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Review

Historic District Conservation: A Critical Review of Global Trends, Development in the 21st Century, and Challenges Through CiteSpace Analysis

Lin Geng [1], Minghui Xue [1], Jia Li [2,*] and Jiaoguo Ma [3]

[1] School of Architecture and Design, Harbin Institute of Technology, Harbin 150001, China
[2] College of Art, Northeast Agricultural University, Harbin 150030, China
[3] Jinan Urban and Rural Planning Compilation and Research Center, Jinan 250013, China
* Correspondence: li_jia@neau.edu.cn

Abstract: This study reviews the global trends, developments, and challenges in the conservation of historic districts through CiteSpace analysis. Since the dawn of the 21st century, research on historic districts has witnessed rapid growth. The research mainly focuses on fields such as urban studies, heritage conservation, and sustainable development. Although the concept of the Historic Urban Landscape has emerged, its local application remains challenging. Research findings on economic impacts are complex, and resilience assessment and community participation have become important topics. However, issues like inconsistent definitions and low community participation still exist. Future research should focus on narrowing the gap between theory and practice to better protect cultural heritage in the context of urban development.

Keywords: CiteSpace analysis; historic areas; historic conservation area; historic district; historic urban landscape; sustainable development

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1. Introduction

The study of historic districts represents a complex and multifaceted area of research, situated at the intersection of urban planning, architectural heritage, and cultural studies. These districts, often referred to by various terms such as "Historic Landscape", "Historic Urban Area", "Historic Conservation Area", "Historic Area", and "Historic City Center", are spaces that bridge the gap between individual historic buildings and entire cities. This semantic ambiguity complicates comparative analysis and policy implementation. It is rooted in divergent legal frameworks, cultural contexts, and disciplinary perspectives. For instance, UNESCO's Historic Urban Landscape (HUL) paradigm (2011) [1] attempted to reconcile these terms but coexists with persistent localized definitions like the U.S.-centric "historic district" [2] and France's Secteur Sauvegardé under the Malraux Law (1962) [3]. The overlapping nature of these concepts and the diverse terminologies used to describe them highlight the need for a comprehensive review and synthesis of the existing literature. This complexity is further compounded by the rapid increase in research output since the 21 century, which has led to a fragmented understanding of the field. Therefore, a systematic review using tools like CiteSpace is essential to analyze the development and trends in this area of study.

Historic districts have evolved significantly over the past century, influenced by seminal documents and international charters. The conceptualization of historic districts has undergone profound shifts since the early 20th century [4]. The first period was from

1900 to 1930. It emerged as a reaction to modernist urbanism, and foundational texts like the Athens Charter (1933) advocated for heritage protection beyond individual monuments [5]. After WWII, critiques of modernist planning (e.g., Jane Jacobs' The Death and Life of Great American Cities) catalyzed interdisciplinary approaches to urban conservation [6]. This period saw a shift from focusing solely on individual monuments to recognizing the value of entire historic urban cores. Subsequent milestones, including the Venice Charter (1964) [7], the Amsterdam Declaration (1975) [8], the Nairobi Recommendation (1976) [9], and the Washington Charter (1987) [10], further expanded the scope and principles of conservation. In the late 20th century, the international framework expanded conservation principles. These included authenticity (Nara Document, 1994) [11] and adaptive reuse (Burra Charter, 1999) [12]. In the 21st Century, the HUL framework (UNESCO, 2011) redefined historic areas as layered socio-ecological systems [13], while recent ICOMOS initiatives (2022) integrate resilience into conservation agendas [14] (Figure 1).

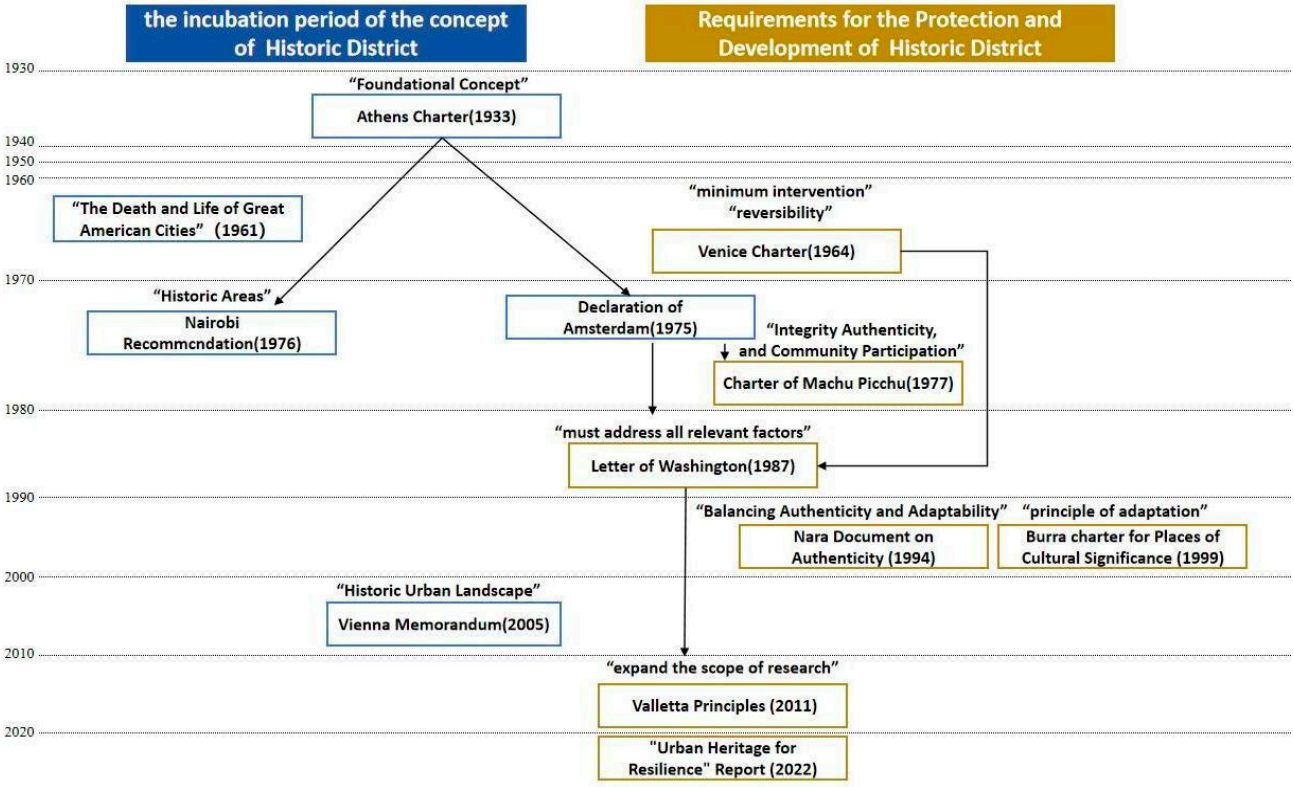


Figure 1. The concept of historical district developmental processes in historical documents.

The transformation of conservation frameworks from CIAM's modernist urbanism to UNESCO's holistic HUL approach mirrors a paradigmatic shift towards interdisciplinary collaboration. Early charters such as the Athens Charter (1933) placed a premium on functional zoning and monument preservation. In contrast, contemporary frameworks accentuate integrated social systems [5,15]. This transition reflects broader trends within heritage studies, where disciplines spanning from urban planning to environmental science now converge to grapple with intricate conservation challenges [16]. Paradoxically, however, this interdisciplinary expansion has blurred the conceptual boundaries of historic districts. Terms like "Historic Urban Landscape" and "Historic Conservation Area" now encapsulate a wide spectrum, ranging from architectural heritage to socioeconomic dynamics, thus complicating policy implementation across culturally diverse regions [13].

The emergence of localized conservation models further accentuates the tension between universal principles and contextual particularities. While UNESCO's HUL framework endeavors to standardize practices, countries like China and France have maintained

distinct definitions firmly rooted in their national legal systems [3,17]. For instance, China's recent emphasis on "adaptive reuse" exemplifies its unique equilibrium between economic development and heritage preservation [18], while European models frequently prioritize community-led revitalization [8]. This divergence underscores a crucial gap: global frameworks encounter difficulties in catering to the diverse needs of historic districts shaped by different political economies and cultural values [19].

Since the dawn of the 21st century, an exponential growth in localized case studies has further fragmented the field. Although these studies offer granular insights into specific contexts, they often lack comparative analysis, rendering it arduous to derive generalizable strategies. A comprehensive review is thus essential to synthesize these localized findings and identify overarching trends. Notably, there is a conspicuous dearth of reviews that comprehensively examine the development of research papers on this subject, discuss the primary methods employed in these studies, and explore future directions. Significantly, no review has hitherto utilized CiteSpace to analyze the literature on historic districts, visualize the knowledge landscape, or take research clusters as focal points for abstraction and analysis. Considering the ongoing debates regarding historical documents and their impact on research development over the past two decades, this gap is of great significance. To bridge this gap, our study aims to systematically review the development of research on historic districts since 2001, predict future trends, and provide a comprehensive understanding of this field. Consequently, this paper takes 'Historic district' as its central focus and employs CiteSpace to offer a comprehensive review of the field's recent developments, summarize overall trends since the beginning of the 21st century, and construct a cognitive map of research evolution in this area.

2. Research Materials, Methods and Process

2.1. Materials

To ensure the academic quality and relevance of the literature reviewed, we focused on the core collection of the Web of Science database, encompassing the Science Citation Index (SCI), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI), as well as the Scopus database. We utilized the "Topic" search function to scan the titles, abstracts, and author keywords of articles within these databases. Given that the term "historic district" is frequently interchanged with related expressions such as "historic landscape", "historic urban landscape", and "historic urban area", we incorporated these alternative terms into our search strategy to capture a comprehensive range of relevant studies. The Web of Science and Scopus databases were selected mainly because they have comprehensive subject coverage and complementary literature resources, which can meet the multidisciplinary research needs of historic district conservation. They have high academic authority and timely data updates, facilitating access to cutting-edge research findings. These two databases contain a wealth of international research and are equipped with powerful retrieval and analysis tools. However, they also have limitations. For example, they mainly include English-language research, and some professional and regional studies are not included. Other databases were not included due to limited resources and energy. Moreover, this study focuses on international mainstream research trends. These two databases can meet the core research requirements, while other databases are less relevant to the research focus.

Given that our research focuses on the research trends of the 21st century, the time range was set from 2001 to 2024, and the search was conducted on 7 March 2025. To ensure the accuracy and completeness of the study, we excluded articles that focused on individual buildings, complete historic cities, standalone historic gardens, or forests, as these were not relevant to our research objectives. As a result, 438 articles were selected for analysis

(Figure 2). The data used in this study does not include early research because there are significant differences in theory and methods between early and modern research. Early research has fewer documents and less mature research methods, which may interfere with the analysis of current research hotspots and emerging fields. The time range of 2001–2024 was chosen because significant changes have occurred in the field of historic district conservation since the 21st century. The research focus has shifted to areas such as sustainable development. During this period, the quantity and quality of research in the database are more guaranteed, and there have been many technological innovations in related fields. This is conducive to studying the impact of new technologies on historic district conservation.



Figure 2. Literature screening process.

2.2. Methods

Knowledge mapping, an advanced bibliometric and scientometric method, enables the visual representation of quantitative subject knowledge analysis. Widely adopted tools for such analysis include HistCite, Sci2, VOSviewer, and CiteSpace [20]. To achieve distinguishable knowledge mapping results, we tested CiteSpace's default clustering algorithm methods. Evaluation criteria included cluster clarity and alignment with historic district research domains, consistent with Chen's (2016) findings on cluster validation in bibliometric analysis [21]. The findings showed that CiteSpace's default algorithm generated sharper thematic clusters that were better aligned with domain knowledge. In this study, we employ CiteSpace V 6.4.R1 (64-bit), a software tool developed by Chaomei Chen, to identify trends, visualize citation networks, and explore dynamic patterns within research [22]. Utilizing clustering algorithms at its core, CiteSpace generates multi-perspective visualizations of co-citation networks, enhancing the interpretability of author and document co-citation analyses [23]. This tool facilitates the classification, co-occurrence, and collaborative network analysis of database studies, offering intuitive insights into evolutionary trends, knowledge linkages, and research frontiers. Its applications span over 60 disciplines, including computer science, information science, medicine, engineering, and economics [21].

When conducting the analysis using CiteSpace, to more scientifically evaluate the robustness and distinctiveness of the identified research clusters, we calculated and analyzed key cluster validation metrics. Among them, Modularity Q is used to measure the network modularity. The higher this value is, the more significant the cluster structure is, and the better the clustering effect. Silhouette scores, on the other hand, are used to assess the internal consistency of the clusters. The closer the score is to 1, the better the compactness and separation of the clusters, indicating a higher clustering quality. In this study, after calculation, the Modularity Q of the data sample in this paper ranges from 0.6 to 0.8, and the silhouette scores are around 0.91. This indicates that the research clusters we identified have good robustness and high clustering quality, providing a reliable basis for subsequent research [21].

When processing data to construct the knowledge graph, we selected the Pathfinder pruning method. Among the numerous methods available for data screening and network simplification, the Pathfinder pruning method has unique advantages. The literature data in the field of historic district research is voluminous and complex in relationships. The Pathfinder pruning optimizes based on the global structure of the network, enabling it to precisely screen out paths of key significance and remove redundant connections. This

characteristic makes it possible to highlight the associations between core research themes more effectively when visualizing the literature network, clearly presenting the key context of the research field. For example, when analyzing the keyword co-occurrence network, Pathfinder pruning can retain those connections that play a crucial role in connecting different research themes and transmitting important information, avoiding the network from becoming too complex to interpret due to too many unimportant connections. Compared with other pruning methods, it can better balance the relationship between information retention and network simplification. At the same time, considering that this study aims to comprehensively determine the development context, hotspots, and trends in the field of historic district research, the advantages of the Pathfinder pruning method are highly consistent with the research objectives. Therefore, we only use the Pathfinder pruning method in this study to ensure that we can accurately and effectively excavate and present the key information in the data [21].

