and Cauterization

Source: Research Rabbit Platform

Clus.	Author	Title	Cit.	Author	Title	Cit.
1	Margarita Angelidou, et al. (2017)	Enhancing sustainable urban development through smart city application	167	Mattias Hojer, Josef Wangel (2015)	Smart Sustainable Cities: Definition and Challenges	247
				Michael Batty et al. (2012)	Smart cities of the future	1203
	Tan Yigitcanlar, Suharto Teriman (2015)	Rethinking sustainable urban development: towards an integrated planning and development process	137	Jacqueline M. Klopp, Danielle L Petretta. (2017)	The urban sustainable development goal: Indicators, complexity and the politics of measuring cities	193
				Tan Yigitcanlar et al. (2015)	Towards prosperous sustainable cities: A multi-scalar urban sustainability assessment approach	120
				Koichiro Mori, Aris Christodoulou (2012)	Review of sustainability indices and indicators: Towards a new City Sustainability Index (CSI)	507
	Margarita Angelidou, Artemis	An empirical investigation of social innovation initiatives	81	Hannele Ahvenniemi et al. (2017)	What are the differences between sustainable and smart cities	601

	Psaltoglou (2017)	for sustainable urban development		Anna Kramers et al. (2014)	Smart sustainable cities – Exploring ICT solutions for reduced energy use in cities	234
	Denis Michalina, et al. (2021)	Sustainable Urban Development: A Review of Urban Sustainability Indicator Framework	7	Liyin Shen et al. (2011)	The application of urban sustainability indicators – A comparison between various practices	493
				Lu Huang et al. (2015)	Defining and measuring urban sustainability: a review of indicators	154
	Anna Grawe, Tim Freytag (2019)	Image and Implementation of Sustainable Urban Development: Showcase Projects and other Projects in Freiburg, Heidelberg and Tübingen, Germany	6	Luis M. A. Bettencourt (2014)	The uses of big data in cities	108
				Simon Elias Bibri (2017)	A foundational framework for smart sustainable city development: Theoretical, disciplinary, and discursive dimensions and their synergies	137
				Jan Rotmans et al. (2000)	An integrated planning tool for sustainable cities	112
	Jeffrey W. Paller (2020)	Everyday Politics and Sustainable Urban Development in the Global South	2	Max Range, Mikael Sandberg (2016)	Windfall gains or eco-innovation? 'Green' evolution in the Swedish innovation system	11
				Simon Elias Bibri, John Krogstie (2017)	Smart sustainable cities of the future: An extensive interdisciplinary literature review	602
	Raymond Charles Rauscher, Salim Momtaz (2015)	Sustainable Urban Planning	1	Stephen M. Wheeler, Timothy Beatley (2004)	The sustainable urban development reader	243
				Scott Campbell et al. (1996)	Green Cities, Growing Cities, Just Cities? Urban Planning and Contradictions of Sustainable Development	1228
2	Stina Hansson et al. (2019)	Governance for sustainable urban development: the double function of SDG indicators	23	David Simon et al. (2016)	Developing and testing the Urban Sustainable Development Goal's targets and indicators – a five – city study	146
3	Cathryn Tonne et al. (2021)	Defining pathways to healthy sustainable urban development	24	Kostas Mouratidis (2021)	COVID-19 and the compact city: Implications for well-being and sustainable urban planning	3

Table 3. Main connected papers

Source: ResearchGate platform

The second set of figures expands the analysis by incorporating 40 additional similar and connected papers, extending the temporal scope back to earlier foundational works. This expanded network highlights the presence of historical conceptual roots, particularly around sustainability theory and planning integration, which continue to inform contemporary research. At the same time, the clustering structure shows that recent studies tend to group around applied themes such as governance, well-being, resilience, and smart city applications, reflecting a shift from abstract conceptual debates toward more operational and policy-relevant approaches. The clustering results summarised in Table X further support these observations. Three main clusters can be identified. The first cluster, centred on Angelidou et al. (2017), emphasizes smart city applications and social innovation as drivers of sustainable urban development. The second cluster, anchored by Yigitcanlar and Teriman (2015) and Growe and Freytag (2019), focuses on integrated planning processes and the implementation of sustainability concepts in specific urban contexts. The third cluster, represented by Tonne et al. (2021) and Mouratidis (2021), highlights the increasing attention to health, well-being, and urban resilience, particularly in response to recent global challenges such as the COVID-19 pandemic. Phase I demonstrates that sustainable urban planning research in Europe is characterized by a core set of influential studies, a growing density of interconnections in recent years, and a gradual thematic shift toward integration, governance, and human-centered outcomes. These findings provide a structured foundation for the subsequent bibliometric and keyword co-occurrence analyses, enabling a more detailed exploration of dominant concepts and thematic patterns across different spatial scales.

## **Phase II**

Phase II of the analysis focused on identifying the dominant thematic structures within the selected literature through a keyword co-occurrence analysis. The analysis was conducted using VOSviewer, with the abstract field selected as the unit of analysis and a full counting method applied. From a total of 1,740 extracted terms, a threshold of two minimum occurrences was set, resulting in 352 terms that met the inclusion criteria. To ensure analytical clarity and relevance, the software retained the 60% most relevant terms, which were subsequently clustered based on their co-occurrence relationships. The resulting keyword network consists of 44 clusters, encompassing 850 items, with 15,186 links and a total link strength of 21,968, indicating a dense and highly interconnected thematic structure. This density suggests that sustainable urban planning research is characterized by strong conceptual interdependencies, rather than isolated thematic strands. The keyword strength analysis highlights “city” as the most dominant term in the network, with the highest number of links (464), occurrences (54), and total link strength (1,444). This confirms the city as the primary spatial and analytical unit within sustainability-oriented planning research.

Closely related to this core are the clusters centred on “sustainable development,” “urban development,” “urban planning,” and “process,” which together form the backbone of the network. Their high link strength values indicate that sustainability in urban planning is predominantly framed as a process-driven and system-oriented concept, rather than a purely normative or outcome-based objective.

Clusters:	Items:	Links:	Total link strength:
44	850	15186	21968
Keywords Strength Link			
Keywords Strength Link			
C 1	C 2	C 3	C 4
C 5	C 6	C 7	C 8
C 9	C 10	C 11	C 12
C 13	C 14	C 15	C 16
C 17	C 18	C 19	C 20
C 21	C 22	C 23	C 24
C 25	C 26	C 27	C 28:29:30
C 31	C 32	C 33	C 34
C 35	C 36	C 37	C 38:39:40

Cluster	Items	Keyword	Links	Occuranc e	Toral Strength link
34	41	City	464	54	1444
44	7	Sustainable Development	318	25	670
35	13	Urban Development	247	15	548
27	16	Urban Planning	119	18	504
33	13	Process	291	16	493
2	39	Sustainable Urban Spatial Development	48	6	360
11	22	Policy	202	9	339
34	13	System	189	8	292
7	26	Urbanization	131	10	274
22	18	Framework	113	10	274
26		Resilience	84	5	265
8		Sustainable Urban Planning	86	11	224
1		SDGs	63	5	217
1		Ecological Environment	64	4	217

Table 4. Keywords strength link

Source: Data collected from VOSviewer software

Several mid-level clusters further refine this core structure. Keywords such as “policy,” “system,” “framework,” and “urbanization” emphasize the governance and institutional dimensions of sustainable urban planning, highlighting the role of planning instruments, regulatory mechanisms, and strategic frameworks. The presence of “sustainable urban spatial development” as a distinct cluster indicates growing attention to spatial form, land-use organization, and the integration of sustainability principles into urban morphology. Emerging and cross-cutting themes are captured by clusters related to “resilience,” “ecological environment,” and “SDGs.” Although these clusters exhibit lower occurrence values, their relatively high total link strength suggests strong conceptual integration with the core planning and development themes. This pattern indicates that resilience, environmental considerations, and global sustainability agendas increasingly function as transversal concepts, informing planning processes rather than operating as standalone domains.

