

International and Multidisciplinary Journal of Social Sciences

Volume 15, Issue 1, 30<sup>th</sup> March, 2026, Pages 70-92

© The Author(s) 2026

<http://dx.doi.org/10.17583/rimcis.18111>

# The Role of Civic Engagement in Urban Sustainability: A Bibliometric Analysis and Systematic Literature Review

Ilze Judrupa<sup>1</sup>, Irina Voronova<sup>1</sup>, Pāvels Jurs<sup>2</sup>, Daiva Malinauskiene<sup>3</sup>, & Lazat Spankulova<sup>4</sup>

1) *Riga Technical University*, Latvia

2) *Riga Technical University Liepaja Academy*, Latvia

3) *Vilnius University Šiauliai Academy*, Lithuania

4) *Al-Farabi Kazakh National University*, Kazakhstan

## Abstract

Civic engagement is vital for ensuring all aspects of sustainable development in urban environments. This study examines the role of civic engagement in promoting sustainable urban development. To address the research question regarding the role of civic engagement in urban sustainability and to provide a scientific foundation, a bibliometric analysis and a systematic literature review were conducted. The literature review followed the PRISMA 2020 statement. By analyzing 66 publications, the study assessed the geographical distribution of authors, the most frequently cited authors, publication trends over time, and thematic developments in research on civic engagement in urban sustainability. The results reveal a strong link between civic engagement and several Sustainable Development Goals, identifying the most frequently associated dimensions of urban sustainability. The findings confirm that sustainable urban development must emphasize culture, governance, technology, and education. The study proposes a conceptual model that highlights the importance of civic engagement in achieving sustainable cities.

## Keywords

Civic engagement, sustainable development, SDG, sustainability dimensions, urban environment

---

**To cite this article:** Judrupa, I., Voronova, I., Jurs, P., Malinauskiene, D., & Spankulova, L. (2026). Article Title. *International and Multidisciplinary Journal of Social Sciences*, 15(1), pp. 70-92. <http://dx.doi.org/10.17583/rimcis.18111>

**Corresponding author:** Pāvels Jurs

**Contact address:** pavel.jurs@rtu.lv

International and Multidisciplinary Journal of Social Sciences

Volumen 15, Número 1, 30 de marzo de 2026, Páginas 70-92

© Autor(es) 2026

<http://dx.doi.org/10.17583/rimcis.18111>

# Participación Cívica y Sostenibilidad Urbana: Un Análisis Bibliométrico y una Revisión Sistemática de la Literatura

Ilze Judrupa<sup>1</sup>, Irina Voronova<sup>1</sup>, Pāvels Jurs<sup>2</sup>, Daiva Malinauskiene<sup>3</sup>, & Lazat Spankulova<sup>4</sup>

1) *Universidad Técnica de Riga*, Letonia

2) *Universidad Técnica de Riga, Academia de Liepaja*, Letonia

3) *Universidad de Vilna, Academia de Šiauliai*, Lituania

4) *Universidad Nacional Kazaja Al-Farabi*, Kazajistán.

## Resumen

La participación ciudadana es vital para garantizar todos los aspectos del desarrollo sostenible en el entorno urbano. Este estudio analiza el papel de la participación ciudadana en la promoción de un desarrollo urbano sostenible. Para responder a la pregunta de investigación sobre su papel en la sostenibilidad urbana y fundamentarla científicamente, se llevó a cabo un análisis bibliométrico y una revisión sistemática de la literatura, siguiendo las directrices de la declaración PRISMA 2020. A partir del análisis de 66 publicaciones, el estudio evaluó la distribución geográfica de los autores, los más citados, las tendencias de publicación a lo largo del tiempo y la evolución temática de los estudios sobre participación ciudadana en la sostenibilidad urbana. Los resultados revelan una estrecha relación entre la participación ciudadana y varios Objetivos de Desarrollo Sostenible, identificando las dimensiones de la sostenibilidad urbana más frecuentemente asociadas. Los hallazgos confirman la necesidad de hacer hincapié en los aspectos culturales, de gobernanza, tecnológicos y educativos dentro del desarrollo urbano sostenible. El estudio propone un modelo conceptual que destaca la importancia de la participación ciudadana para garantizar la sostenibilidad de las ciudades.