2.3. Research Process

In the research process, we adopted co-citation hybrid analysis, a framework pioneered by Small [24], which posits that two papers form a co-citation relationship if jointly cited by a third paper. The analytical process adheres to the following algorithmic principle [25]: Format the collected data and use CiteSpace's deduplication function to remove duplicate literature. Set the time slice to one year to establish a temporal dimension foundation for subsequent analysis.

Time zone segmentation is a crucial feature of CiteSpace software. Users need to conduct time zone segmentation (Time Slicing) to set the length of each time slice. This helps capture the knowledge domain at different times. Then, by combining these time-related pictures, researchers can investigate them from a diachronic perspective [26]. Afterwards, one should format the collected data, use CiteSpace's deduplication function to remove duplicate studies, and set the time slice to one year to establish a temporal dimension foundation for subsequent analysis.

CiteSpace's network scaling technique trims redundant links while preserving critical connections, ensuring clarity in visualizing disciplinary frontiers. To enhance cluster interpretability, noun phrases from document titles were extracted using the log-likelihood ratio (LLR) algorithm, enabling precise labeling of research themes [27]. Parameters such as node frequency and betweenness centrality reflect the scholarly impact of publications, while clustering outcomes delineate the conceptual framework of historic district research, offering a foundation for future inquiries [25]. Network Construction and Analysis encompasses several key steps: first, building citation or co-citation networks by selecting node types (such as authors, institutions, keywords) and link types to map the associative structure of the research field; next, applying centrality analysis using betweenness centrality to gauge nodes' bridging roles in network connectivity (where higher values signify greater impact on connectivity) and eigenvector centrality to evaluate a node's influence via its connections to high-impact nodes; and finally, performing cluster analysis with the LLR (log-likelihood ratio) algorithm [28]. This algorithm statistically identifies significant term co-occurrences to extract cluster labels, uncovering the field's knowledge structure and research dynamics by clustering studies under shared themes. The process is illustrated in Figure 3.

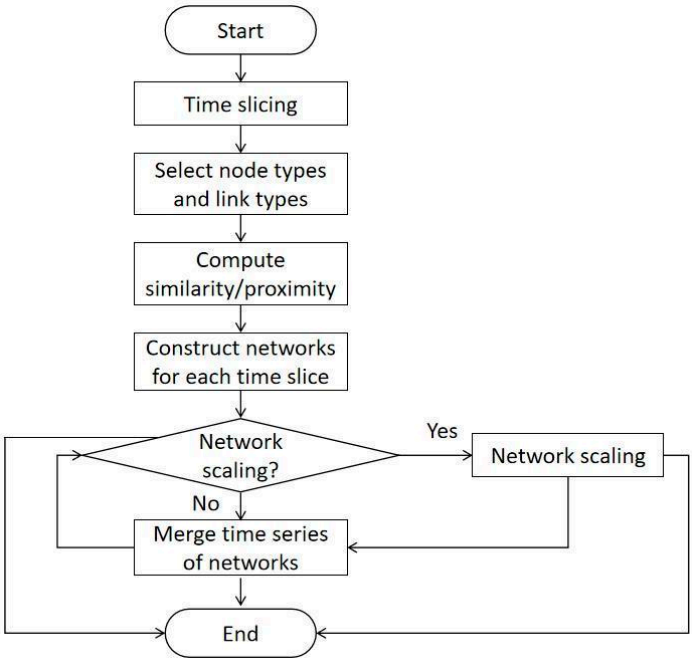


Figure 3. CiteSpace's analysis flow chart.

3. Results

3.1. Data Analysis

3.1.1. Publication Trends

The number of publications is a significant indicator of the research development trend in the field of historic districts. The annual distribution and cumulative number of articles are shown in Figure 4. The overall trend indicates exponential growth, with a notable increase after 2013. The most significant surge occurred in 2021, likely driven by public health issues in historic urban areas during the COVID-19 pandemic [29]. Since 2015, the number of publications has shown substantial and rapid growth, with an average annual increase of 36.57%. This suggests that, although the concept of this field has been around for decades and there has been a long period of inactivity in terms of academic paper publications, it was not until the second decade of the 21st century that this field received extensive attention in academic circles.

The rapid growth of research during this period may be attributed to multiple factors. For instance, after China implemented the "Regulations on the Protection of Famous Historical and Cultural Cities, Towns, and Villages" in 2008, there was a surge in research output (165 articles, accounting for 37.67%) [17]. Concurrently, following the release of UNESCO's "Historic Urban Landscape (HUL)" framework in 2011, related studies grew starting from 2014. A citation burst for the keyword "historic urban landscape" occurred between 2019 and 2020 (burst strength: 2.76), indicating the guiding role of international policies in shaping research directions [13]. The peak publication volume in 2021 (77 articles) was directly related to the increased focus on the resilience of historic urban areas during the COVID-19 pandemic, with "resilience" emerging as a key keyword that year (burst strength: 2.63). For example, researchers noted that the layout of historic districts aids in pandemic isolation and enhances urban resilience [30]. Additionally, research on "heritage tourism" has grown since 2015 (keyword frequency: 23), aligning with the global demand for exploring the economic value of cultural heritage.

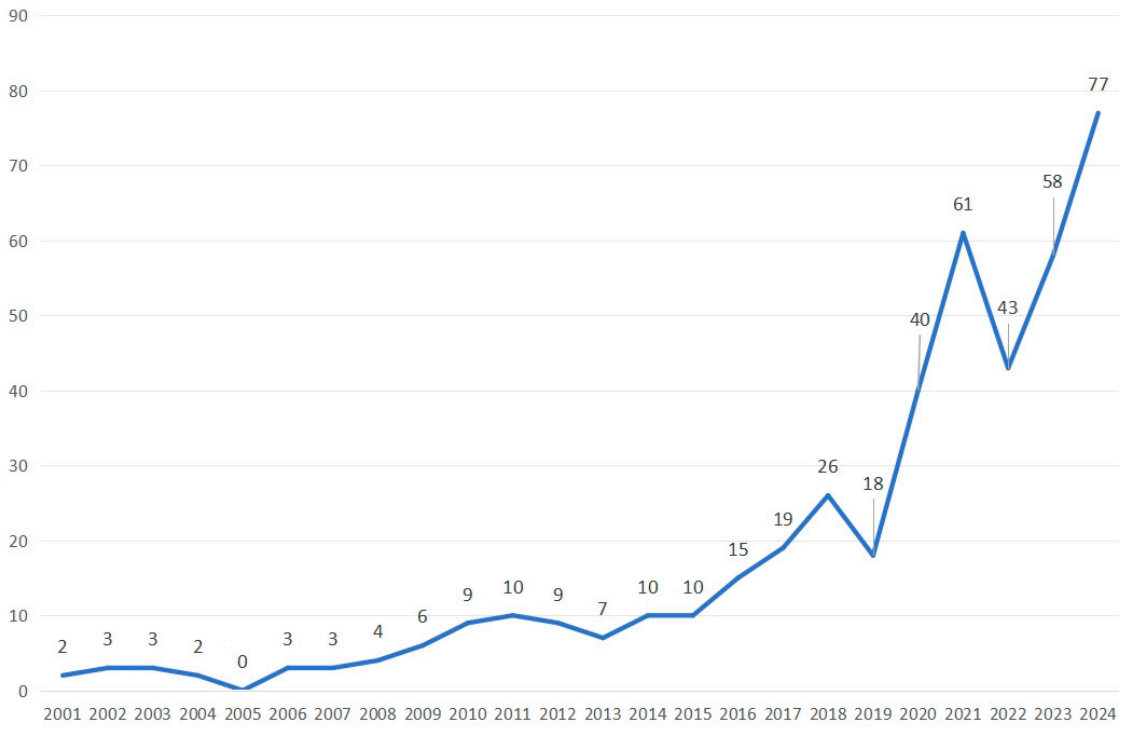


Figure 4. Annual publications from 2001 to 2024.

3.1.2. Geographical Distribution

To understand the global participation in this field, we analyzed the geographical distribution of research contributions. The node type was set to cited journal and the time slice was set to 1 year to generate a co-citation map of journals. By setting the node type to country and using the Pathfinder pruning method, we generated a time zone map of contributing countries and regions, as shown in Figure 5. A total of 59 nodes and 115 lines were obtained, showing that 59 countries carried out relevant research in this field and 115 cooperative relationships were produced. Under the current settings, the silhouette score is 0.9155 and the Modularity Q value is 0.8018. Both of these values fall within the reasonable ranges [21].

China leads in the number of publications (165), followed by the USA (46) and Italy (37). The countries with the greatest academic influence are China (0.41), the UK (0.17), the USA (0.14), and Spain (0.14), as shown in Table 1. China's dominant role, which began explosively after 2008, is directly related to policy changes and the significant economic benefits associated with historic districts [31]. China's dominance (163 publications) stems from policy initiatives. Even prior to that, scholars had major concerns about the detrimental effects of China's rapid urban development on historical and cultural heritage [32]. After the 2008 implementation of the Regulations on the Protection of Famous Historical and Cultural Cities, Towns, and Villages, Chinese governments at all levels formulated a plethora of new laws and regulations [17]. The inscription of a site on the World Heritage List has also made the authorities pay more attention to China's heritage protection and has clearly defined the key objects of protection [33]. Consequently, historic districts attracted heightened attention. These endeavors encompassed both the direct renovation of historic districts and the provision of direct financial support for related research. Under the direct impetus of the government, a series of heritage conservation projects and management systems, with the application of digital technologies included, were put into practice for protective purposes [34].

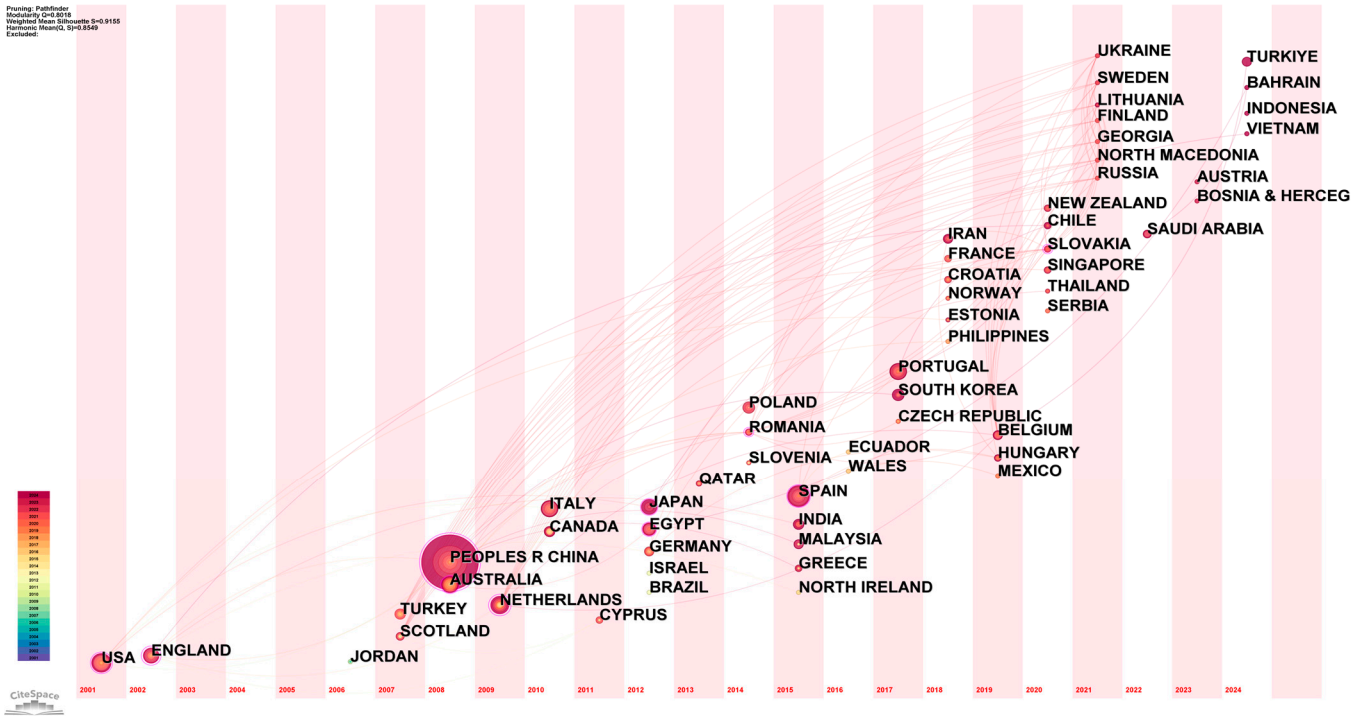


Figure 5. Time zone distribution of research contributions (Node size: publication count; node color: research start year; cooperation network pruned via Pathfinder).

Table 1. List of contributing countries and number of records contributed.

No.	Frequency	Country	Centrality
1	165	China	0.41
2	46	USA	0.14
3	37	England	0.17
4	31	Spain	0.14
5	27	Italy	0.03
6	21	Turkey	0.00
7	20	Japan	0.13
8	15	Netherlands	0.06
9	14	Portugal	0.08
10	14	Australia	0.18

Collaboration patterns differ regionally: China (centrality 0.40) emphasizes domestic teams focusing on technical applications (GIS, space syntax), while Europe (e.g., UK, Italy) fosters transdisciplinary projects via EU frameworks (e.g., Horizon 2020), prioritizing HUL theoretical innovation [35].