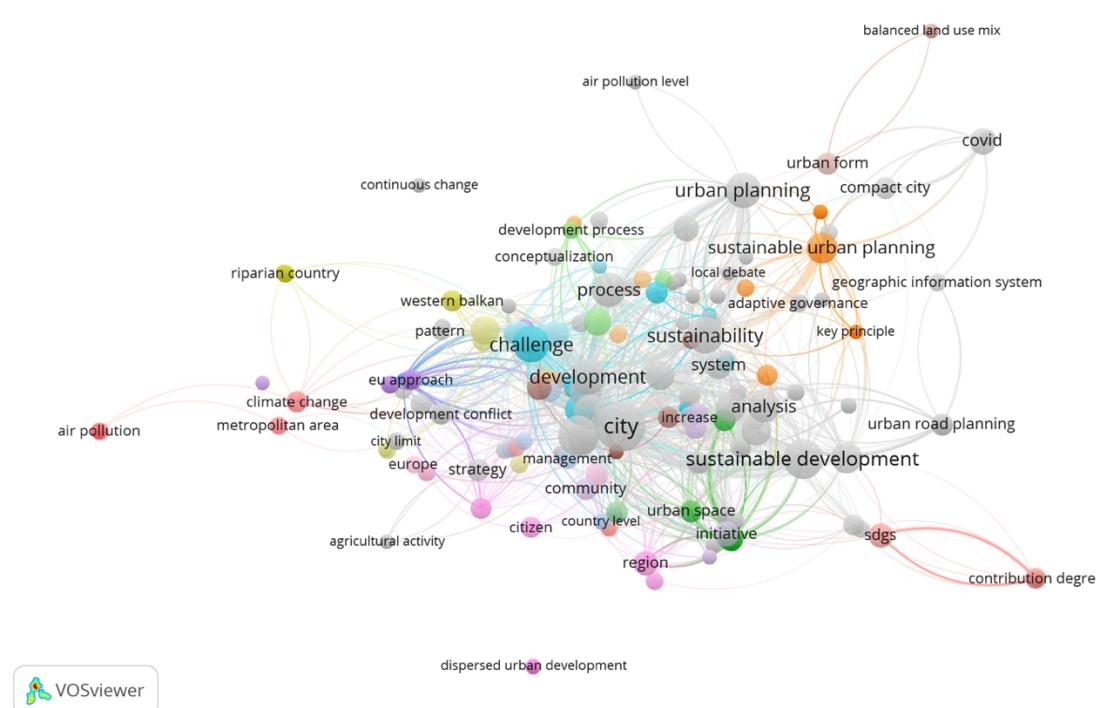


Figure 3. Keywords connectivity

Source: Research Rabbit Platform

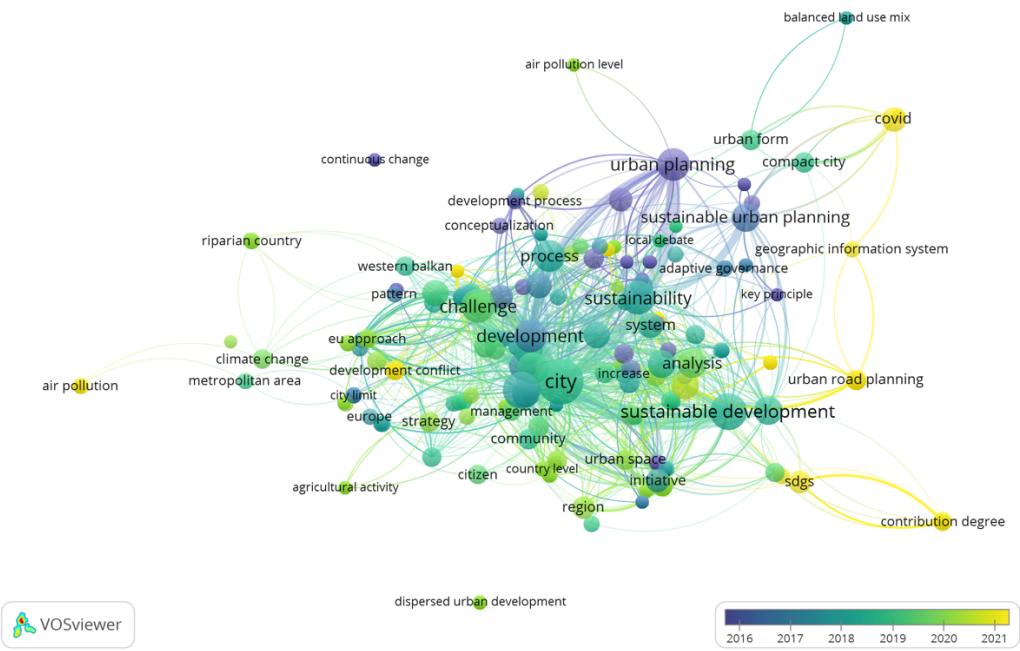


Figure 4. Keywords timeline development process

Source: Research Rabbit Platform

The network and overlay visualizations further reveal a temporal shift in thematic emphasis. Earlier research tends to concentrate on foundational planning concepts and development processes, while more recent studies increasingly incorporate themes such as adaptive governance, compact city models, environmental performance, and health-related concerns. This evolution reflects a broader transition in the literature toward more integrated, human-centered, and evidence-based approaches to sustainable urban planning. Phase II demonstrates that sustainable urban planning research is structured around a dense core of city-focused and process-oriented concepts, complemented by governance, spatial, and environmental dimensions. The identified clusters provide a coherent thematic framework for understanding how sustainability is operationalized in urban planning discourse, offering a solid basis for comparative interpretation across European, Western Balkan, and national contexts.

IV. 2 - Sustainable Urban Planning/ Western Balkan

## Phase I

The keyword-based search “Sustainable Urban Planning / Western Balkan” conducted through the Research Rabbit platform resulted in a substantially smaller body of literature compared to the European-level analysis. In total, 10 core publications were identified, confirming the limited academic focus explicitly addressing sustainable urban planning in the Western Balkan region. This finding already indicates a structural research gap, particularly when contrasted with the density and diversity of studies observed at the European scale.