## Palabras clave

Participación ciudadana, desarrollo sostenible, ODS, dimensiones de la sostenibilidad, entorno urbano

---

**Cómo citar este artículo:** Judrupa, I., Voronova, I., Jurs, P., Malinauskiene, D., y Spankulova, L. (2026). Título Artículo. *International and Multidisciplinary Journal of Social Sciences*, 15(1), pp. 70-92. <http://dx.doi.org/10.17583/rimcis.18111>

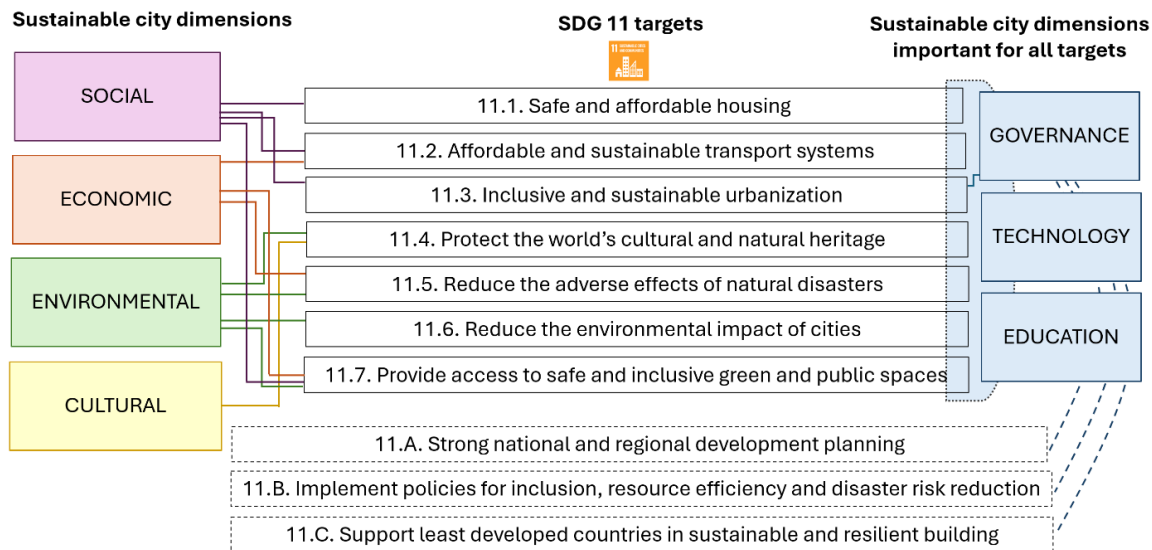
**Autor de correspondencia:** Pāvels Jurs

**Dirección de contacto:** pavels.jurs@rtu.lv

Civic engagement is proactive and motivated involvement of individuals and groups based on meeting the needs of citizens themselves, from the local community to the international level, in order to address existing challenges in the social, economic, cultural, political, and environmental contexts to improve the quality of life (Jurs & Samuseviča, 2020). In recent decades, civic engagement has become increasingly important in addressing complex societal challenges, including sustainable urban development. Sustainable urban development aims to balance economic development, environmental protection, and social inclusiveness (Almulhim et al., 2024) and encompasses areas important to the well-being of the city's inhabitants. Sustainable cities meet the diverse needs of existing and future residents and contribute to a high quality of life (Kumar, 2022). Many scholars have researched the sustainability of the urban environment using a three-dimensional model. In this model, the economic dimension is related to investment attraction, stable employment, and maintaining productivity without exhausting natural resources (Parra-Pulido et al., 2024). The social dimension encompasses social inclusion, well-being, accessible public spaces, and decent housing (Jonek-Kowalska, 2025), while the environmental dimension means making cities greener, more climate-resilient, and ecologically just (Itair et al., 2023). According to scholars' research interests, the three-dimensional model is supplemented by adding additional dimensions – governance, cultural, or technological. Civic engagement plays an important role across these dimensions, especially as a prerequisite for improving urban planning and development processes (Horelli & Wallin, 2024). Participatory governance models that promote active citizen involvement in planning and decision-making are therefore considered essential for achieving sustainable urban development (Almulhim & Yigitcanlar, 2025). From a geographical perspective, the concept of civic engagement has different interpretations. In this study, civic engagement is understood as an umbrella concept encompassing both civic and community engagement.