3.1.3. Cited Journals

To identify the key journals in this field, we analyzed the co-citation network of journals. Setting the node type to cited journals with the Pathfinder pruning method, we generated a list of contributing journals and the number of records contributed, as shown in Table 2. The top three journals by citation frequency are *Sustainability*, *Cities*, and *Landscape and Urban Planning*. The journals with the highest betweenness centrality are *Landscape and Urban Planning*, *Cities*, and *Habitat International*, indicating their significant role in connecting different research areas. The top 10 journals primarily focus on urban studies, architecture, environment, energy, landscape, urban planning, and sustainable society, reflecting the main research directions in this field. High centrality scores for *Sustainability*

(0.05) and *Landscape and Urban Planning* (0.21) reflect disciplinary shifts. *Sustainability* serves as a multidisciplinary platform integrating environmental science, sociology, and engineering, aligning with HUL's holistic approach. *Landscape and Urban Planning* drives spatial analysis methods, bridging heritage conservation and urban planning.

Table 2. List of contributing Journals and number of records contributed.

No.	Freq	Centrality	Cited Journal	Quartile Rank
1	159	0.05	*Sustainability*	Q1
2	157	0.16	*Cities*	Q1
3	130	0.21	*Landscape and Urban Planning*	Q1
4	94	0.14	*Habitat International*	Q1
5	82	0.07	*Urban Studies*	Q1
6	81	0.03	*International Journal of Heritage Studies*	Q1
7	75	0.02	*Land Use Policy*	Q1
8	69	0.04	*Journal of Cultural Heritage*	Q1
9	69	0.03	*Sustainable Cities and Society*	Q1
10	61	0.03	*Land*	Q1

3.1.4. Research Subjects

To identify the main research subjects, we generated a co-occurrence map of subject categories: the co-occurrence network of research subjects in Figure 6. By setting the node type to country and using the Pathfinder pruning method, a total of 70 nodes and 185 lines were obtained, showing that 70 subjects carried out relevant research in this field and 185 subjects relationships were produced. Under the current settings, the silhouette score is 0.8263 and the Modularity Q value is 0.6059. Both of these values fall within the reasonable ranges [21]. We generated a list of research subjects and the number of records contributed, as shown in Table 3.

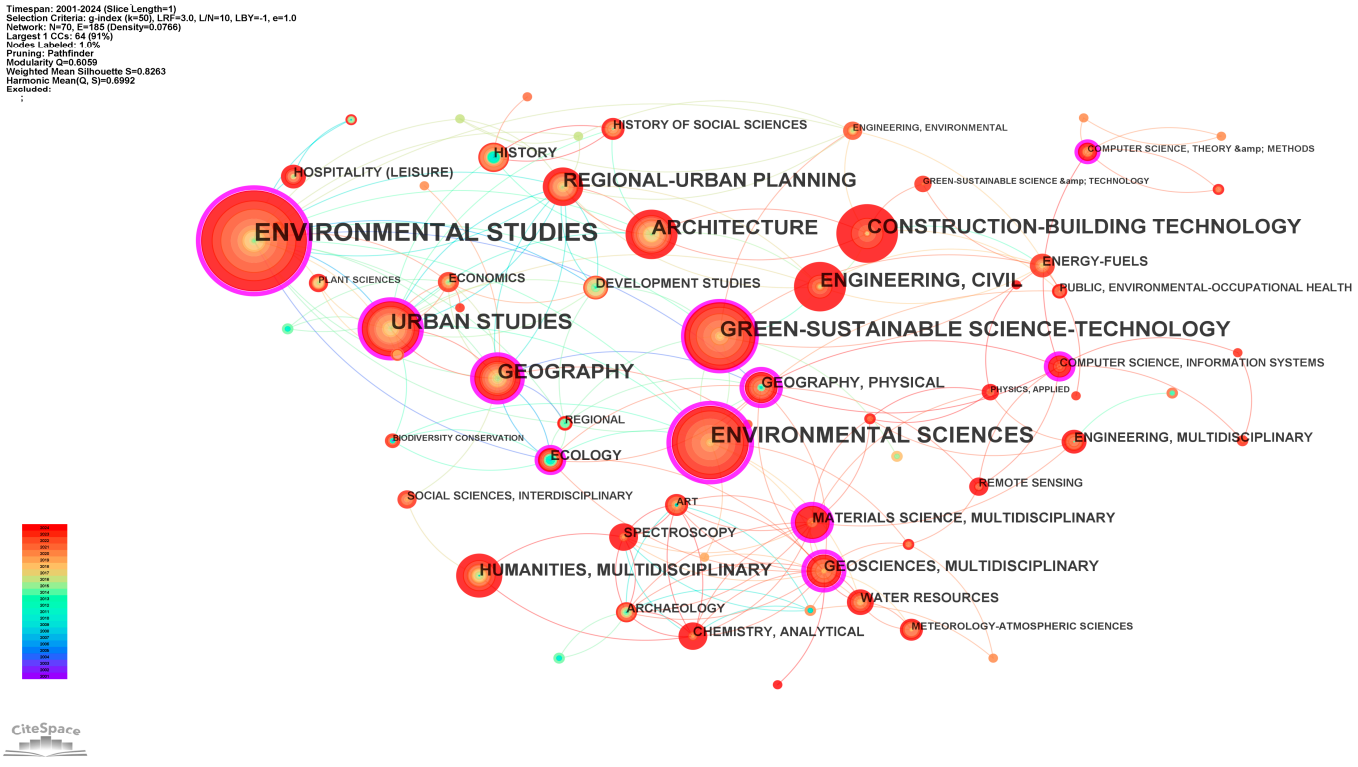


Figure 6. Research subject co-occurrence network (nodes represent academic disciplines; edges indicate interdisciplinary linkages; Pathfinder algorithm used for pruning).

Table 3. List of major research subjects and number of records.

No.	Freq	Centrality	Subjects
1	155	0.38	Environmental Studies
2	90	0.42	Environmental Sciences
3	73	0.14	Green/Sustainable Science/Technology
4	72	0.24	Urban Studies
5	53	0.04	Construction/Building Technology
6	51	0.26	Geography
7	51	0.03	Architecture
8	43	0.01	Regional/Urban Planning
9	43	0.02	Engineering, Civil
10	24	0.03	Humanities, Multidisciplinary

Based on the co-occurrence network of research subjects and relevant data, environmental studies, environmental science, and green and sustainable science and technology hold significant sway in the realm of historic district research. This trend underscores the fact that in the contemporary era, the exploration of historic districts extends far beyond the confines of mere architecture and culture. Instead, there is a growing and intense focus on the surrounding environment. Urban studies, too, have a pivotal role to play in the research of historic districts. This clearly demonstrates that the connection between historic districts and the overall development of cities has captured extensive attention. The involvement of the geography discipline in historic district research signals a heightened emphasis on the spatial distribution, geographical environmental features, and regional disparities of these districts.

3.2. Academic Groupings and Research Focus

To clarify specific research topics in historic district research, this article analyzes from multiple aspects. First, a keyword co-occurrence map shows keyword frequencies and changes over time for identifying hotspots and trends. In Section 3.2.1, by setting "keyword" as the node type and using the Pathfinder pruning method, core keywords are found. Burst detection and timeline analysis are performed, and the research's current state and direction are analyzed from aspects like scope, methods, strategies, and emerging trends. In Section 3.2.2, co-citation clustering analysis identifies 10 effective clusters across various fields, verifying their validity and showing topic diversity and relevance. In Section 3.2.3, a co-occurrence map of landmark references clarifies key references, reflecting the complexity and multi-dimensionality of current research.

3.2.1. Keyword Research Areas

In our analysis, we selected "keyword" as the node type and employed Pathfinder as the pruning method. As a result, a network composed of 438 nodes and 709 lines was generated. Here, each node represents a keyword, so there were 438 distinct keywords identified, and the 709 lines signify the connections between these keywords, as shown in Figure 7. The centrality value serves as an indicator of the academic influence of each keyword. To showcase the most prominent ones, we have listed the top 20 keywords in Table 4. Subsequently, we carried out a burst detection analysis on these 446 keywords. The Kleinberg algorithm [36] was employed for this purpose, with the aim of identifying the keywords that underwent sudden and substantial changes in their usage patterns over time.

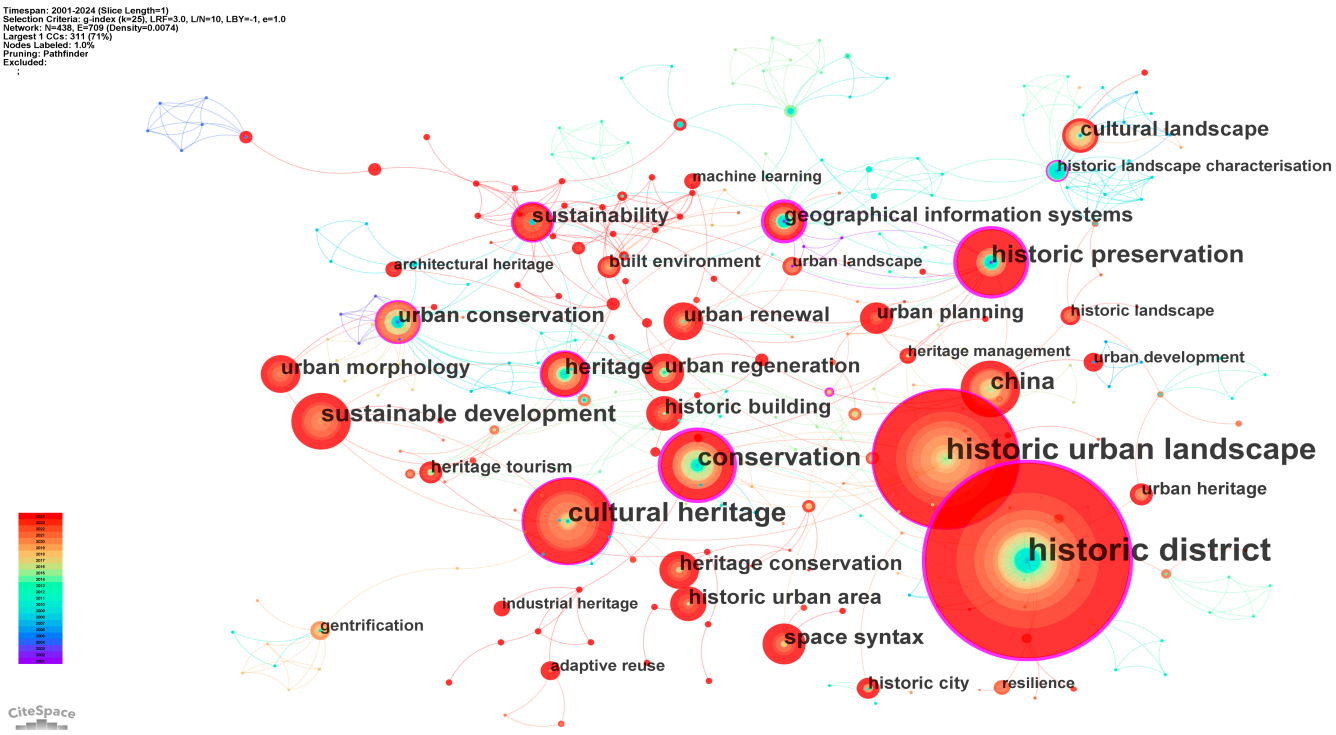


Figure 7. Keyword co-occurrence network map (node size indicates keyword frequency; edge thickness represents co-occurrence strength; network pruned using Pathfinder algorithm).

Table 4. List of contributing keywords and number of records contributed.

No.	Freq	Centrality	Keywords	Year
1	62	0.32	historic district	2008
2	44	0.18	historic urban landscape	2014
3	27	0.14	cultural heritage	2008
4	22	0.29	conservation	2008
5	21	0.25	historic preservation	2001
6	18	0.1	sustainable development	2020
7	18	0.05	China	2015
8	14	0.19	heritage	2009
9	13	0.01	space syntax	2018
10	13	0.14	urban conservation	2003
11	12	0.06	urban renewal	2013
12	12	0.01	urban morphology	2021
13	12	0.18	sustainability	2009
14	12	0.24	geographical information systems	2001
15	12	0.08	urban regeneration	2011
16	12	0.01	heritage conservation	2015
17	11	0.01	historic urban area	2015
18	11	0.01	historic building	2014
19	11	0.03	cultural landscape	2006
20	10	0.04	urban planning	2022
21	7	0.02	urban heritage	2020
22	7	0.05	built environment	2019
23	7	0.06	heritage tourism	2015
24	7	0.02	historic city	2012
25	6	0.02	urban development	2006

In the burst detection analysis using CiteSpace, the γ parameter is a crucial factor that significantly affects the sensitivity of identifying emerging trends. In this study, we

set the γ parameter to 0.2, which was based on comprehensive considerations. Prior to setting this parameter, we conducted multiple tests with different γ values. When the γ value was set too low (e.g., 0.1), it generated an excessive number of detection results that included many minor fluctuations. These fluctuations might not represent truly meaningful changes in research trends and instead could interfere with the judgment of core trends. On the other hand, when the γ value was set too high (e.g., 0.5), some trends that changed moderately but were of great significance might be excluded from the analysis. In the field of historic district research, we aim to capture trends that are both significant and can reflect the real dynamic changes in the field. Through repeated tests and careful analysis of the results, we found that when the γ value is 0.2, it can retain key trend information while effectively filtering out unnecessary noise data. This setting allows the burst detection results to focus on the key factors that have a major impact during the development of the research and drive the transformation of research directions, which is consistent with the goal of this study to sort out the development context, hotspots, and trends in the field of historic district research. The results are presented in Figure 8. In order to study the development and changes of keywords, we have generated a keyword timeline chart. Using the Pathfinder pruning method, the analysis yielded a Modularity Q of 0.7705 and a silhouette S of 0.9111, as shown in Figure 9.

Keywords	Year	Strength	Begin	End	2001 - 2024
sustainability	2009	**3.51**	2022	2024	
cultural heritage	2008	**3.13**	2021	2022	
historic landscape characterisation	2006	**3.11**	2006	2013	
sustainable development	2020	**2.95**	2020	2022	
historic urban landscape	2014	**2.76**	2019	2020	
gentrification	2010	**2.73**	2018	2020	
resilience	2021	**2.63**	2021	2022	
urban morphology	2021	**2.43**	2021	2024	
urban planning	2022	**2.39**	2022	2024	
cultural landscape	2006	**2.27**	2015	2019	

Figure 8. Keyword bursts (burst detection using Kleinberg's algorithm) from 2001 to 2024.