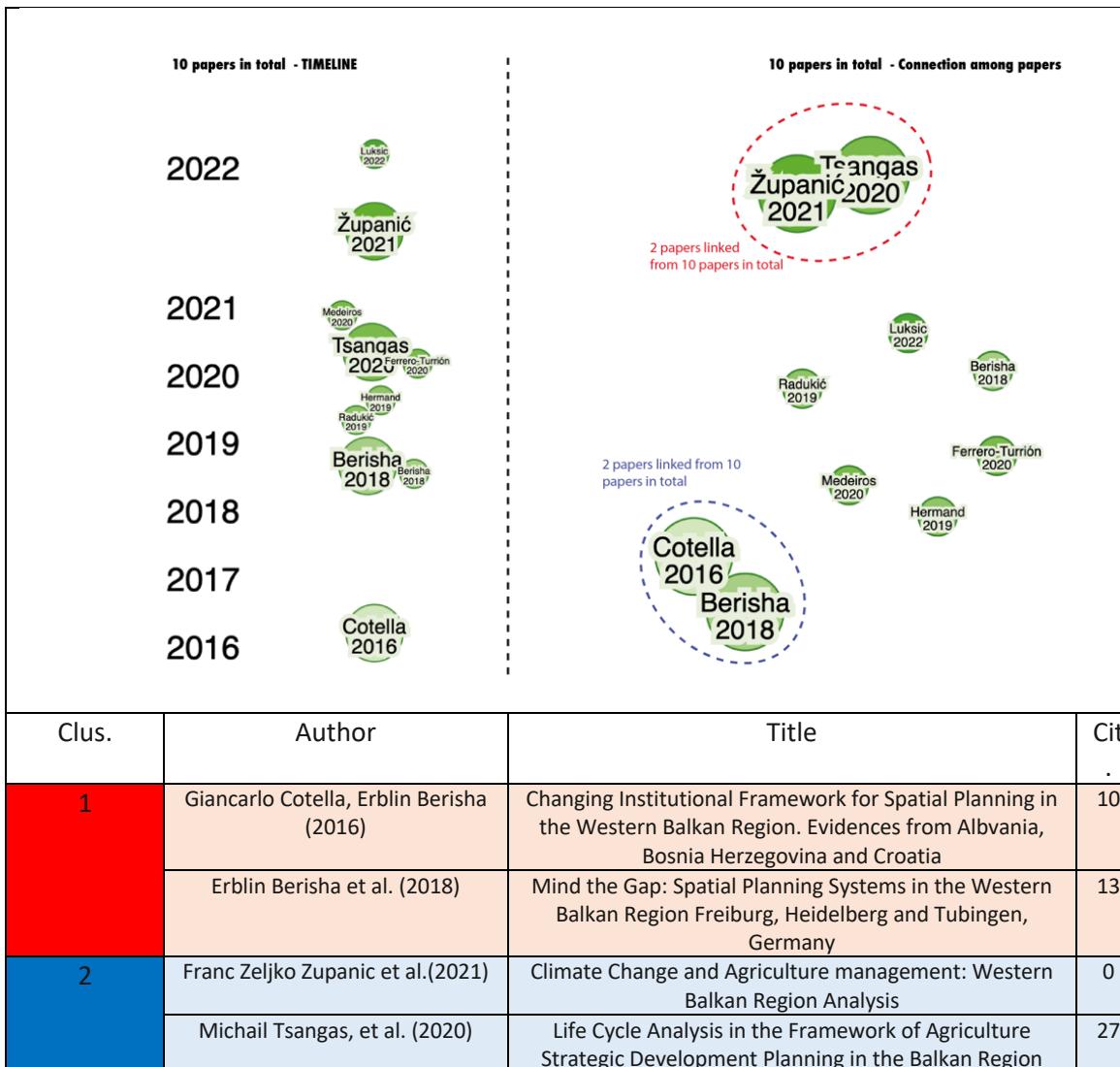


Table 5. Main connected papers

Source: Research Rabbit platform

The timeline visualisation shows that the identified publications are relatively recent, with most contributions published between 2016 and 2022. Earlier foundational works are largely absent, suggesting that research on sustainable urban planning in the Western Balkans has emerged later and remains underdeveloped as a distinct field. The temporal clustering around recent years further reflects the growing, yet still nascent, interest in regional planning systems, governance, and sustainability-related challenges.

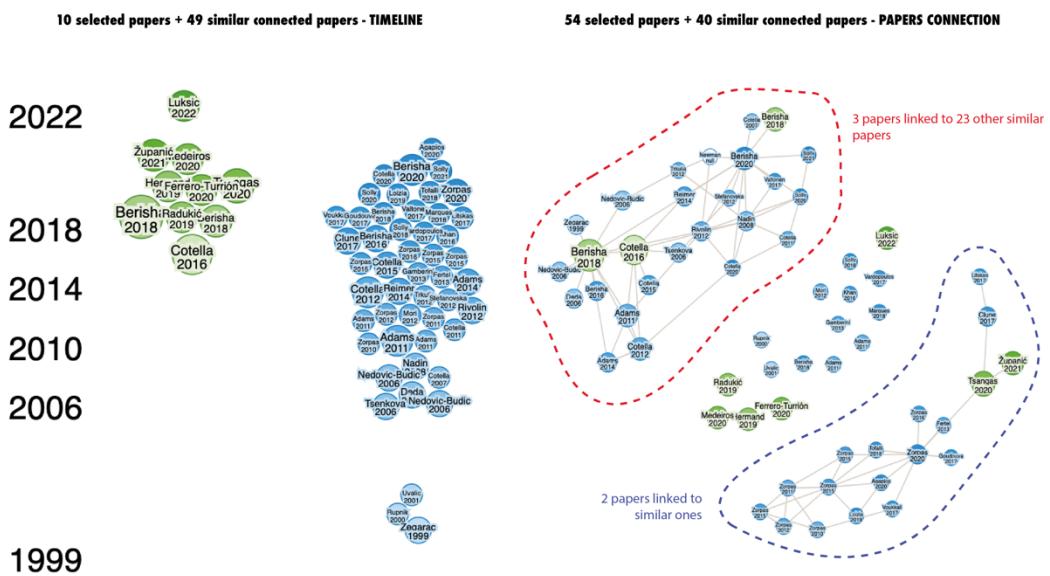


Figure 5. Connected papers and Cauterization

Source: Research Rabbit Platform

The connectivity analysis reveals a weakly interconnected network, with only a few publications functioning as linking nodes among the selected papers. In particular, the works of Cotella and Berisha (2016) and Berisha et al. (2018) form a small but coherent cluster, primarily focused on spatial planning systems, institutional frameworks, and governance dynamics in the Western Balkan context. These studies act as conceptual anchors, connecting discussions on post-socialist planning transitions, European integration, and territorial governance. A second, less connected cluster is represented by studies addressing environmental and sectoral dimensions, such as Tsangas et al. (2020) and Zupanic et al. (2021), which focus on climate change, agriculture, and life-cycle analysis within the Balkan region. While relevant to sustainability debates, these contributions exhibit weaker connectivity to the core spatial planning literature, indicating a thematic fragmentation between planning-system-oriented research and sector-specific sustainability

studies. The expanded network, incorporating 49 similar and connected papers, further highlights this fragmentation. Although earlier foundational works on spatial planning and territorial governance appear in the extended citation network, only a limited number of Western Balkan-focused studies are strongly integrated within these broader academic debates. Compared to the European-level analysis, where multiple dense clusters emerge, the Western Balkan network remains sparse and polarized, with few cross-references among regional studies.