The United Nations also underscores the significance of civic engagement in sustainable urban development, identifying it as a key factor in achieving the Sustainable Development Goals (SDGs) (UNDP, n.d.). In examining the role of civic engagement in developing sustainable cities, SDG 11 is particularly relevant. It focuses on making cities and human settlements inclusive, safe, resilient, and sustainable (UN, n.d.). To achieve SDG 11, ten specific targets have been defined. Although SDG 11 is primarily linked to the social dimension of sustainability, its targets span multiple dimensions of the sustainable urban environment (Figure 1).

SDG 11 comprises seven main objectives, known as outcome targets, that focus on specific results related to this goal. Each target is connected to one or more dimensions of sustainable cities, with governance, technology, and education emerging as critical elements for all SDG 11 outcome targets. In addition to the outcome targets, three implementation targets (11.A, 11.B, and 11.C) have been defined to facilitate achieving these objectives, underscoring the importance of effective and collaborative governance.

**Figure 1***Linkages Between SDG 11 Targets and Sustainable City Dimensions*

Civic engagement is fundamental to all targets, as active societal support and participation are essential to implementing sustainability practices and policies. Among these, Target 11.3 explicitly emphasizes the role of civic engagement in sustainable city development. By 2030, it aims to “enhance inclusive and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries” (UN, n.d.).

The Expert Group of the United Nations Human Settlements Programme has also noted that civic engagement is vital in creating sustainable urban environments (Ndugwa, n.d.). The European Commission concluded that economic, environmental, social, and cultural dimensions of the urban environment are interrelated, and to achieve sustainable urban development, it is necessary to combine physical improvements in the urban environment with promotion of strong partnerships between local citizens and various levels of government. (European Commission, n.d.).

Previous studies and international organisations highlight the importance of civic engagement in achieving sustainable urban development, but there remains a limited understanding of how civic engagement is addressed across different dimensions of urban sustainability in relation to the SDG 11 targets. Therefore, a systematic analysis of research trends in this field is needed.

This study contributes to the existing literature by examining the relationship between civic engagement, the targets of SDG 11, and different dimensions of the sustainable urban environment. Finally, the study develops an improved model of sustainable urban environment dimensions that emphasises the role of civic engagement in achieving sustainable city development.

Consequently, this study aims to explore the role of civic engagement in fostering a sustainable urban environment. To achieve this aim, the following research questions have been established for bibliometric analysis:

1. Which countries' authors are leading in publications on the topic?
2. Who are the most cited authors?
3. What are the publication trends over time?
4. How has the research on the role of civic engagement in different sustainable urban environment dimensions evolved?
5. Which SDG 11 targets and urban sustainability dimensions are most frequently linked with civic engagement?

The study is limited to two databases – Scopus and Web of Science – and includes only publications in English from 2005 to 2024. Additionally, the PRISMA methodology cannot guarantee that all relevant publications on this topic are included, as some appropriate studies may be excluded during the review process. Furthermore, older publications may dominate the bibliometric analysis due to their higher citation counts, potentially overshadowing more recent but important works.

## Methods

To address the research questions, insights from scientific articles concerning the sustainable urban environment and its dimensions were analyzed and synthesized. The study employed the following research methods:

- **Analysis:** Texts were deconstructed into components to uncover underlying meanings and themes. During the literature review, thematic analysis was conducted to identify and interpret recurring patterns. Then, a comparative analysis was done. It helped to examine similarities and differences among the texts.
- **Synthesis:** Information from diverse literature sources was combined to explore the relationship between civic engagement and a sustainable urban environment. Theoretical synthesis was applied to integrate these concepts and develop a new conceptual model.