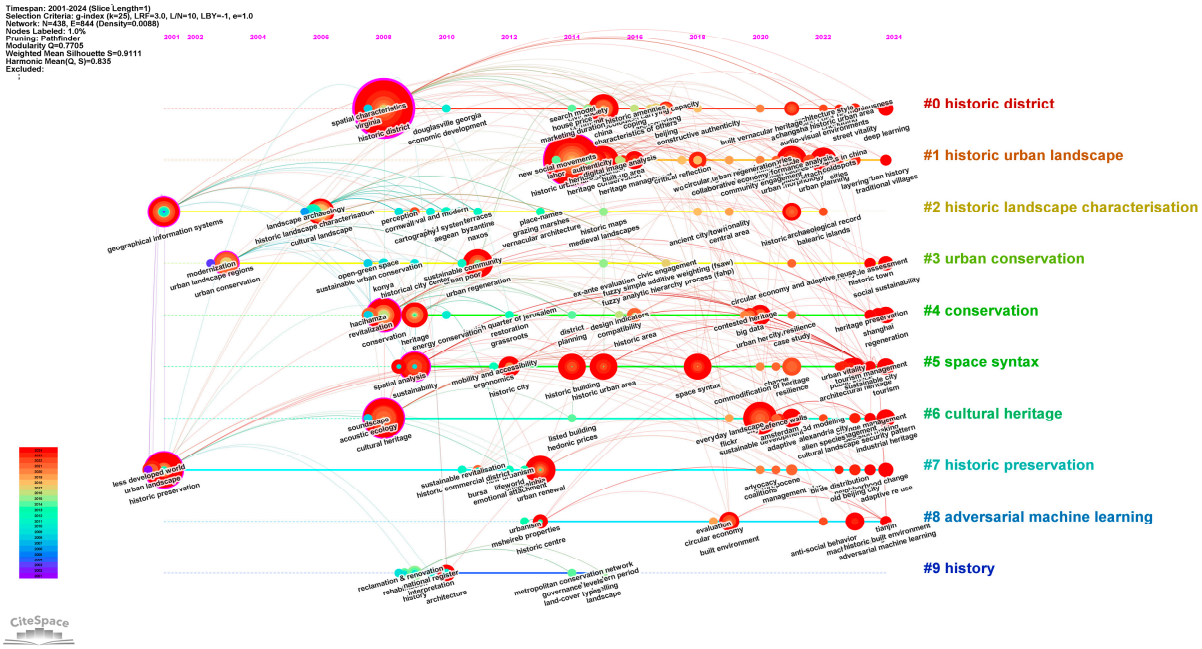


Figure 9. Keyword timeline chart using the Pathfinder pruning method.

- Research Scope

The research scope of historic districts mainly focuses on the intersection of urban and regional studies. Keywords such as "historic district", "historic urban landscape", and "historic urban area" indicate that this field has always revolved around understanding the spatial and functional dynamic relationships between cities and their historic core areas. In addition, words like "sustainable development", "heritage", "conservation", and "urban renewal" show that the research goals are extensive, covering multiple aspects from heritage conservation to adaptive renewal and sustainable urban planning.

- Research Methods and Research Strategy

Commonly used research methods in this field include the application of models and spatial analysis tools. Keywords such as "urban morphology", "geographical information systems", and "space syntax" highlight the reliance on analytical frameworks. These methods are crucial for studying the spatial and environmental characteristics of historic districts and help to deeply understand the complex interactions among urban form, heritage conservation, and contemporary urban needs. In addition, with the passage of time, continuous learning has also become an important development direction.

The analysis also reveals a significant focus on mitigation strategies and their impact on historic districts. Keywords like "conservation", "preservation", and "cultural heritage" indicate that research often explores the effects of urban development, tourism, and conservation efforts on historic areas. This includes studies on the protection of existing districts, the design of new interventions, and the evaluation of energy efficiency in built environments. The research aims to balance the need for preservation with the demands of modern urban life, ensuring that historic districts remain vibrant and sustainable.

- Emerging Trends

In the comprehensive consideration of frequency and centrality (calculated by multiplying frequency by centrality), "historic district" and "historic urban landscape" perform most prominently, indicating that the main research areas still revolve around these two aspects. At the same time, international historical documents such as the 2022 ICOMOS "Urban Heritage for Resilience" Report show that the frequency of the keyword "Resilience" surged in 2022, presenting a consistent change trend. Research trends also demonstrate an increasingly deep cross-integration among various research clusters. For example, when studying the sustainable development of historic districts, it is crucial to integrate research findings from multiple fields. The high attention given to the "HUL" (Historic Urban Landscape) concept in the 2005 Vienna Memorandum aligns with the research directions of various clusters, which also reflects this trend of cross-integration. This further indicates that an integrated research approach that combines aspects of urban studies, environmental science, heritage conservation, and sustainable development is becoming increasingly important in the research of historic districts.

In addition to these existing research areas, several emerging trends are gradually emerging. The increasing frequency of terms such as "sustainable" and "cultural heritage" suggests a growing interest in holistic approaches to heritage conservation. This holistic approach includes integrating environmental, social, and economic factors into the planning and management of historic districts. Furthermore, the emergence of keywords like "gentrification" and "resilience" implies a shift towards more people-centered research, reflecting the impact of global challenges on the research of historic districts.

3.2.2. Clustering Analysis of Keywords

We conducted co-citation clustering analysis to identify the main research topics. By setting the node type to co-cited documents and using a 10% threshold, we obtained

438 nodes and 844 links. The analysis identified 10 effective clusters, as shown in Figure 10. The clusters cover a wide range of topics, including urban studies, environmental sciences, heritage conservation, and sustainable development. Cluster labels were extracted via the log-likelihood ratio (LLR) algorithm, and the validity of the 10 generated clusters was verified using Modularity Q and silhouette scores. We conducted comparative tests on the Mutual Information, Latent Semantic Indexing (LSI), and log-likelihood ratio (LLR) algorithms. Mutual Information clusters items based on statistical associations. In this study, it led to incoherent clustering concepts, making it difficult to reflect the uniqueness of historic district research. LSI had difficulty capturing the subtle relationships in the literature. It often merged different research fields, obscuring the research focus. In contrast, LLR can accurately identify term co-occurrences, effectively distinguish different research themes in historic district research, and better meets the research requirements. Using the Pathfinder pruning method, a Modularity Q value of 0.7705 was obtained, demonstrating significant modularity, as well as a Silhouette Score of 0.9111, indicating high internal consistency. These metrics confirm the robustness of the thematic groupings [21].

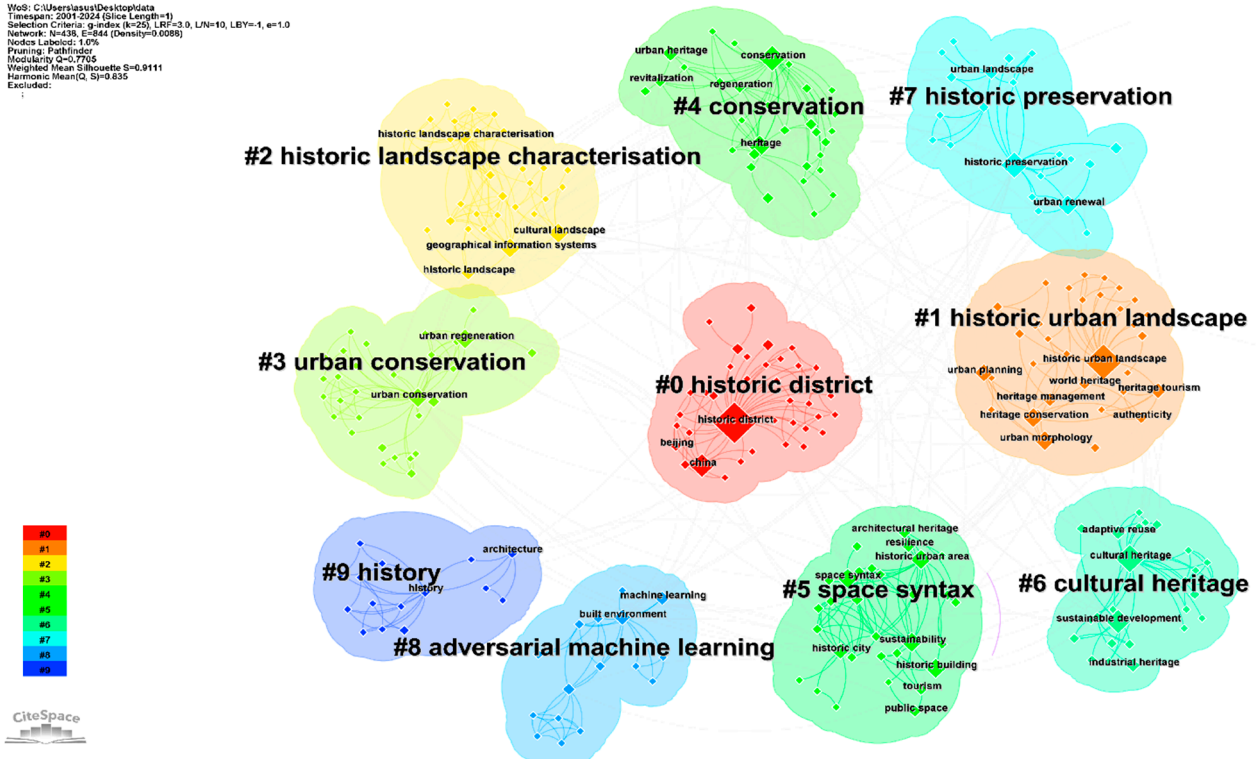


Figure 10. Keyword co-occurrence clustering map (cluster labels extracted via log-likelihood ratio (LLR) algorithm, depicting 10 core research themes).

Clusters in urban research focus on the relationship between historic districts and overall urban development, offering a theoretical basis for urban planning and district positioning. Environmental science-related clusters center on the ecological environment of historic districts, crucial for their green and sustainable development. Heritage conservation clusters revolve around protecting cultural heritage in these districts, involving conservation techniques and cultural inheritance. Sustainable development clusters consider multiple factors to explore paths for the sustainable development of historic districts. Research trends show a growing cross-integration of these clusters. For instance, when studying the sustainable development of historic districts, it is essential to integrate the findings of multiple fields.

3.2.3. Landmark References

To identify the research topics in this field, we conducted a landmark reference co-occurrence map to display the frequency of co-occurrences among different references in Figure 11. We identified the top 10 landmark references based on citation frequency, as presented in Table 5. Using the Pathfinder pruning method, a Modularity Q value of 0.8018 was obtained, demonstrating significant modularity, as well as a Silhouette Score of 0.9155, indicating high internal consistency.

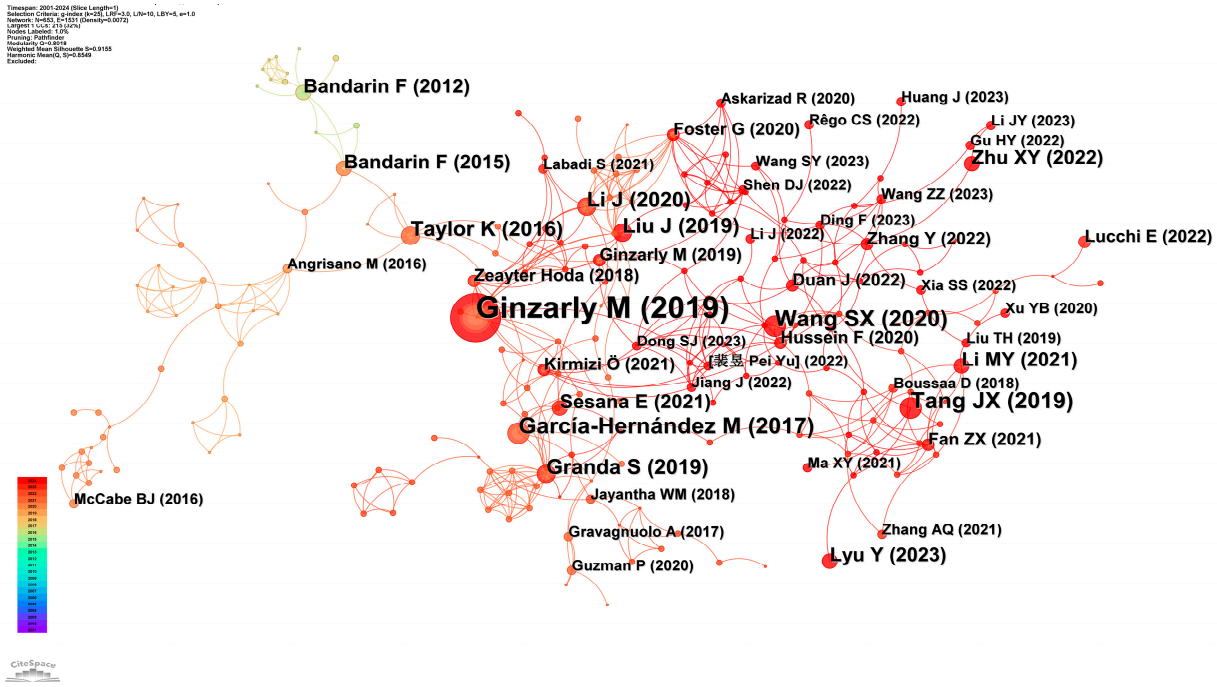


Figure 11. Landmark reference co-occurrence map.

Table 5. List of landmark references based on citation frequency.