Clus.	Author	Title	Cit.	Author	Title	Cit.
1	Erblin Berisha et al. (2018)	Mind the Gap: Spatial Planning Systems in the Western Balkan Region Freiburg, Heidelberg and Tübingen, Germany	13	Mario Reimer, et al. (2014)	Spatial Planning Systems and Practices in Europe: A Comparative Perspective on Continuity and Changes	88
				Vincent Nadin, Dominic Stead (2008)	European Spatial Planning Systems, Social Models and Learning	229
				Neil Adams et al. (2011)	Territorial Development Cohesion and Spatial Planning. Knowledge and Policy Development in an Enlarged EU	35
				Peter Newman, Andy Thornley	Urban Planning in Europe	35
				Giancarlo Cotella et al. (2012)	Engaging in European Spatial Planning: A central and Eastern European Perspective on the Territorial Cohesion Debate	27
	Giancarlo Cotella, Erblin Berisha (2016)	Changing Institutional Framework for Spatial Planning in the Western Balkan Region. Evidences from Albania, Bosnia Herzegovina and Croatia	10	Neil Adams et al. (2014)	The Engagement of Territorial Knowledge Communities with European Spatial Planning and the Territorial Cohesion Debate: A Baltic Perspective	27
				Erblin Berisha, Giancarlo Cotella (2016)	A territorial Governance and Spatial Planning in the Western Balkans between Transition, European Integration and Path-Dependency	3
				Luan Deda, Sasha Tsenkova (2006)	Poverty and Inequality in Greater Tirana: The reality of peri-urban areas	15
				Zorica Nedovic-Budic, et al. (2006)	The urban mosaic of post-socialist Europe	66
				Z. Zegarac (1999)	Illegal construction in Belgrade and the prospects for urban development planning	28
	Giancarlo Cotella, Erblin Berisha (2016)	Changing Institutional Framework for Spatial Planning in the Western Balkan Region. Evidences	10	Zorica Nedovic-Budic, Branko Cavric (2006)	Waves of planning: a framework for studying the evolution of planning systems and empirical insights from Serbia and Montenegro	38
				Sasha Tsenkova, Zorica Nedovic-Budic (2006)	The urban mosaic of post-socialist Europe: space, institutions and policy	55
				Umberto Janin Rivolin (2012)	Planning Systems as Institutional Technologies: a Proposed	47

		from Albvania, Bosnia Herzegovina and Croatia			Conceptualization and the Implications for Comparison	
				Giancarlo Cotella (2020)	How Europe hits home? The impact of European Union policies on territorial governance and spatial planning	20
				Eero Valtonen, et al. (2017)	Development-led planning practices in a plan-led planning system: empirical evidence from finland	12
	Erblin Berisha (2018)	The evolution of spatial planning systems in the Western Balkan Region. Between international influences and domestic actors	2	Giancarlo Cotela (2007)	Central and Eastern Europe in the Global Market Scenario: Evolution of the System of Governance in Poland from Socialism to Capitalism	15
				Erblin Berisha, et al. (2020)	Spatial governance and planning systems and the public control of spatial development: a European typology	44
				Alys Solly, et al. (2020)	How Sustainable are land use tools? A Europe-Wide Typological Investigation	18
				Sinisa Trkulja, et al. (2012)	Serbian Spatial Planning among Styles of Spatial Planning in Europe	11
				Giancarlo Cotella, Dominic Stead (2011)	Spatial Planning and the Influence of Domestic Actors: Some Conclusions	24
2	Michail Tsangas et al. (2020)	Life Cycle Analysis in the Framework of Agricultural Strategic Development Planning in the Balkan Region	27	Stephen Clune, et al. (2017)	Systematic review of greenhouse gas emissions for different fresh food categories	387
	Franc Zeljko Zupanic et al. (2021)	Climate change and agriculture management: Western Balkan region analysis	0	Camille Fertel, et al. (2013)	Canadian energy and climate policies: A SWOT analysis in search of federal/provincial coherence	59

Table 6. Main connected papers

Source: ResearchGate platform

The Western Balkan analysis confirms that sustainable urban planning research in the region is characterized by limited volume, weak internal connectivity, and a strong reliance on a small number of key authors and conceptual frameworks. The dominance of governance- and institutional-focused studies underscores the centrality of planning systems and regulatory transformation in the regional discourse, while the absence of a more diversified thematic structure points to significant opportunities for future research. These findings provide important context for

interpreting the subsequent bibliometric and keyword analyses and for understanding the challenges of transferring sustainability-oriented planning models to the Western Balkan region.

### **Phase II**

Phase II of the Western Balkan analysis applied a keyword co-occurrence approach to the literature identified through the “Sustainable Urban Planning / Western Balkan” search. The analysis was conducted using VOSviewer, focusing on the abstract field and applying a full counting method. Given the limited size of the corpus, a lower threshold was adopted to retain meaningful terms while preserving thematic coherence. The resulting keyword network reveals a more compact and less diversified structure compared to the European-level analysis, reflecting the narrower scope of research explicitly addressing sustainable urban planning in the Western Balkan region.