A bibliometric analysis and a systematic literature review were conducted to answer the research question and scientifically substantiate the role of civic engagement in the sustainable urban environment. A literature review was based on The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, which was designed to report the literature review process transparently (Page et al., 2021). The research protocol is summarized in Table 1.

**Table 1**  
*Research protocol*

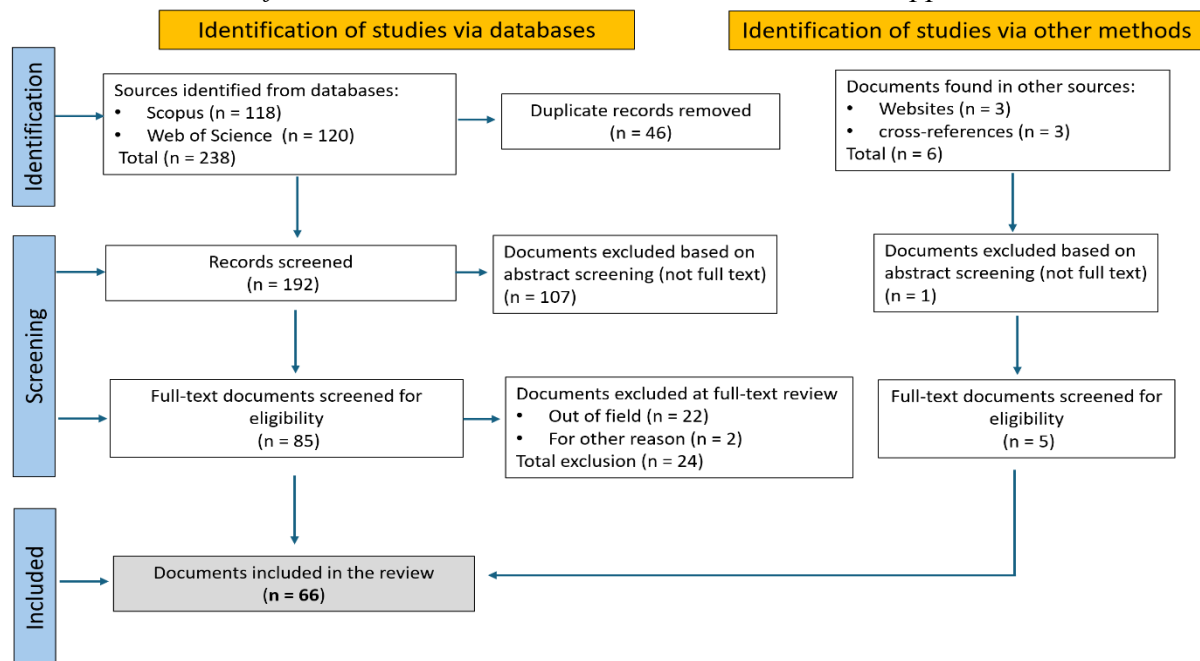
Selected databases	Scopus	Web of Science (WoS)
Date of search	13.02.2025	01.03.2025
Search fields	Article title, Abstract, Keywords	All fields

<b>Selected databases</b>	<b>Scopus</b>	<b>Web of Science (WoS)</b>
Search string	(sustainability OR sustainable AND development) AND (city OR town OR urban AND development) AND (civic AND engagement)	
Document type	Article, Conference paper, Book chapter	
Language	English	
Subject area	Social sciences; Environmental sciences, Economics, econometrics and finance; Business, management and accounting	Social sciences interdisciplinary; Environmental studies; Environmental sciences; Economics; Business; Management; Urban studies; Regional urban planning
Date of publication	2005 - 2024	2005 – 2025
Inclusion criteria	The study must focus on civic engagement and urban sustainability The article focuses on both civic engagement and urban sustainability.	
Exclusion criteria	Only abstract available. Not in English.	