NO.	Count	Year	Method	Cited Reference
1	16	2019	Desk work	The Historic Urban Landscape approach to urban management: a systematic review [35].
2	7	2017	Territorial paradigm	Cultural Heritage and Urban Tourism: Historic City Centres under Pressure [37].
3	7	2019	Visual measuring	Measuring visual quality of street space and its temporal variation: Methodology and its application in the Hutong area in Beijing [38].
4	7	2020	Morphological investigation	Pingyao: The historic urban landscape and planning for heritage-led urban changes.
5	6	2019	Fire Risk Index Method	Assessing Vulnerability and Fire Risk in Old Urban Areas: Application to the Historical Centre of Guimarães [39].
6	6	2020	Desk work	Community participation in cultural heritage management: A systematic literature review comparing Chinese and international practices [40].

Table 5. *Cont.*

NO.	Count	Year	Method	Cited Reference
7	6	2019	Field research and structural equation modeling	Effects of soundscape perception on visiting experience in a renovated historical block [41].
8	6	2016	Desk work	The Historic Urban Landscape paradigm and cities as cultural landscapes. Challenging orthodoxy in urban conservation [42].
9	5	2021	Urban sensor data	Revitalizing historic districts: Identifying built environment predictors for street vibrancy based on urban sensor data [43].
10	5	2015	Questionnaire surveys and partial least squares structural equation modeling	A Study on the Sustainable Development of Historic District Landscapes Based on Place Attachment among Tourists: A Case Study of Taiping Old Street, Taiwan [44].

We constructed a co-occurrence map of landmark references, which form the theoretical and methodological foundation of historic district research. Methodologically, these references integrate multidisciplinary approaches: desk work (40%) dominates, followed by spatial analysis (e.g., space syntax) and empirical investigations (questionnaires, field measurements). Notably, the temporal distribution of landmark references exhibits distinct phases: post-2019 studies account for 60%, indicating accelerated methodological innovation in recent years. For instance, Lyu et al. [45] used deep learning to evaluate street vitality, while Zhang et al. [46] applied social network analysis to community participation mechanisms, reflecting a technology-driven shift. Collectively, the landmark references reveal three research trajectories: theoretical evolution and practical challenges of the Historic Urban Landscape (HUL) framework; sustainable development-oriented technological applications; and the dynamic balance between community participation and tourism impacts.

4. Key Issues in the Research of Historic Districts

Based on the previous analysis, since the beginning of the 21st century, significant progress has been made in the research of historic districts in many aspects. It also faces complex problems in terms of concepts, conservation and development, sustainable development, urban renewal strategies, and community participation (Figure 12).

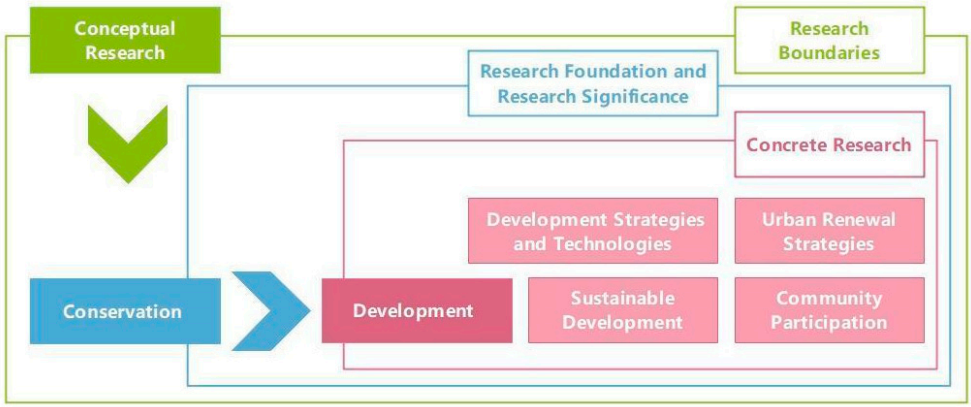


Figure 12. Key issues in the research of historic districts.

4.1. Conceptual Research

In recent years, research on historic areas has made significant progress in multiple directions. First, conceptual studies on historic areas have deepened, especially the concepts of "Historic District" and "Historic Urban Landscape" (HUL) [42]. The emergence of the HUL concept is considered an important development direction for regional heritage research and has gained particular attention in Europe, likely due to the influence of UNESCO and the European tradition in heritage studies. However, applying HUL principles at the local level remains a challenge, and researchers have proposed six steps as guidelines for local governments [35]. The expansion of the HUL concept goes beyond traditional district studies, emphasizing the multi-dimensional characteristics of the urban environment, including topography, geomorphology, hydrology, historical and modern architectural environments, open spaces, land use patterns, socio-cultural practices, economic processes, etc. [16]. As China integrates into the global system, the HUL concept is also gradually being incorporated into related research in China [17].

Although the HUL concept is of great significance, it faces numerous difficulties in practical applications due to differences in regional laws, cultures, and academic disciplines. Existing studies interpret it in a scattered manner, lacking a unified standard and thus making it difficult to guide practice. Future research should clarify its core elements, take into account regional differences, and establish a unified framework to enhance its applicability in different contexts.

4.2. Conservation

In the field of historic district conservation, value analysis is a fundamental and crucial aspect. Many studies have been dedicated to exploring effective value analysis methods, among which the Analytic Hierarchy Process (AHP) is widely applied [47], where authors have conducted analyses by combining AHP with Data Envelopment Analysis (DEA), providing a more comprehensive perspective for the value assessment of historic districts. Wang, Jin et al. [48] considered the dual nature of historic districts as both cultural heritage and living communities. Kou, Zhou et al. proposed using a combination of qualitative and quantitative methods with weighted averages. This approach is applicable to various historic districts and regions, offering a scientific method for conservation practice [49]. Some scholars have also attempted to conduct comprehensive restoration of historical areas based on the achievements of academic research [50].

While various value analysis methods are being explored and historical texts play a crucial role in historic district conservation, it is essential to note that these two aspects do not operate in isolation. In fact, they are intricately connected. The value analysis methods rely on historical texts to a great extent, as the information within these texts can significantly enrich the value assessment process. They are not only important bases for conservation work but also the foundation for formulating conservation strategies. In the cultural research of historical areas, numerous cases around the world offer rich research materials. Akbar, Iqbal et al. focused on the protection strategies of British-era heritage in Saddar Bazar, Karachi, through literature reviews and field investigations [51]. Despite abundant regulations on historical area conservation, the literature review reveals issues. Anderheggen pointed out that many historic districts overly emphasize aesthetic values at the expense of context values, causing local practices to ignore the significance of local historical and cultural resources [52]. Moreover, literature reviews can provide an assessment basis for restoring damaged historic districts, as shown in the study by Beeson, Lombardi et al. [53]. Value analysis methods in conservation face issues. They cannot fully account for historic districts' complex values. Research on historical documents is lacking, and conservation often over-focuses on aesthetics, separating theory from practice. Future

work should optimize these methods, dig deeper into historical documents, and bridge the theory–practice gap to safeguard districts' comprehensive values.

4.3. Development Strategies and Technologies

The development strategies and technologies of historic districts are multifaceted. In perception research, Septianto et al. classified districts as vibrant, relaxing, or dull based on public views, highlighting the importance of human sensory experiences [54]. This classification offers a new perspective for urban planners to design more appealing historic areas. Some scholars also focus on the consumers' intention to revisit historical blocks in order to find the key elements for the development of historical blocks [55].

Zhang and Xu explored users' humanistic needs from a cognitive psychology angle, aiming to create more user-friendly renovated spaces [18]. Regarding conservation, Zhang et al. proposed a 3D diagnostic framework for historic cultural areas, which can precisely analyze current conditions for better preservation [56]. Leng et al. and Li and Wang emphasized cultural continuity for authenticity [57,58]. Big data has become a key research tool; Lyu et al. used it to analyze the urban morphology of Yushan Historic District, uncovering its spatial development secrets [45,59]. Gao et al. pointed out Wi-Fi data's potential to understand people's movement patterns [60]. Xie et al. studied the auditory and visual environments of historic areas [61]. Pan et al. incorporated cultural ecosystem services into research, promoting ecological and cultural balance [62]. In China, historic area conservation research combines methods like GIS and space syntax [38,63,64]; urban regeneration research has gained attention, such as assessing the visual quality of street spaces and their changes using computer vision and deep learning technologies [38]. In addition, neural networks have also been applied to the research of historical areas [65].

For spatial structure, research has been carried out by using relatively traditional surveying and mapping methods [66]. Liang et al. analyzed the spatial structure of a historic district based on human behavior, revealing its social and functional attributes [67]. Zhu et al. put forward public-space-based optimization strategies for historic districts, enhancing their functionality and attractiveness [68]. Research in this area is plentiful but fragmented. New technologies' applications do not suit historic districts well. To improve, research directions need integration, and the fit between technologies and practical needs must be enhanced to better guide practice.

4.4. Sustainable Development

In the field of research on the sustainable development of historic districts, numerous achievements have provided key insights into different aspects of this complex topic. It mainly includes two strategic directions: low-carbon development and resilience (Figure 13).

Yang developed a method for detecting the surface temperature of historic districts, laying the foundation for subsequent low-carbon research and facilitating a deeper understanding of their energy-related characteristics [69]. Fan and Li paid attention to the changes in the microclimate of courtyards in historic districts, including issues related to thermal, lighting, solar, and wind environments [70]. Volkova, Krupenski et al. proposed that the adoption of district heating can significantly reduce carbon emissions in historic districts, providing a practical solution to address environmental sustainability issues [71]. Zhu and Chiou found that place attachment can positively influence tourists' pro-tourism and pro-environmental behaviors, providing a new perspective for the landscape planning of historic districts [44]. Dai, Xu et al. improved the ecological footprint model by using component analysis and considering the main characteristics of historic districts, revealing that the ecological footprint of tourists is higher than that of residents [72].

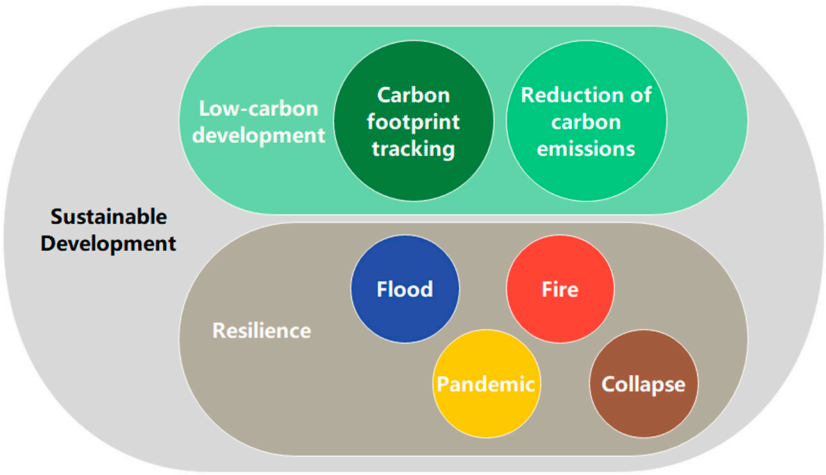


Figure 13. Sustainable development factors.

The relevant initiatives of the European Union regard historic districts as socio-ecological–technical systems, emphasizing the connection between resilience, disaster risk management, and climate change adaptation [73]. Granda and Ferreira combined the spatial structure with tourist behavior to conduct a fire resilience assessment of historic districts [39]. Bologna Pavlik and Zhou pointed out the role of historic districts in urban resilience, especially during the pandemic. Their layout is conducive to isolation and can slow down the spread of diseases [30]. Si, Li et al. proposed a hierarchical construction of the waterlogging prevention and control system for historic districts, making it consistent with historical features and coordinating with flood prevention systems. They also use intelligent platforms to strengthen supervision [74]. Tahoon, Abdel-Fattah et al. pointed out that social factors are often ignored in heritage risk assessment and clarified the predictive relationship between human-made disasters and the socioeconomic vulnerabilities of historic districts, providing a basis for preventing human-made disasters [75].

In the field of research on the sustainable development of historic districts, although there are achievements, such as progress in low-carbon and resilience research, there are also many limitations. Most of the research results in low-carbon development are theoretical and difficult to apply in practice. The method of detecting the surface temperature of historic districts only provides a theoretical basis and cannot contribute to practical energy optimization, thus failing to solve the problem of energy utilization. The assessment models and strategies in resilience research do not fully consider the actual situation of historic districts. When assessing risks like fires and floods, they overlook the complex social and economic structures and unique cultural backgrounds of these districts. As a result, the assessment results deviate from reality, and the strategies are difficult to use to deal with risks. At the same time, there is insufficient integration of multiple disciplines. The research results of various disciplines are isolated from each other, lacking a synergistic effect. Moreover, the research often ignores the uniqueness of historic districts. When pursuing sustainable development, it is easy to damage their original cultural and social values.

4.5. Urban Renewal Strategies

In urban renewal strategies for historic districts, a diverse range of concepts exist (Figure 14). The planning of historic districts is the primary concern for their development, and different research studies focus on various aspects in specific design strategies. Zhao and Lou elaborated in detail on the revival ideas for historic districts from aspects such as cultural connotations, commercial atmosphere, traditional charm, living conditions, and implementation strategies. In the context of rapid urban construction, historic districts

face issues like insufficient feature protection and landscape damage [76]. However, traditional urban design has drawbacks, including incomplete feature research, an imperfect work process, and a disconnection between design and implementation, mainly due to a mismatch between goals and implementation. Wang proposed a new action-oriented urban design approach that divides the work process into four stages, design preparation, planning, implementation, and evaluation, constructing a practical framework that is of great significance for the protection of historic districts [77]. Historic area regeneration strategies often emphasize their uniqueness and local characteristics through urban design to address historical, cultural, economic, or environmental values [41,78]. However, Nasser criticized these strategies for potentially leading to gentrification [79].



Figure 14. Historic district renewal strategies.