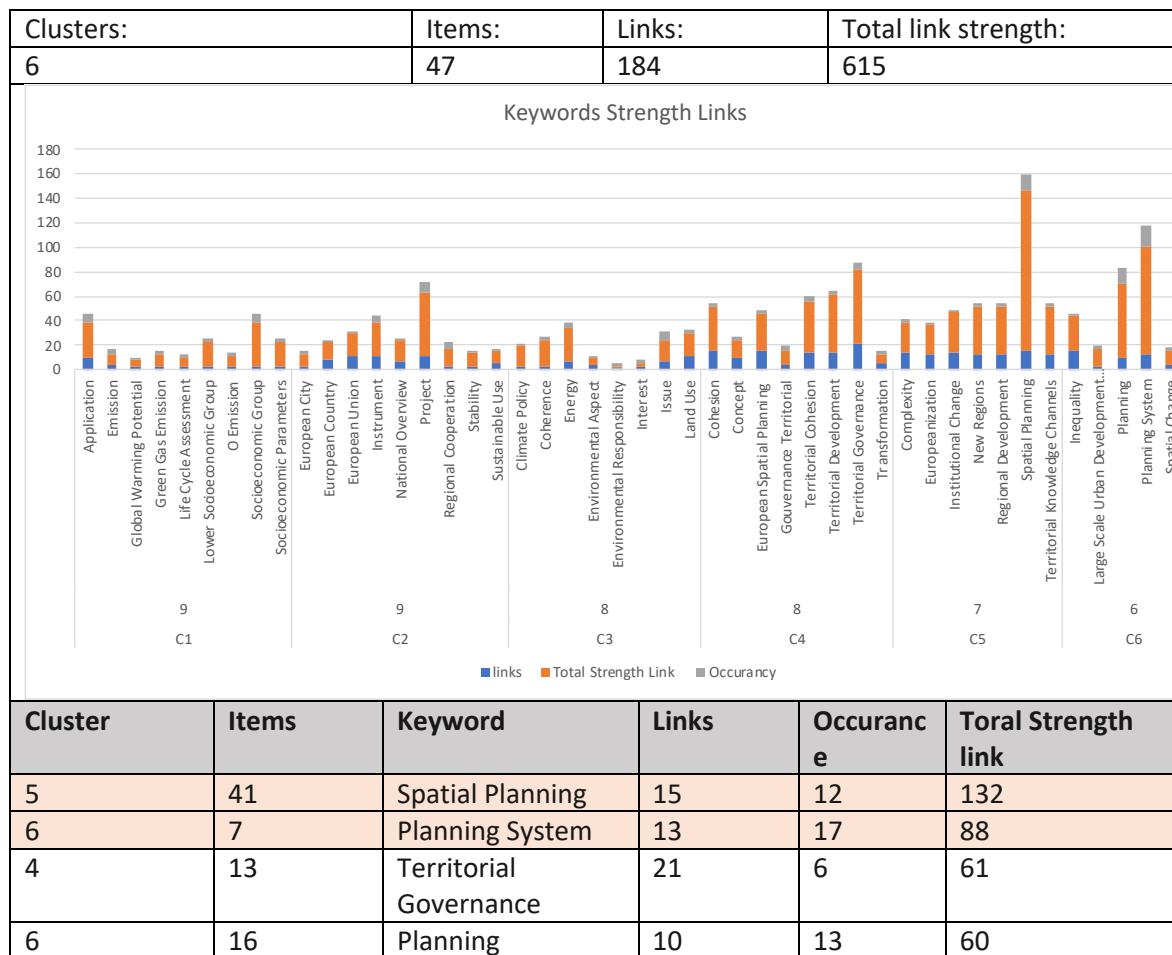


Table 7. Keywords strength link

Source: Data collected from VOSviewer software

The keyword strength analysis highlights “spatial planning” as the most prominent concept, with the highest number of items (41), occurrences (12), and total link strength (132). This indicates that sustainability-related discussions in the Western Balkan literature are predominantly framed through the lens of spatial planning systems, rather than through broader thematic domains such as environmental performance, social inclusion, or resilience. Closely connected to this core are the keywords “planning system” and “planning,” which together underscore the centrality of institutional structures, regulatory instruments, and procedural aspects of planning in the regional discourse. The clustering results further reveal a strong governance-oriented thematic configuration. The cluster centred on “planning system” (7 items; 17 occurrences; total link strength 88) emphasizes institutional arrangements, planning instruments, and implementation mechanisms, reflecting the transitional nature of planning systems in post-socialist contexts. This cluster is closely linked to “territorial governance,” which, despite a lower number of occurrences (6), exhibits a relatively high number of links (21) and total link strength (61). This pattern suggests that governance issues, such as coordination across administrative levels, territorial cohesion, and regulatory capacity, function as key connective themes within the Western Balkan sustainability discourse.

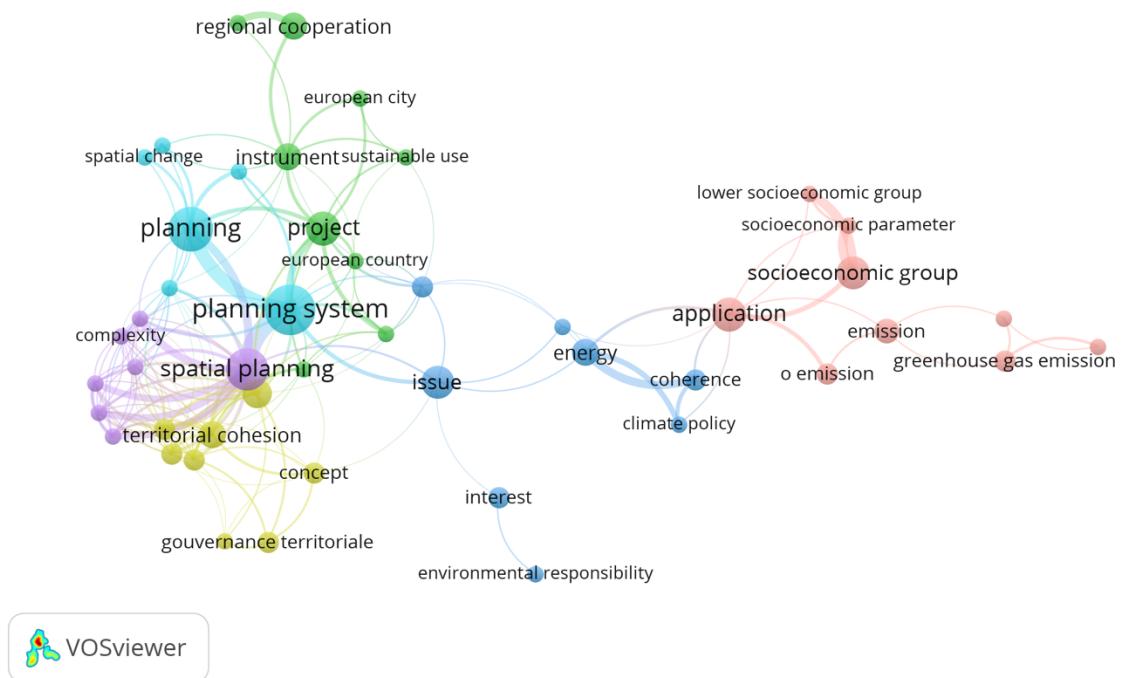


Figure 6. Keywords connectivity

Source: Research Rabbit Platform

The visual network representations reinforce these findings. The keyword maps show a dense core where spatial planning, planning system, planning, and territorial cohesion are tightly interconnected, forming the backbone of the thematic structure. Peripheral clusters related to environmental responsibility, energy, emissions, and socio-economic groups appear more weakly connected to the core planning discourse, indicating that these topics are often addressed in isolation or through sector-specific studies rather than being fully integrated into spatial planning debates.