The Web of Science and Scopus databases were selected because they are well-accepted for the quality of their article and journal selection (Zeng et al., 2022). During article selection, the subject areas were limited to the social sciences, environmental sciences, economics, business, management, and urban studies to achieve the research goal.

There are many articles on each research topic, but relatively little literature examines these concepts together. The article must focus on civic engagement and urban sustainability to be included in the literature review. Articles that are not in English are also excluded from further study. To avoid misunderstanding that can be caused by incomplete information, only full-text articles were included in the literature review.

The literature review followed the PRISMA 2020 statement (Figure 2). The PRISMA approach suggests using three stages in a systematic literature review: identification, screening, and inclusion (PRISMA, n.d.).

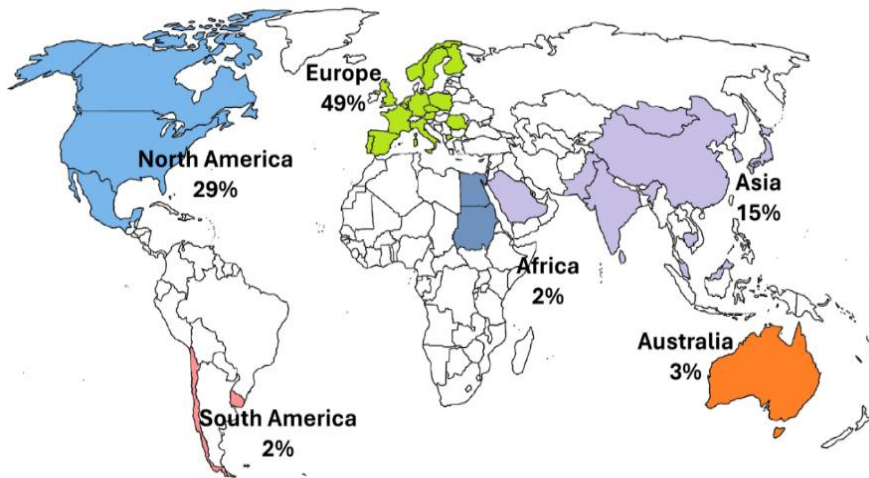
**Figure 2***Document Selection for the Literature Review Based on the PRISMA Approach*

A total of 238 documents were identified in Scopus and Web of Science. After removing duplicates and irrelevant records and adding additional sources, 66 scientific articles met the inclusion criteria and were analysed in the literature review. Links to publications are included in the bibliography.

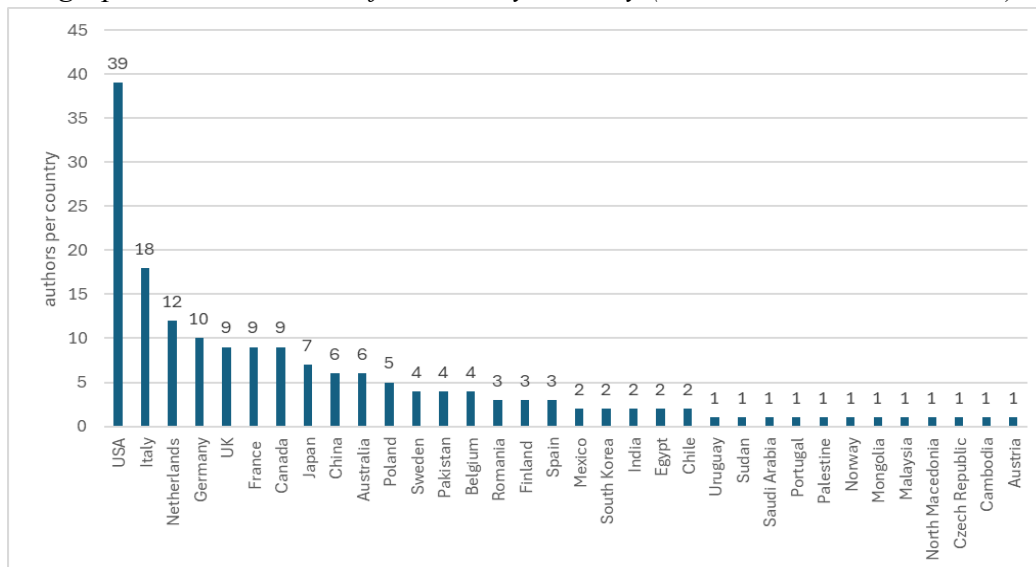
Three articles from websites closely related to the research topic were included because they addressed practical aspects of the research topic. Two additional articles were not retrieved by the initial search string, and they were identified through cross-references. All articles were included after an in-depth evaluation. Data were processed using Excel.