The concept of "creative city" has also influenced the design of historic districts. Chen studied creative clusters in media art, literature, etc., and presented findings to aid old-street renovation and Taiwan's historic district development [80]. In fact, during the development of historic districts, there is often potential space for new buildings. Embedded design is a common technique used in the design of historic districts, as noted by Shi, Hu et al. and Ochsner [81,82]. Li included street landscape elements like tree shade in the design [83]. Diversity and accessibility are considered to be important design objectives for vitality [84].

Some scholars suggest applying the Transit-Oriented Development (TOD) model to historical blocks [85]. Zhang proposed a Slow Traffic System to boost historic district vitality, as non-motorized transport can ease traffic congestion [86]. Deng and Chen found residents' emotional experiences are linked to their assessments of walking, public, landscape, and green areas, guiding quality-of-life improvements [87]. Sun and Chen categorized non-motorized lanes for better cycling environments [88]. Oba and Iseki noted that proper surface parking planning can safeguard urban landscapes [89]. Wen et al. used multi-source data to quantify factors affecting street-corner vitality [90]. Chen, Shu et al. introduced IT to simplify historic district design, and Ren, Wu et al. proposed sustainable design strategies [91,92]. However, current design strategies have unclear concepts and implementation issues, lack unified evaluation, and often neglect residents' needs and district features. Future research should clarify concepts and establish a scientific evaluation system for balanced conservation and development.

Current research on historical blocks' impact on property values lacks a consistent conclusion, yet progress has been made on general influencing factors. Designating historic districts usually boosts property values, with premiums affected by heritage status and conservation regulations [93–95]. Zahirovic—Herbert and Gibler pointed out that these premiums are related to the historical reputation of the district [96]. However, like Heintzelman and Altieri, they argued that heritage conservation might have a negative impact, suggesting that other factors cause the supposed positive effects [97]. Nevertheless, Leichenko showed an undeniable link between historic areas and the economy [98]. Zhou proposed that this implies that the economic elements of historic districts are significantly influenced by political–economic factors [19]. Winson—Geideman, Jourdan et al. found that historic properties' value is affected by age, with increasing depreciation, and that inter-district price differences related to historic designation are at least partly due to investment disparities [99].

The impact of tourism on historic districts is complex. Initially, it is often considered negative for long-term residents. Shen et al. noted issues like property dispossession and cultural loss. Since the 1990s in China, heritage tourism has been seen as a way to revitalize historic districts [100]. Liu emphasized that this form of tourism focuses on providing tourists with nostalgic, cultural, and educational experiences [101]. European research, as García—Hernández, De la Calle—Vaquero et al. pointed out, shows tourism-induced morphological and functional changes in historic centers [37]. However, some scholars hold a different view. Xie, Li et al. argued that tourism can have positive impacts [102]. Luo and Chiou proposed a framework considering physical and cultural–natural environments for district management [103]. The study by Araya, Naoi et al. showed the importance of tourist attraction features for foreign tourists [104]. Current research is controversial due to single-perspective studies, lacking coverage of economic, cultural, and social impacts and balance mechanism research. Broader perspectives, integrated methods, and win–win solutions are needed.

4.6. Community Participation

In the realm of community participation, local communities, being both custodians and users of cultural heritage, are recognized as crucial stakeholders [105]. In many cases, residents have restricted opportunities to engage in conservation and regeneration strategies. The decision-making power is predominantly held by governments, as noted by Zhang and Zhang and Xin [46,106]. Such a power structure risks overlooking community interests, which in turn can impede the sustainable development of historic areas, as pointed out by Chang [107].

The boundaries of historic districts offer a means to measure the external landscape effects of historical facilities. Historical facilities are defined by their impact on the prices of other buildings through enhancing their views. Koster, van Ommeren et al. found that affluent families are more willing to pay for views of historical facilities and thus tend to locate themselves within historic districts. This helps to explain the significant spatial income disparities within cities [108]. Furthermore, spontaneously formed community associations can play a positive role in conservation efforts. Poole and Appler have indicated that these associations contribute effectively to the protection of historic areas [109]. The current community participation mechanism has flaws. Government-led models limit residents' involvement and neglect their interests [40]. Participation evaluation is insufficient, and improvement measures lack focus. A fair mechanism and better evaluation can increase participation and protect community interests.

5. Conclusions

5.1. Comparative Analysis with Related Bibliometric Studies

This study employs CiteSpace to conduct a bibliometric analysis of studies on historic district conservation, demonstrating uniqueness in research methods, data sources, and conclusions compared to existing studies.

For example, Ginzarly [35] conducts research solely with HUL as the core. Chen's [110] research is solely concentrated on the realm of urban design. Similarly, the study by Mehrdad Chahardowli et al. [111] is narrowly focused on the field of Sustainable Regeneration. Undoubtedly, these research foci are essential and represent emerging research areas in recent years. During analysis, research only focuses on a limited number of concepts related to HUL. In contrast, this study integrates two major databases, Web of Science and Scopus, which enrich the data sources. Meanwhile, this study adopts the semantic network analysis method and incorporates 12 related terms, such as "historic district" (frequency: 62), "historic urban landscape" (frequency: 44), and "historic conservation area" (frequency: 17), into a unified analytical framework. Through the keyword co-occurrence network (Figure 7 shows this content), the dynamic relationships among these terms can be clearly presented. The study finds that the correlation strength between "historic district" and "urban regeneration" (frequency: 15) is significantly higher (co-occurrence strength: 0.19) than that between HUL and other terms, breaking through the research limitations of focusing only on a single theoretical concept.

In this study, through multidisciplinary cross—analysis, it has been identified that "green/sustainable science/technology" (with a frequency of 73) and "urban studies" (with a frequency of 72), among other research contents beyond traditional historical blocks, are developing rapidly in this field, breaking through the limitations of a single discipline such as architecture or planning.

5.2. Key Conclusions of Historic District Conservation Research and Their Reflections in Practice

Since the turn of the 21st century, research on historic district conservation has emerged as a critical global issue, focusing on balancing cultural heritage preservation with urban sustainable development. Through CiteSpace visualization analysis, this study systematically mapped the research trajectory, hotspots, and challenges in this field, yielding the following core conclusions:

- Conceptual Development and Application Dilemmas

Since the early 20th century, the concept of historic districts has undergone continuous evolution through dynamic interactions between international conservation charters and localized practices. UNESCO's Historic Urban Landscape (HUL) Framework (2011) redefines historic districts as "multilayered socio-ecological systems" that integrate natural topography, cultural heritage, and contemporary urban functions. This framework advocates for holistic conservation that balances physical preservation with social sustainability [112]. However, its implementation encounters significant challenges due to disparities in legal systems, cultural interpretations, and disciplinary approaches across regions [35]. A paradigmatic example lies in China's institutional response: the Regulations on the Protection of Famous Historical and Cultural Cities, Towns, and Villages (2008) established a "historic and cultural district" (historic and cultural blocks) system rooted in the principle of "organic renewal". This approach emphasizes incremental urban regeneration while maintaining cultural authenticity, contrasting sharply with Europe's community-driven revitalization models that prioritize resident participation and adaptive reuse [17,50].

- Research Achievements and Disciplinary Trends

Since 2015, research on historic district conservation has experienced exponential growth, reflecting its increasing prominence in academic discourse. China has emerged as a leader in applying technical methods such as GIS and space syntax to conservation practice [38], whereas European and American studies prioritize theoretical innovation within the Historic Urban Landscape (HUL) framework [15]. High-impact journals including *Sustainability* and *Landscape and Urban Planning* reflect the interdisciplinary nature of this field, integrating urban studies, environmental science, and heritage management [57,62]. Through the combination of bibliometric analysis of research and historical documents, it can be found that in the process of research in this field, international historical documents such as the 2022 ICOMOS report "Urban Heritage for Resilience" show consistency in the bursts of research hotspots with the keyword "Resilience". This indicates that international treaties have a convergence in the main focus directions of this field. At the same time, the rapid expansion of research in this field in China shows that the development of this field, which has extremely strong local characteristics, is greatly influenced by the authorities.

- Research Clusters and Methodological Innovations

Through keyword co-occurrence and co-citation analysis, this study identifies four core clusters: urban morphological evolution, sustainable technology applications, community participation mechanisms, and disaster resilience assessment. Notably, emerging methods like deep learning and social network analysis are infiltrating traditional fields. For instance, space syntax quantifies street vitality [45], while machine learning models assist fire risk assessments [39].

- Gap between Theory and Practice and Future Directions

Despite abundant research, historic district conservation faces challenges of "theoretical advancements outpacing practical implementation". For example, the HUL framework is often reduced to "landscape beautification projects" in developing countries due to economic pressures [79]; community participation mechanisms remain policy-level rhetoric, limiting residents' decision-making power [46]. Future research should prioritize adaptive theory development and promote "technology institution culture" synergistic innovation [19].

6. Discussion

The conservation of historic districts in the 21st century stands at a critical juncture. Emerging trends bring both opportunities and challenges. This section delves deeper into these aspects, building on the conclusions drawn earlier.

6.1. Trends: Future Prospects for Historic District Conservation

- Strengthening of Holistic and Comprehensive Conservation

The evolution of the historic district concept, especially the advent of the HUL framework, has ushered in a new trend of holistic and comprehensive conservation. This trend will become even more prominent in the future. With the growing global focus on climate change, the concept of resilience within the HUL framework will be a core focus of future research and practice [113]. Most historic districts are in vulnerable areas of cities [53]. Thus, it is urgent to boost their resilience physically, socially, and economically. Future efforts will center on integrating sustainable and resilient design into historic buildings, optimizing urban infrastructure against climate impacts, and enhancing community-based resilience.

- Increasing Significance of Interdisciplinary Research

Research in historic district conservation is becoming increasingly important, which is a significant future trend [114]. As research deepens, it is clear that a single discipline cannot offer comprehensive and effective solutions. So, the in-depth integration of disciplines like urban planning, architecture, environmental science, and sociology is essential. For example, combining environmental science with architecture and urban planning can aid in better assessing climate change impacts on historic buildings and landscapes and developing practical protection strategies. Integrating sociology with heritage conservation can mobilize local communities, increase their participation, and improve conservation effectiveness. In the future, more interdisciplinary projects are expected, with multidisciplinary teams collaborating closely in all aspects of conservation, from planning to implementation and monitoring, to provide comprehensive solutions.

- Development Opportunities from New Technologies

In the context of rapid technological development, new technologies have greatly influenced historic district conservation and brought new opportunities. In digital technology, laser scanning can create high-precision digital archives of historic districts, providing data for conservation and restoration [43,115]. VR and AR technologies allow people to experience historic districts immersively, raising public awareness of historical culture and enlivening the cultural tourism industry [116]. In big data and AI, big data analysis helps managers understand district usage and needs for better resource allocation. AI algorithms can diagnose building diseases and recommend restoration plans, improving conservation efficiency. Additionally, sensor-based intelligent monitoring systems can monitor building safety and environmental changes in real time, achieving dynamic protection.

6.2. Challenges: Barriers to Effective Conservation

- Challenge of Defining the Concept Clearly

The concept of historic districts has been evolving and expanding. The HUL concept, for example, includes multi-dimensional urban features [13]. While this shows a deeper understanding, it also blurs the concept. Different regions and disciplines have different interpretations and applications. In future research, it is crucial to clarify the boundaries and core elements while enriching the concept to form a clear and universal definition. This requires considering the uniqueness of historic districts in different regions and conducting in-depth research from multiple disciplines. For instance, by comparing characteristics of historic districts in various cultural backgrounds, common elements can be identified for a unified concept. Also, clear definition criteria should be established to standardize its use in research and conservation, avoiding confusion and inappropriate strategies.

- Challenge of Disciplinary Integration

Current historic district conservation research involves multiple disciplines. Each discipline's research has its own perspective, and there are potential conflicts when these findings are applied together. For example, urban planning's focus on function and space may conflict with architecture's need to preserve building authenticity. Environmental science emphasizes ecological sustainability, while sociology focuses on community needs, making it hard to balance in practice. In the future, disciplinary integration needs to be strengthened. An interdisciplinary research framework should be built to enhance communication and cooperation. One way is to form interdisciplinary teams for joint projects to explore integrated applications. Another is to promote interdisciplinary theoretical innovation to develop comprehensive theories for resolving research conflicts.

- Challenge of Technology Application and Problem Simplification

With technological progress, research in historic district conservation has seen improved technical means like 3D modeling, big data analysis, and AI. These technologies support complex problem-solving, but conservation problems are becoming more complex, involving cultural, social, economic, and environmental factors. A key future challenge is to use advanced technologies to simplify problems and make conservation decisions more scientific and efficient. For example, big data analysis can extract key information from large amounts of data, and AI algorithms can optimize conservation plans. Also, the combination of technology and practical application should be enhanced to make technology more targeted and effective in solving real-world problems, preventing a disconnect between technology and actual needs.

The challenges in historic district conservation in the 21st century call for the joint efforts of academia, government agencies, social organizations, and the public. Through strengthening theoretical research, promoting disciplinary integration, and optimizing technology application, effective conservation and sustainable development of historic districts can be achieved.

6.3. Limitations

This study has certain limitations, which are mainly reflected in three aspects: data sources, research methods, and research conclusions.

In terms of data sources, the CiteSpace software focuses on English-language research. The purpose is to avoid the interference of sample differences in different databases in the research of global trends, because data noise can obscure the research results. For example, there are at least 2000 papers on this topic in the Chinese database of CNKI. However, this data selection method is likely to cause language bias and lead to the neglect of non-English-language research. Given the regional characteristics of historic district conservation, it is crucial to include national and local documents. Analyzing only the literature in the Web of Science database makes it likely to miss important information.

Regarding research methods, this study has a certain degree of dependence on the parameters of CiteSpace. Taking the Kleinberg burst detection model as an example, in order to balance the presentation of detection results and significant but mild trends, the current study sets the γ parameter to 0.2. If the γ value is too low (such as 0.1), it will generate too many detection results that include minor fluctuations. If it is too high (such as 0.5), some significant but mild trends may be excluded from the analysis. This shows that parameter settings have a great impact on the results, and there is a risk of bias.