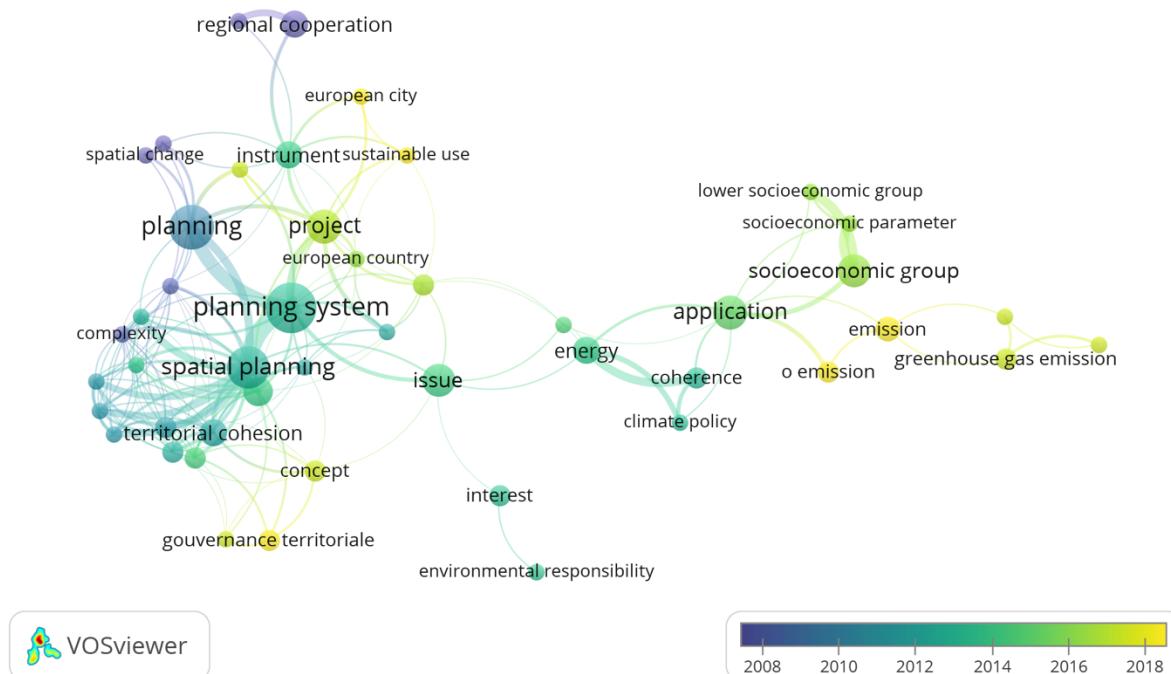


Figure 7. Keywords timeline development process

Source: Research Rabbit Platform

The overlay visualisation further suggests a temporal evolution in research focus. Earlier contributions tend to emphasize structural planning concepts and institutional reform, while more recent studies gradually incorporate themes such as climate policy, energy coherence, and sustainable use. However, these newer themes remain secondary to the dominant focus on planning systems and governance, highlighting the continued primacy of institutional transformation in the regional sustainability agenda. Phase II confirms that sustainable urban planning research in the Western Balkan context is characterized by a strong emphasis on spatial planning systems and territorial governance, with sustainability largely interpreted through institutional and regulatory reform rather than through multidimensional urban sustainability

outcomes. Compared to the European-level analysis, the Western Balkan keyword network is more compact, governance-centric, and less thematically diversified, underscoring both the specific challenges of the region and the potential for future research to broaden the sustainability discourse beyond planning system reform alone.

#### IV. 3 Sustainable Urban Planning/ Albania

##### **Phase I**

The keyword-based search “Sustainable Urban Planning / Albania” conducted through the Research Rabbit platform resulted in a very limited corpus of publications, reflecting the relatively small body of academic research explicitly addressing sustainable urban planning within the Albanian context. In total, 10 core publications were initially identified, confirming that sustainability-oriented urban planning remains an underexplored research field at the national level. The timeline analysis indicates that the majority of the identified studies were published between 2012 and 2017, with no clear continuity or growth trend in more recent years. Earlier contributions appear sporadic and isolated, suggesting that research on urban planning in Albania has developed in a fragmented manner, often in response to specific policy or sectoral challenges rather than as part of a consolidated sustainability discourse. The absence of a sustained publication trajectory further highlights the limited institutionalization of sustainable urban planning research within the national academic landscape.

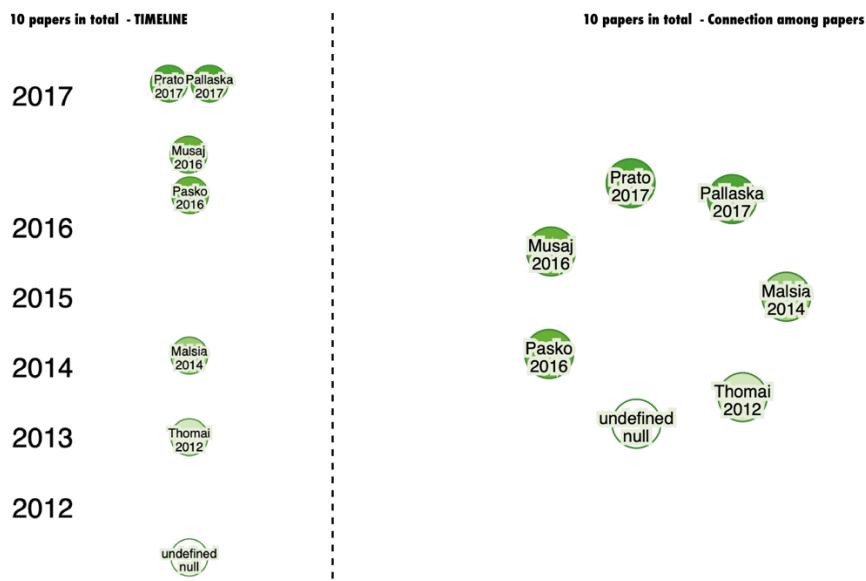


Figure 8. Connected papers in Research Rabbit

Source: Research Rabbit Platform

The connectivity analysis reveals a weakly connected network, with most publications functioning as isolated nodes rather than forming a coherent citation structure. Only a small number of studies—most notably those by Thomai (2012), Musaj (2016), Pasko (2016), and Prato and Pallaska (2017)—show partial thematic or citation-related connections. These links, however, remain limited in scope and do not form a dense or stable cluster comparable to those observed at the European or Western Balkan levels.

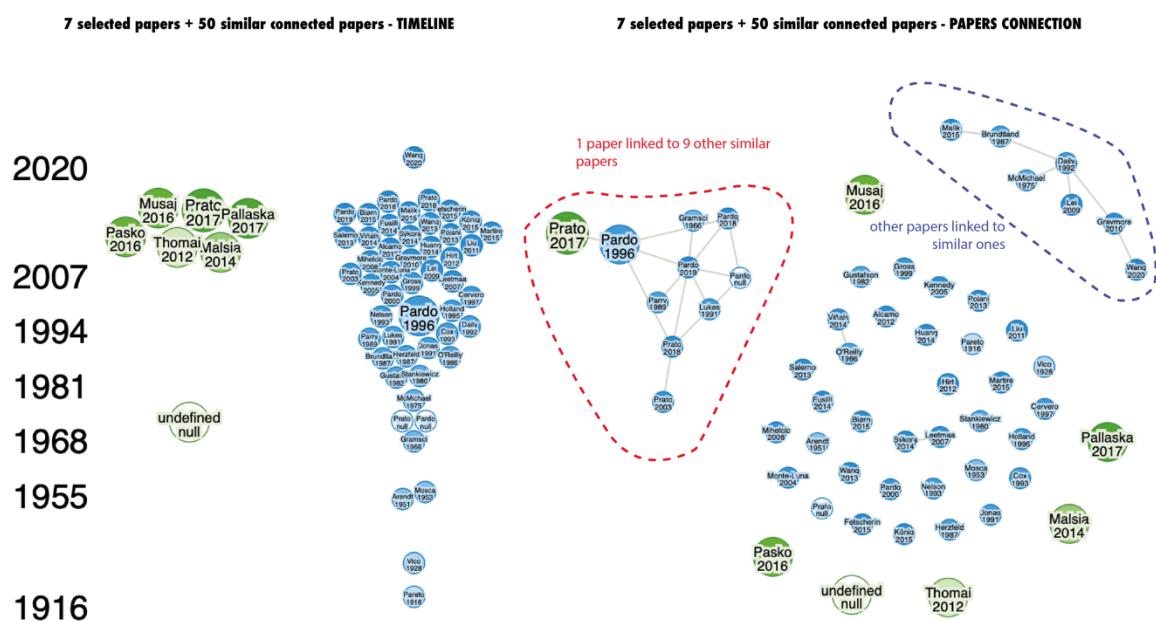


Figure 9. Connected papers and Cauterization

Source: Research Rabbit Platform

When the analysis is expanded to include 50 similar and connected papers, the broader citation network reveals stronger links to international and foundational planning literature, particularly works addressing spatial planning theory, territorial governance, and land-use regulation. However, Albanian-focused studies remain largely peripheral within this expanded network, indicating that national research is weakly integrated into wider academic debates on sustainable urban planning. In several cases, Albanian studies are connected indirectly through older or external theoretical references rather than through mutual citation or thematic convergence. Phase I demonstrates that sustainable urban planning research in Albania is characterized by low publication volume, weak internal connectivity, and strong dependence on external theoretical frameworks. The limited cohesion among national studies suggests that sustainability is often addressed implicitly or

sectorally, rather than as a central organizing concept in urban planning research. These findings reinforce the need for more systematic, integrated, and sustainability-oriented research efforts to support evidence-based urban planning practice in Albania and to better align national discourse with broader European and regional debates.