## Results

First, the authors' geographical distribution was analyzed (Figure 3).

**Figure 3***Geographical Distribution of Authors by World Regions (66 documents, 173 authors)*

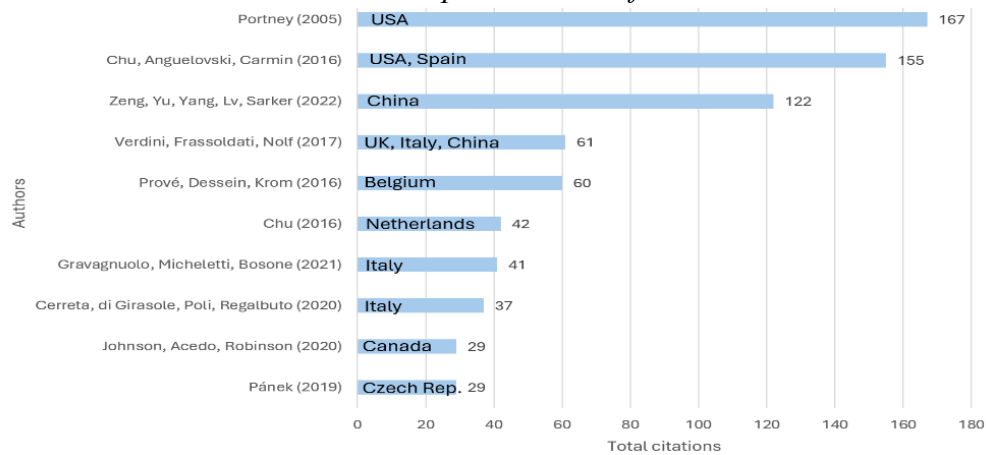
It is evident that the question of sustainable city development and the role of civic engagement are on the agenda, particularly in Europe, North America, and East Asia. Approximately half of all authors were from Europe (49%) and 29% from North America.

**Figure 4***Geographical Distribution of Authors by Country (66 documents, 173 authors)*

Although many authors are from Europe, analysis by country (Figure 4) shows that most are from the USA. Then follow European authors from Italy, the Netherlands, Germany, the UK, and France. Japan and China are leaders among Asian countries. Authors from different countries wrote 29% of all articles. The largest group of authors was 7 per article, and 16 publications were written by a single author.

The ten most cited authors are shown in Figure 5.

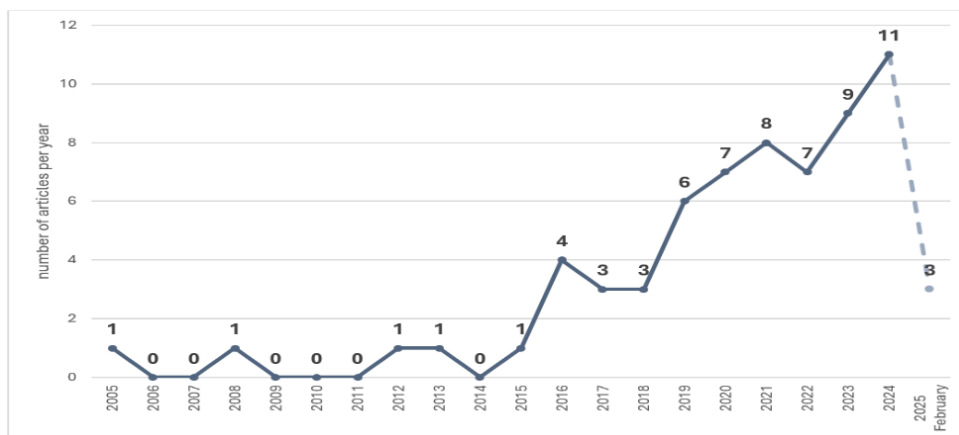
**Figure 5**  
*The Ten Most Cited Authors in Scopus and Web of Sciences Databases*