In terms of research conclusions, this study is based on bibliometric analysis, which has limitations when applied to the actual conservation of historic districts. Although bibliometric analysis can reveal research trends and hotspots, it is difficult to present the complex actual situations. The actual conservation work involves many factors such as local culture, economy, and policy implementation, which are not fully reflected in bibliometric analysis, thus limiting the wide applicability of the research conclusions.

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References

1. Dimelli, D. Modern Conservation Principles and Their Application in Mediterranean Historic Centers—The Case of Valletta. *Heritage* **2019**, *2*, 787–796. [CrossRef]
2. Hoagland, A.K. Where is the history in historic districts?: Introduction. *Public Hist.* **2010**, *32*, 11. [CrossRef]
3. Ronchini, C. Cultural paradigm inertia and urban tourism. In *The Future of Tourism: Innovation and Sustainability*; Springer: Berlin/Heidelberg, Germany, 2019; pp. 179–194. [CrossRef]
4. Aylworth, S. A Multifaceted Approach to Historic District Interpretation in Georgia. *Public Hist.* **2010**, *32*, 42–50. [CrossRef]
5. Mumford, E.P. *The CIAM Discourse on Urbanism, 1928–1960*; MIT Press: Cambridge, MA, USA, 2002.
6. Hamer, D. Learning from the past: Historic districts and the new urbanism in the United States. *Plan. Perspect.* **2000**, *15*, 107–122. [CrossRef]
7. Petzet, M. Principles of preservation: An introduction to the international charters for conservation and restoration 40 years after the Venice Charter. In *International Charters for Conservation and Restoration*; Monuments and Sites; ICOMOS: München, Germany, 2004; Volume 1, pp. 7–29.
8. Cucco, P. Dalla Conservazione Integrata di Amsterdam (1975) all'Integrated Approach to Cultural Heritage (2020). Nuove prospettive nello scenario di cambiamenti globali. *Esempi Archit. Int. J. Archit. Eng.* **2020**, *2*, 1–10.
9. Médard, C. City planning in Nairobi. In *Nairobi Today*; Mkuki na Nyota Publishers: Nairobi, Kenya, 2010; pp. 25–60.
10. ICOMOS International Scientific Committee; ISPRS Permanent Committee (ISC). *Charter for the Conservation of Historic Towns and Urban Areas. Adopted by ICOMOS General Assembly*; ICOMOS: Paris, France, 1987.
11. Stovel, H. Origins and influence of the Nara document on authenticity. *APT Bull.* **2008**, *39*, 9–17.
12. Truscott, M.; Young, D. Revising the Burra Charter: Australia ICOMOS updates its guidelines for conservation practice. *Conserv. Manag. Archaeol. Sites* **2000**, *4*, 101–116. [CrossRef]
13. Martini, V. The Historic Urban Landscape (HUL) as a new approach to the conservation of historic cities. *Landsc. Imagin.* **2012**, 579.
14. De Marco, L.; Hadzimuammedovich, A.; Kealy, L. *ICOMOS-ICCROM Guidance on Post-Disaster and Post-Conflict Recovery and Reconstruction for Heritage Places of Cultural Significance and World Heritage Cultural Properties*; ICOMOS & ICCROM: Paris, France, 2023.
15. Ghanbari, E.; Lotfi, S.; Sholeh, M. HUL values in practice: A character area designation model for the conservation of built heritage in less-developed regions. *J. Cult. Herit.* **2024**, *70*, 41–53. [CrossRef]
16. United Nations Educational, Scientific and Cultural Organization. Recommendation on the historic urban landscape. In Proceedings of the Records of the General Conference 36th Session, Paris, France, 25 October–10 November 2011.
17. Fan, L. International influence and local response: Understanding community involvement in urban heritage conservation in China. *Int. J. Herit. Stud.* **2014**, *20*, 651–662. [CrossRef]
18. Zhang, D.; Xu, S. Humanistic needs and satisfaction study of multi-users in historic districts based on cognitive psychology. *Psychiatr. Danub.* **2021**, *33* (Suppl. S8), 681–693.
19. Zhou, Y. The political economy of historic districts: The private, the public, and the collective. *Reg. Sci. Urban Econ.* **2021**, *86*, 103583. [CrossRef]
20. Chen, C. Science mapping: A systematic review of the literature. *J. Data Inf. Sci.* **2017**, *2*, 1–40.
21. Chen, C. *CiteSpace: A Practical Guide for Mapping Scientific Literature*; Nova Science Publishers: Hauppauge, NY, USA, 2016.
22. Zhao, Y.; Li, J.; Tao, C.; Ding, R. Research hotspots and trends of cardiopulmonary exercise test: Visualization analysis based on citespace. *Med. Nov. Technol. Devices* **2022**, *16*, 100191. [CrossRef]
23. Chen, C. Visualizing Patterns and Trends in Scientific Literature. Citespace 2012. Available online: http://cluster.cis.drexel.edu/~cchen/citespace/ (accessed on 19 March 2025).
24. Small, H. Co-citation in scientific literature-new measure of relationship between 2 documents. *J. Am. Soc. Inf. Sci.* **1973**, *24*, 265–269. [CrossRef]
25. Chen, C. CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *J. Am. Soc. Inf. Sci. Technol.* **2006**, *57*, 359–377. [CrossRef]
26. Jia, G.L.; Ma, R.G.; Hu, Z.H. Review of Urban Transportation Network Design Problems Based on CiteSpace. *Math. Probl. Eng.* **2019**, *2019*, 5735702. [CrossRef]
27. Chen, C.; Ibekwe-SanJuan, F.; Hou, J. The structure and dynamics of cocitation clusters: A multiple-perspective cocitation analysis. *J. Am. Soc. Inf. Sci. Technol.* **2010**, *61*, 1386–1409. [CrossRef]

28. Chen, Y.; Wang, Y.P.; Zhou, D. Knowledge Map of Urban Morphology and Thermal Comfort: A Bibliometric Analysis Based on CiteSpace. *Buildings* **2021**, *11*, 427. [CrossRef]
29. Azkarate, A.; Azpeitia, A. Paisajes urbanos históricos¿ Paradigma o subterfugio. In *Alla Ric. Di Un Passato Complesso. Contrib. Onore Di Gian Pietro Brogiolo Per Il Suo Settantesimo Compleanno*; Universidad de Zagreb: Zagreb, Croatia, 2016; pp. 307–326.
30. Pavlik, J.B.; Zhou, Y. Are historic districts a backdoor for segregation? Yes and no. *Contemp. Econ. Policy* **2023**, *41*, 415–434. [CrossRef]
31. Hu, H. Tourism development of historic and cultural district based on tourists' experience. *Econ. Res. Guide* **2010**, *109*, 97–99.
32. Acharya, S.K. Urban development in post-reform China: Insights from Beijing. *Nor. Geogr. Tidsskr. Nor. J. Geogr.* **2005**, *59*, 228–236. [CrossRef]
33. Qian, Z. World Heritage Site inscription and waterfront heritage conservation: Evidence from the Grand Canal historic districts in Hangzhou, China. *J. Herit. Tour.* **2021**, *16*, 684–704. [CrossRef]
34. Li, S.; Nobuo, A.; Ruoran, W.; Xu, S. Development of cultural heritage conservation planning in China. *Plan. Perspect.* **2024**, *39*, 925–943. [CrossRef]
35. Ginzarly, M.; Houbart, C.; Teller, J. The Historic Urban Landscape approach to urban management: A systematic review. *Int. J. Herit. Stud.* **2019**, *25*, 999–1019. [CrossRef]
36. Kleinberg, J. Bursty and hierarchical structure in streams. In Proceedings of the Eighth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Edmonton, AB, Canada, 23–26 July 2002; pp. 91–101.
37. García-Hernández, M.; De la Calle-Vaquero, M.; Yubero, C. Cultural heritage and urban tourism: Historic city centres under pressure. *Sustainability* **2017**, *9*, 1346. [CrossRef]
38. Tang, J.; Long, Y. Measuring visual quality of street space and its temporal variation: Methodology and its application in the Hutong area in Beijing. *Landsc. Urban Plan.* **2019**, *191*, 103436. [CrossRef]
39. Granda, S.; Ferreira, T.M. Assessing vulnerability and fire risk in old urban areas: Application to the historical centre of Guimarães. *Fire Technol.* **2019**, *55*, 105–127. [CrossRef]
40. Li, J.; Krishnamurthy, S.; Roders, A.P.; Van Wesemael, P. Community participation in cultural heritage management: A systematic literature review comparing Chinese and international practices. *Cities* **2020**, *96*, 102476. [CrossRef]
41. Liu, J.; Yang, L.; Xiong, Y.; Yang, Y. Effects of soundscape perception on visiting experience in a renovated historical block. *Build. Environ.* **2019**, *165*, 106375. [CrossRef]
42. Taylor, K. The Historic Urban Landscape paradigm and cities as cultural landscapes. Challenging orthodoxy in urban conservation. *Landsc. Res.* **2016**, *41*, 471–480. [CrossRef]
43. Li, M.; Liu, J.; Lin, Y.; Xiao, L.; Zhou, J. Revitalizing historic districts: Identifying built environment predictors for street vibrancy based on urban sensor data. *Cities* **2021**, *117*, 103305. [CrossRef]
44. Zhu, X.; Chiou, S.-C. A study on the sustainable development of historic district landscapes based on place attachment among tourists: A case study of Taiping old street, Taiwan. *Sustainability* **2022**, *14*, 11755. [CrossRef]
45. Lyu, Y.; Malek, M.I.A.; Jaàfar, N.H.; Sima, Y.; Han, Z.; Liu, Z. Unveiling the potential of space syntax approach for revitalizing historic urban areas: A case study of Yushan Historic District, China. *Front. Archit. Res.* **2023**, *12*, 1144–1156. [CrossRef]
46. Zhang, W.; Xin, J. Green Spaces and the Spontaneous Renewal of Historic Neighborhoods: A Case Study of Beijing's Dashilar Community. *Sustainability* **2023**, *15*, 16566. [CrossRef]
47. Wu, F.; Qin, S.; Su, C.; Chen, M.; Wang, Q.; Zhang, Q. Development of evaluation index model for activation and promotion of public space in the historic district based on AHP/DEA. *Math. Probl. Eng.* **2021**, *2021*, 6590699. [CrossRef]
48. Wang, Y.; Jin, C.; Xu, D.; Wang, T.; Wang, B. Analysis of Multi-Dimensional Layers in Historic Districts Based on Theory of the Historic Urban Landscape: Taking Shenyang Fangcheng as an Example. *Land* **2024**, *13*, 1736. [CrossRef]
49. Kou, H.; Zhou, J.; Chen, J.; Zhang, S. Conservation for sustainable development: The sustainability evaluation of the xijie historic district, dujiangyan city, China. *Sustainability* **2018**, *10*, 4645. [CrossRef]
50. Yung, E.H.K.; Chan, E.H.W.; Xu, Y. Sustainable Development and the Rehabilitation of a Historic Urban District - Social Sustainability in the Case of Tianzifang in Shanghai. *Sustain. Dev.* **2014**, *22*, 95–112. [CrossRef]
51. Akbar, S.H.; Iqbal, N.; Van Cleempoel, K. Saddar bazar quarter in Karachi: A case of British-era protected heritage based on the literature review and fieldwork. *Heritage* **2023**, *6*, 3183–3210. [CrossRef]
52. Anderheggen, S. Four Decades of Local Historic District Designation: A Case Study of Newport, Rhode Island. *Public Hist.* **2010**, *32*, 16–32. [CrossRef]
53. Beeson, S.T.; Lombardi, A.; Korkmaz, K.A. Condition Assessment of Cultural Heritage Buildings in the Historic Strand District of Galveston. In Proceedings of the International Conference on Protection of Historical Constructions (PROHITECH), Athens, Greece, 25–27 October 2021; pp. 816–827.
54. Septianto, E.; Poerbo, H.W.; Firmansyah; Martokusumo, W. Understanding the attractiveness of types of historic districts in Bandung: Implementing heritage conservation based on public perception. *J. Asian Archit. Build. Eng.* **2024**, 1–16. [CrossRef]