## Phase II

Phase II of the Albanian analysis applied keyword co-occurrence analysis to the national literature identified through the “Sustainable Urban Planning / Albania” search. Using VOSviewer and focusing on the abstract field, the analysis reveals a compact and governance-centred thematic structure, reflecting the limited size and institutional orientation of sustainability-related planning research in Albania. The keyword strength analysis identifies “system” as the dominant concept, with the highest number of links (25), occurrences (12), and total link strength (79). This centrality indicates that sustainable urban planning in the Albanian literature is primarily framed as a systemic and institutional challenge, rather than as a spatial, environmental, or design-oriented process. Closely related to this core is the cluster centred on “concept”, which exhibits a similarly high level of connectivity and reflects the predominance of theoretical, definitional, and framework-oriented discussions within the national discourse.

Clusters:	Items:	Links:	Total link strength:		
4	30	140	300		
Keywords Strength Links					
100 90 80 70 60 50 40 30 20 10 0					
data collection integral transformation safety adaptation agreement cultural development developed country access available database best practice concept concept response context dimension high quality educational system corruption government investment performance evaluation transparency contemporary change economic development governance policy constructivist perspective initiative quality model society	3 C1	5 C2	8 C3		
3 C4					
5 C5					
5 C6					
■links ■Total Strength Link ■Occuranc					
Cluster	Items	Keyword	Links	Occuranc e	Toral Strength link
3	8	System	25	12	79
3	8	Concept	18	9	75
2	5	Agreement	17	4	54
4	5	Corruption	10	8	72
4	5	Transparency	3	5	40
2	5	Access	15	3	34

4	5	Investment	6	4	33
4	5	Government	10	5	31
2	5	Developed Country	11	2	30
3	8	Dimension	6	2	22

Table 8. Keywords strength link

Source: Data collected from VOSviewer software

Governance-related themes emerge as a second dominant thematic axis. Keywords such as “corruption,” “transparency,” “government,” and “investment” form a tightly connected cluster, highlighting the strong association between urban planning outcomes and governance quality in the Albanian context. The relatively high occurrence and link strength of “corruption” (8 occurrences; total link strength 72) and “transparency” (5 occurrences; total link strength 40) indicate that sustainability is frequently discussed in relation to institutional accountability, regulatory enforcement, and public trust, rather than through technical planning instruments or spatial strategies.

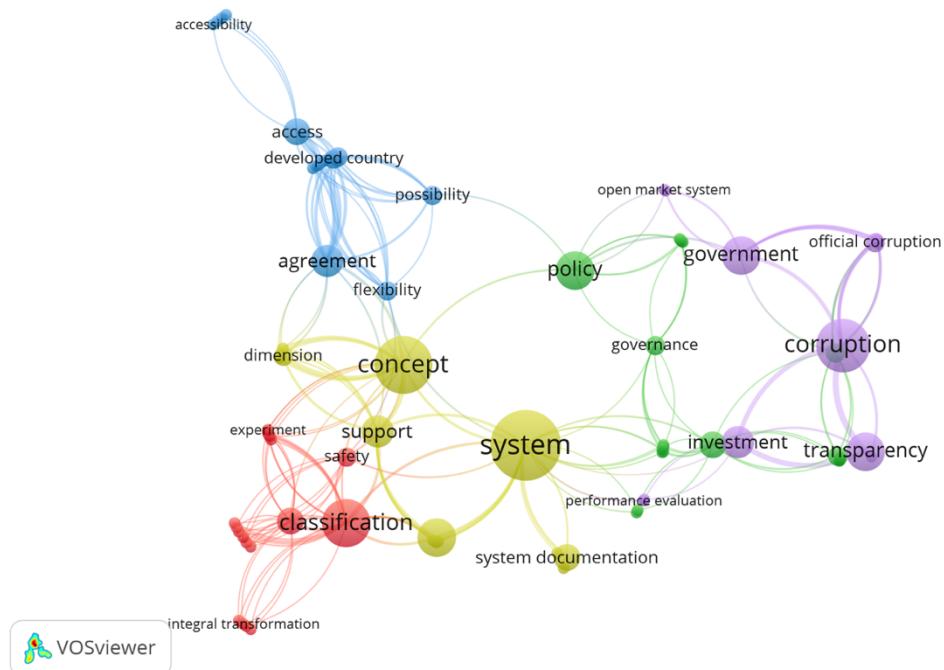


Figure 10. Keywords connectivity

Source: Research Rabbit Platform

A third thematic cluster is associated with “agreement,” “access,” and “developed country,” suggesting that planning debates are often situated within a broader discourse of European integration, policy alignment, and comparative development trajectories. These keywords point to the role of international agreements, conditionalities, and access to resources as external drivers shaping national planning reforms. However, their lower occurrence values indicate that such themes remain supportive rather than central within the overall discourse.