Civic engagement emerges as a central theme in the most cited studies on sustainability and urban resilience, led by Portney (2005) with 167 citations, followed by contributions on participatory planning (Chu et al., 2016) and transformative capacity (Zeng et al., 2022).

To answer the third research question, publication trends over time were analyzed (Figure 6).

**Figure 6**  
*Number of Articles by Year (total number of articles n=66)*

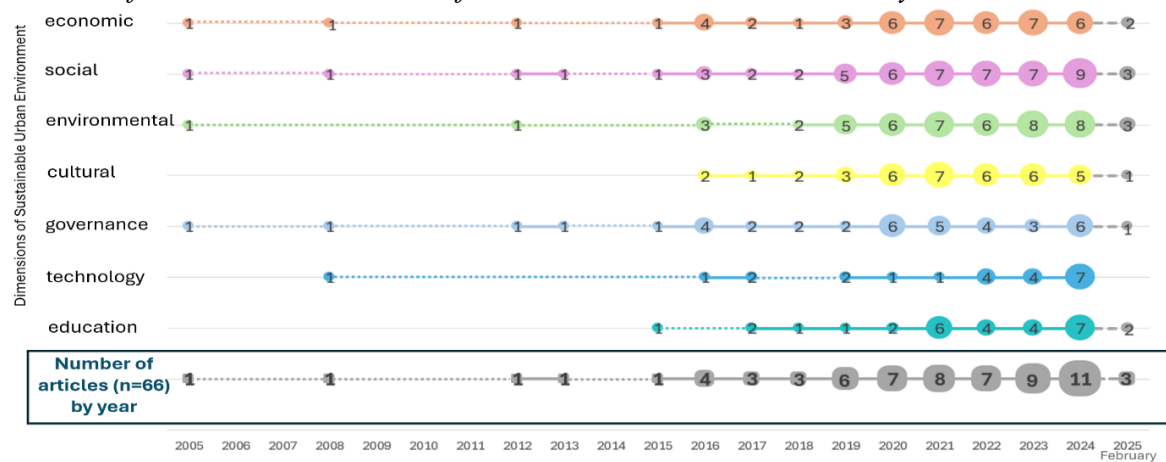


The question of civic engagement as a factor in sustainable urban environments has become more relevant since 2012, when the UN developed the SDGs. In 2024, 11 articles were published – mostly about the role of technology and artificial intelligence in enhancing civic engagement and resource-efficient planning, as well as the role of education in understanding the importance of sustainable development and, thus, increasing civic engagement to achieve sustainable development goals in the city.

Data on trends in publications on the role of civic engagement in sustainable urban dimensions over time are illustrated in Figure 7. In one article, multiple dimensions of sustainable urban development can be analyzed.