55. Zhao, S.; Marzuki, A.; Rong, W.; Ran, X. An empirical application of the consumer-based authenticity model in heritage tourism of the George Town historic district, Penang, Malaysia. *Heliyon* **2024**, *10*, e38254. [CrossRef] [PubMed]
56. Zhang, M.; Zhang, Y.; Fang, X.; Wang, X. A 3D spatial diagnostic framework of sustainable historic and cultural district preservation: A case study in Henan, China. *Buildings* **2023**, *13*, 1344. [CrossRef]
57. Li, H.Y.; Wang, F. Cultural Identity and Continuity-Case Study of Authentic Conservation of Xi'an Bei Yuan Men Historic District. *Appl. Mech. Mater.* **2013**, *357*, 1840–1846. [CrossRef]
58. Leng, H.; Shi, T.; Zhao, J. Study on Authenticity Protection and Restoration of Residential Historic District. *Appl. Mech. Mater.* **2013**, *357*, 1886–1889. [CrossRef]
59. Zhang, J.J.; Zhang, J.; Huo, X.W.; Zheng, W.H.; Zheng, X.; Zhang, M.M. Research on the positioning of protection and utilization of historic districts under big data analysis. In Proceedings of the 26th International Symposium of ICOMOS/ISPRS-International-Scientific-Committee-on-Heritage-Documentatio n (CIPA) on Digital Workflows for Heritage Conservation, Ottawa, ON, Canada, 28 August–1 September 2017; pp. 731–735.
60. Gao, Y.C.; Liu, S.; Wei, B.; Zhu, Z.N.; Wang, S.S. Using Wi-Fi Probes to Evaluate the Spatio-Temporal Dynamics of Tourist Preferences in Historic Districts' Public Spaces. *Isprs Int. J. Geo-Inf.* **2024**, *13*, 244. [CrossRef]
61. Xie, H.; He, Y.; Wu, X.Y.; Lu, Y. Interplay between auditory and visual environments in historic districts: A big data approach based on social media. *Environ. Plan. B-Urban Anal. City Sci.* **2022**, *49*, 1245–1265. [CrossRef]
62. Pan, Y.; Nik Hashim, N.H.; Goh, H.C. Public perception of cultural ecosystem services in historic districts based on biterm topic model. *Sci. Rep.* **2024**, *14*, 11717. [CrossRef]
63. Pickard, R. Area-based protection mechanisms for heritage conservation: A European comparison. *J. Archit. Conserv.* **2002**, *8*, 69–88. [CrossRef]
64. Akl, M.H.; Sheta, S.A.; ElGizawi, L. Application of BIM/GIS-based Integrated Models on the Historic Urban Districts of Rosetta City, Egypt. *Ital. J. Plan. Pract.* **2023**, *13*, 24–46.
65. Ding, F.; Ren, Y.Y.; Goudos, S.; Zhao, Y. Analysis of Public Space in Historic Districts Based on Community Governance and Neural Networks. *IEEE Access* **2023**, *11*, 81021–81032. [CrossRef]
66. Lee, T.M. The Spatial Form of Traditional Taiwanese Townhouses: A Case Study of Dihua Street in Taipei City. In Proceedings of the 7th European-Mediterranean International Conference (EuroMed), Nicosia, Cyprus, 29 Octber–3 November 2018; pp. 322–333.
67. Liang, W.; Ahmad, Y.; Mohidin, H.H.B. Spatial form and conservation strategy of Sishengci historic district in Chengdu, China. *Heritage* **2023**, *6*, 891–903. [CrossRef]
68. Zhu, X.Q.; Sun, J.J.; Fu, J.Y. Research on Mixed Vitality of Historic District and Space Mode Optimization: A Comparison between Hefang Street and Xinyifang in Hangzhou. *Appl. Mech. Mater.* **2013**, *357–360*, 1724–1729.
69. Yang, M. Variability of Land Surface Temperatures in Beijing's Historic Districts. *Sens. Mater.* **2024**, *36*, 3147–3165. [CrossRef]
70. Fan, R.B.; Li, X.M. Exploration on Traditional Courtyard Micro-Climate Characteristics and Improvement Method-Case Study of No. 6 Courtyard of Chang'anxue Alley in Xi'an Sanxuejie Historic District. *Appl. Mech. Mater.* **2013**, *357*, 1918–1927. [CrossRef]
71. Volkova, A.; Krupenski, I.; Kovtunova, N.; Hlebnikov, A.; Masatin, V.; Ledvanov, A. Converting Tallinn's historic centre's (Old Town) heating system to a district heating system. *Energy* **2023**, *275*, 127429. [CrossRef]
72. Dai, L.L.; Xu, B.X.; Wu, B.H. Assessing sustainable development of a historic district using an ecological footprint model: A case study of Nanluoguxiang in Beijing, China. *Area* **2017**, *49*, 94–105. [CrossRef]
73. Egusquiza, A.; Lückerath, D.; Zorita, S.; Silverton, S.; Garcia, G.; Servera, E.; Bonazza, A.; Garcia, I.; Kalis, A. Paving the way for climate neutral and resilient historic districts. *Open Res. Eur.* **2023**, *3*, 42. [CrossRef]
74. Si, S.; Li, J.Q.; Wang, Y.Z.; Liu, L. Thinking Critically through Key Issues in Improving the Effectiveness of Waterlogging Prevention and Control System in China's Historic Districts. *Sustainability* **2022**, *14*, 2913. [CrossRef]
75. Tahoon, D.M.; Abdel-Fattah, N.A.; Hegazi, Y.S. Social vulnerability of historic Districts: A composite measuring scale to statistically predict human-made hazards. *Ain Shams Eng. J.* **2023**, *14*, 102002. [CrossRef]
76. Zhao, L.; Lou, S.J. The Road of Complexity, The Road of Rehabilitation-Discussion of Detailed Planning for Protection and Renovation of the Southeast Area in the Ancient City of Liaocheng. *Appl. Mech. Mater.* **2012**, *174–177*, 2440–2446. [CrossRef]
77. Wang, Y.J. Urban design of historic districts based on action planning. *Open House Int.* **2018**, *43*, 43–51. [CrossRef]
78. Heath, T.; Oc, T.; Tiesdell, S. *Revitalising Historic Urban Quarters*; Routledge: London, UK, 2013; pp. 13–48.
79. Nasser, N. Planning for urban heritage places: Reconciling conservation, tourism, and sustainable development. *J. Plan. Lit.* **2003**, *17*, 467–479. [CrossRef]
80. Chen, Z.R. Observing the Frame of Creative Clusters/Groups: A Case Study of Historic Districts in Tainan City. In Proceedings of the 2018 1st IEEE International Conference on Knowledge Innovation and Invention (ICKII), Jeju, Republic of Korea, 23–27 July 2018; pp. 168–171.
81. Ochsner, J.K. The past and future of Pioneer Square: Historic character and infill construction in Seattle's First Historic District. *Change Over Time* **2017**, *7*, 320–343. [CrossRef]

82. Shi, Y.; Hu, X.Y.; Yang, J.Y. "Embedding" Updating Strategy Research of Urban Historic district-Taking South Historical District of Nanjing as example. *Appl. Mech. Mater.* **2013**, *397-400*, 712–716. [CrossRef]
83. Li, G.H.; He, N.; Zhan, C.H. Evaluation of tree shade effectiveness and its renewal strategy in typical historic districts: A case study in Harbin, China. *Environ. Plan. B-Urban Anal. City Sci.* **2022**, *49*, 898–914. [CrossRef]
84. Huang, J.; Hu, X.; Wang, J.Q.; Lu, A.D. How Diversity and Accessibility Affect Street Vitality in Historic Districts? *Land* **2023**, *12*, 219. [CrossRef]
85. Renne, J.L.; Listokin, D. Transit-oriented development and historic preservation across the United States: A geospatial analysis. *Transp. Res. Interdiscip. Perspect.* **2021**, *10*, 100373. [CrossRef]
86. Zhang, N. A preliminary study of slow traffic system to activate the vitality of historic districts take Wuhan Tanhualin historic district as an example. In Proceedings of the IOP Conference Series: Earth and Environmental Science, Chongqin, China, 20–22 November 2020; p. 012206.
87. Deng, Z.; Chen, D.; Qin, X.; Wang, S. Comprehensive assessment to residents' perceptions to historic urban center in megacity: A case study of Yuexiu District, Guangzhou, China. *J. Asian Archit. Build. Eng.* **2021**, *20*, 566–580. [CrossRef]
88. Sun, H.; Chen, Y.H. Research on the evaluation model of non-motorized tavel environment in historical districts considering riding speed. *Civ. Eng. J. Staveb. Obz.* **2024**, *33*, 591–606. [CrossRef]
89. Oba, T.; Iseki, H. Transportation Impacts on Cityscape Preservation: Spatial Distribution and Attributes of Surface Parking Lots in the Historic Central Districts. *J. Urban Plan. Dev.* **2020**, *146*, 04020014. [CrossRef]
90. Wen, Z.H.; Zhao, J.T.; Li, M.Z. A Study on the Influencing Factors of the Vitality of Street Corner Spaces in Historic Districts: The Case of Shanghai Bund Historic District. *Buildings* **2024**, *14*, 2947. [CrossRef]
91. Chen, Y.X.; Shu, B.; Chang, H.T. Exploring Architectural Shapes Based on Parametric Shape Grammars: A Case Study of the "Three Lanes and Seven Alleys" Historic District in Fuzhou City, China. *Buildings* **2023**, *13*, 2063. [CrossRef]
92. Ren, L.; Wu, Y.; Wang, Z. Sustainable Development of Historic Districts: From Cultural Resources to Cultural Narrative. In Proceedings of the IEEE Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability (IEEE ECBIOS), Okinawa, Japan, 31 May–3 June 2019; pp. 83–86.
93. Been, V.; Ellen, I.G.; Gedal, M.; Glaeser, E.; McCabe, B.J. Preserving history or restricting development? The heterogeneous effects of historic districts on local housing markets in New York City. *J. Urban Econ.* **2016**, *92*, 16–30. [CrossRef]
94. Gilderbloom, J.I.; Hanka, M.J.; Ambrosius, J.D. Historic preservation's impact on job creation, property values, and environmental sustainability. *J. Urban.* **2009**, *2*, 83–101. [CrossRef]
95. Shipley, R.; Jonas, K.; Kovacs, J.F. Heritage Conservation Districts Work: Evidence from the Province of Ontario, Canada. *Urban Aff. Rev.* **2011**, *47*, 611–641. [CrossRef]
96. Zahirovic-Herbert, V.; Gibler, K.M. Historic district influence on house prices and marketing duration. *J. Real Estate Financ. Econ.* **2014**, *48*, 112–131. [CrossRef]
97. Heintzelman, M.D.; Altieri, J.A. Historic preservation: Preserving value? *J. Real Estate Financ. Econ.* **2013**, *46*, 543–563. [CrossRef]
98. Leichenko, R.M.; Coulson, N.E.; Listokin, D. Historic preservation and residential property values: An analysis of Texas cities. *Urban Stud.* **2001**, *38*, 1973–1987. [CrossRef]
99. Winson-Geideman, K.; Jourdan, D.; Gao, S. The Impact of Age on the Value of Historic Homes in a Nationally Recognized Historic District. *J. Real Estate Res.* **2011**, *33*, 25–47. [CrossRef]
100. Shen, S.; Zhao, J.; Xu, J.; Guo, J.; Shi, L. Understanding tourism development of historic districts from a representational perspective. *J. Tour. Cult. Change* **2016**, *14*, 291–306. [CrossRef]
101. Liu, J. Tourism Revitalization of Historic District in Perspective of Tourist Experience: A Case Study of San-Fang Qi-Xiang in Fuzhou City, China. In *Global Hospitality and Tourism Management Technologies*; de Pablos, P.O., Zhao, J., Eds.; IGI Global: Hershey, PA, USA, 2012; pp. 151–164.
102. Xie, Y.-F.; Li, L.; Guo, Y.-D.; Sun, X.-P.; Zhang, Y.-J. Sustainable Tourism-Oriented Conservation and Improvement of Historical Villages in the Urbanization Process: A Case Study of Nan'anyang Village, Shanxi Province, China. In *Urbanization and Locality: Strengthening Identity and Sustainability by Site-Specific Planning and Design*; Springer: Berlin/Heidelberg, Germany, 2016; pp. 187–203. [CrossRef]
103. Luo, H.; Chiou, B.-S. Framing the hierarchy of cultural tourism attractiveness of Chinese historic districts under the premise of landscape conservation. *Land* **2021**, *10*, 216. [CrossRef]
104. Araya, A.; Naoi, T.; Iijima, S. The Effects of Westerners' Presence on Japanese Evaluations of a Historic District: The Case of Takayama City. *J. Travel Tour. Mark.* **2016**, *33*, 628–644. [CrossRef]
105. Poulios, I. Discussing strategy in heritage conservation: Living heritage approach as an example of strategic innovation. *J. Cult. Herit. Manag. Sustain. Dev.* **2014**, *4*, 16–34. [CrossRef]
106. Zhang, X. Conversation on saving historical communities: A participatory renewal and preservation platform. In *IOP Conference Series: Materials Science and Engineering*; IOP Publishing: Bristol, UK, 2017; p. 082053.

107. Chang, H.-F. Development and Construction of Public Awareness of Community Characteristics Kaohsiung City's Historic District Industrial Recycling Case. In Proceedings of the 2013 International Conference on the Modern Development of Humanities and Social Science, Hong Kong, China, 1–2 December 2013; pp. 420–422.
108. Koster, H.R.; van Ommeren, J.N.; Rietveld, P. Historic amenities, income and sorting of households. *J. Econ. Geogr.* **2016**, *16*, 203–236. [CrossRef]
109. Poole, L.A.R.; Appler, D.R. Building a Local Preservation Ethic in the Era of Urban Renewal: How Did Neighborhood Associations Shape Historic Preservation Practice in Lexington, Kentucky? *J. Urban Hist.* **2020**, *46*, 383–405. [CrossRef]
110. Chen, D. Examining urban design strategies in historic districts: A systematic literature review. *Proc. Inst. Civ. Eng. Urban Des. Plan.* **2024**, *177*, 232–239. [CrossRef]
111. Chahardowli, M.; Sajadzadeh, H.; Aram, F.; Mosavi, A. Survey of Sustainable Regeneration of Historic and Cultural Cores of Cities. *Energies* **2020**, *13*, 2708. [CrossRef]
112. Bandarin, F.; Van Oers, R. *The Historic Urban Landscape: Managing Heritage in an Urban Century*; John Wiley & Sons: Hoboken, NJ, USA, 2012.
113. Duangputtan, P.; Mishima, N. Adapting the Historic Urban Landscape Approach to Study Slums in a Historical City: The Mae Kha Canal Informal Settlements, Chiang Mai. *Buildings* **2024**, *14*, 1927. [CrossRef]
114. Makhzoumi, J.; Al-Harithy, H.; Bazzi, M. Contextualizing UNESCO's Historic Urban Landscape Approach: A Framework for Identifying Modern Heritage in Post-Blast Beirut. *Land* **2024**, *13*, 2241. [CrossRef]
115. Lin, Y.; Zhang, M.; Yi, C.; Zhang, Y.; Xiong, J.; Lv, L.; Peng, X.; He, J. Sustainable Urban Regeneration with Wind and Thermal Environment Optimization: Design Roadshow of a Historic Town in China. *Coatings* **2024**, *14*, 1593. [CrossRef]
116. González-Albornoz, P.; López, M.I.; Carmona, P.; Rubio-Manzano, C. Digitalization and Spatial Simulation in Urban Management: Land-Use Change Model for Industrial Heritage Conservation. *Appl. Sci.* **2024**, *14*, 7221. [CrossRef]

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