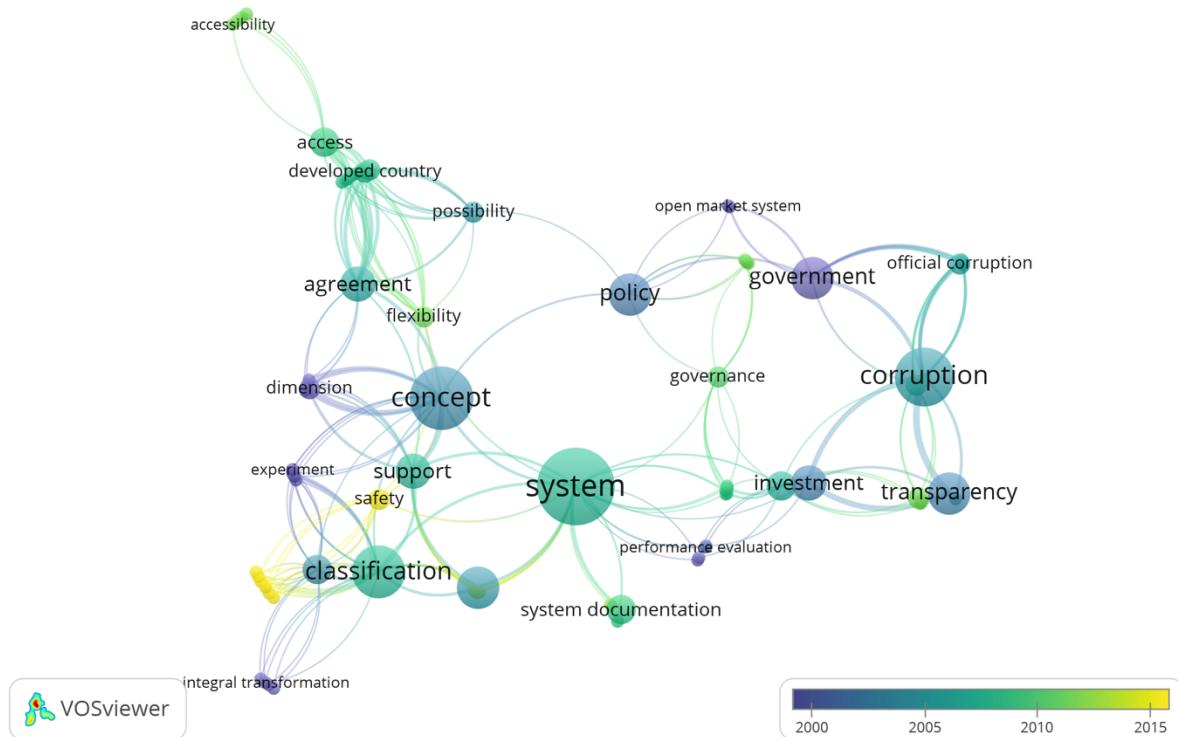


Figure 11. Keywords timeline development process

Source: Research Rabbit Platform

The network and overlay visualizations further reveal a temporal concentration of governance-oriented themes in earlier periods, with limited diversification over time. Unlike the European-level analysis, where newer concepts such as resilience, SDGs, and adaptive governance emerge more clearly, the Albanian keyword network remains relatively stable and focused on systemic and institutional constraints. Environmental and spatial dimensions appear peripheral, indicating that sustainability is often treated as an implicit objective rather than as an integrated planning framework.

Phase II demonstrates that sustainable urban planning research in Albania is characterized by a system- and governance-centric discourse, with sustainability closely linked to institutional reform, transparency, and policy coherence. Compared to the Western Balkan and European levels, the Albanian thematic structure is narrower and less diversified, underscoring the need for future research to expand sustainability debates beyond governance constraints toward more spatially and environmentally integrated planning approaches.

## V. CONCLUSION

### V.1 Summary of Findings

Summarize the key findings from the case study and the literature review.

This paper set out to explore how sustainable urban planning is conceptualized and addressed in academic literature across three analytical levels: Europe, the Western Balkan region, and Albania. By combining a systematic literature review with bibliometric and keyword co-occurrence analysis, the study provides a comparative understanding of dominant themes, conceptual depth, and research maturity across these spatial scales.

At the European level, the findings reveal a well-established and diversified discourse on sustainable urban planning. Sustainability is not only widely acknowledged but also extensively elaborated through integrated planning models, governance frameworks, indicator-based approaches, and thematic extensions such as resilience, well-being, smart cities, and SDG-oriented planning. The bibliometric results show dense thematic networks centred on concepts such as city, sustainable development, urban planning, and process, confirming that sustainability is treated as a multidimensional and operationalized planning paradigm. These findings align closely with foundational and contemporary contributions in the literature, such as Campbell's (1996) conceptualization of sustainability trade-offs, Wheeler and Beatley's emphasis on integrated planning processes, and Yigitcanlar and Teriman's framework linking spatial planning, governance, and implementation. More recent studies further reinforce this evolution by embedding sustainability within data-driven, governance-oriented, and human-centred planning approaches.

In contrast, the Western Balkan level exhibits a markedly more limited and fragmented research landscape. While sustainability frequently appears in the titles and stated objectives of academic works, the content analysis and keyword clustering reveal that the discourse remains largely anchored in traditional spatial planning systems and institutional reform. Dominant concepts such as spatial planning, planning system, and territorial governance indicate that sustainability is often interpreted through regulatory, procedural, and governance lenses, rather than as an integrated urban development framework. Environmental, social, and resilience-related themes appear only marginally and are weakly connected to the core planning discourse. This suggests that, unlike the

European context, sustainability in the Western Balkan literature functions more as an aspirational or contextual reference than as a fully developed analytical and operational concept.

The findings at the Albanian level further accentuate this pattern. The national literature is characterized by a very limited volume of publications, weak internal connectivity, and a strong concentration on systemic and governance-related issues. Keywords such as system, concept, corruption, transparency, and government dominate the thematic structure, indicating that urban planning debates are primarily framed around institutional capacity, regulatory enforcement, and governance challenges. Although sustainability is often mentioned in titles or introductory sections, it is rarely elaborated in substantive analytical terms related to spatial integration, environmental performance, or social equity. Compared to the European-level discourse, concepts central to sustainable urban planning—such as resilience, compact urban form, multi-sectoral integration, or SDG-based monitoring—remain peripheral or absent.

Taken together, the comparative analysis demonstrates a clear conceptual gradient across the three levels. At the European level, sustainable urban planning is mature, diversified, and operationalized through integrated models and governance mechanisms. At the Western Balkan and Albanian levels, sustainability is still largely embedded within traditional planning paradigms, with a predominant focus on institutional reform and regulatory structures. This gap highlights the need to move beyond nominal references to sustainability and toward a deeper conceptual and practical integration of sustainability principles into urban planning research and practice in the region. The findings underscore the importance of strengthening conceptual clarity, thematic diversification, and empirical grounding to better align regional and national planning discourses with broader European sustainability frameworks.

This research contributes to the field of sustainable urban planning in three main ways. First, it offers a systematic, multi-scalar synthesis of academic literature by comparatively analysing European, Western Balkan, and Albanian contexts through a bibliometric and keyword co-occurrence approach. By applying a consistent analytical framework across all three levels, the study enables a structured comparison of how sustainability is conceptualized and operationalized in different planning environments, addressing a gap in existing literature that often treats these contexts in isolation. Second, the study provides empirical evidence of conceptual and thematic disparities between European and regional/national planning discourses. While sustainability at the European level is articulated through integrated planning models, governance mechanisms, and thematic diversification, the findings show that in the Western Balkan and Albanian contexts sustainability remains largely embedded within traditional planning systems and institutional reform narratives. This contribution is particularly relevant for planning scholarship in post-socialist and transition regions, where sustainability is frequently referenced but insufficiently elaborated in

analytical terms. Third, the research demonstrates the value of bibliometric analysis as a methodological tool for urban planning studies. By combining systematic literature review techniques with keyword network and cluster analysis, the paper illustrates how bibliometric methods can support transparent, replicable, and comparative assessments of planning discourse. This methodological contribution is significant for scholars seeking to explore the evolution of planning concepts, identify research gaps, and inform future research agendas in sustainability-oriented urban planning.

Sustainable urban planning remains a critical challenge for cities and regions facing rapid urbanization, environmental pressures, and socio-economic transformation. In the Western Balkan region and in Albania in particular, the pursuit of sustainability is closely intertwined with broader processes of institutional reform, governance improvement, and European integration. As this study demonstrates, while sustainability is increasingly acknowledged in planning discourse, its integration into analytical frameworks and planning practice remains uneven and often limited.

The findings highlight the importance of advancing beyond traditional, regulation-driven planning approaches toward more integrated, multi-dimensional, and implementation-oriented sustainability frameworks. Strengthening the conceptual grounding of sustainability in planning research, enhancing cross-sectoral integration, and improving governance capacity are essential steps toward achieving more resilient, inclusive, and environmentally responsible urban development in the region.

Future research should build on these findings by expanding empirical investigations, incorporating local planning practices and policy instruments, and exploring mechanisms for translating sustainability principles into concrete planning outcomes. In this regard, fostering stronger links between academic research, policy development, and planning practice will be crucial for supporting sustainable urban transitions in the Western Balkans and Albania.

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