**Figure 7**

*Number of Articles in the Context of Sustainable Urban Dimensions by Year*



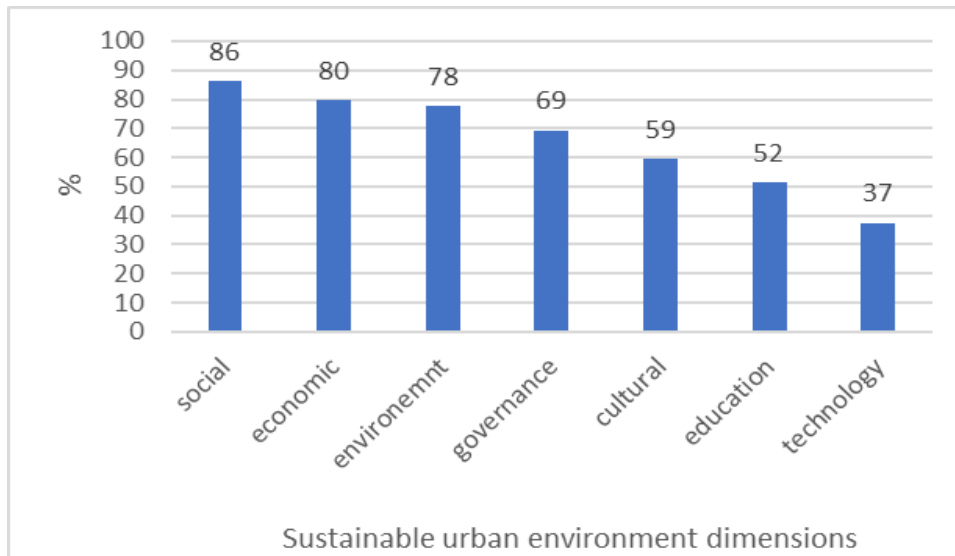
In 2005, one article on civic engagement and sustainable cities in the US was published (Portney, 2005). In this article, the role of public participation in shaping and implementing sustainable city programs to improve citizens' livability was emphasized, thereby recognizing the importance of good governance across the economic, social, and environmental dimensions of city sustainability. The main dimensions of sustainable urban development recognized as important for urban sustainability from 2005 – 2024 are economic, social, environmental, and governance. These can be considered the first dimensions of sustainability for which the role of civic engagement was explored.

Technology, as a factor promoting civic engagement and a sustainable urban environment, became an important research topic in 2008. The need to raise educational levels and society's knowledge of sustainable development became more urgent in 2015. Since 2016, more authors have described the cultural dimension as the fourth dimension of the sustainable urban environment.

Thematic analysis shows that all 66 articles covered aspects of sustainability and civic engagement. A large proportion of the articles (30) focused on the role of civic engagement in urban planning, city management, and policymaking. Thematic analysis across the sustainability dimensions revealed that 86% of the articles examined the role of civic engagement in ensuring the city's social sustainability (Figure 8).

**Figure 8**

*Most Frequently Mentioned Dimensions of Sustainable Development in Scientific Articles (n=66)*



Social, economic, environmental, and governance dimensions were recognized as important dimensions of the sustainable urban environment in almost all articles. Only half of the publications examined the role of education and culture in promoting civic engagement and sustainable city development. Technology was mentioned as a sustainability dimension in 37% of articles.

During the identification stage of the literature review, only 192 distinct sources on the relationships between civic engagement and sustainable cities were identified in the Scopus and Web of Science databases. Although most authors argue that civic engagement plays an essential role in the sustainable development of cities, some scholars (Cohen et al., 2015; Pintossi et al., 2021; Eichberg & Charles, 2024) conclude that many individuals lack knowledge of what constitutes a sustainable city. Sometimes, even politicians do not know enough about specific aspects of a sustainable urban environment. The low sustainability literacy of participating stakeholders can undermine sustainability outcomes in public participation processes in urban development projects (Cohen et al., 2015). It is necessary to increase the sustainability literacy of all stakeholders, especially youth.

To educate youth and increase their participation in sustainable city development, urban planning, and decision-making processes, the roles of schools, universities, and higher education institutions (HEIs) are essential (Zen & Shibakawa, 2022; Lungu & Rîșnoveanu, 2021; Rîșnoveanu et al., 2021). HEIs can help improve understanding of the SDGs and how best to implement them (Eichberg & Charles, 2024). Libraries, by providing inclusive access to advanced technology and training, can also facilitate civic engagement among individuals (Buyannemekh et al., 2024).

In a systematic literature review of 66 documents, the specific aspects of sustainable development in cities are grouped by the seven outcome targets of SDG 11 (11.1-11.7), and the role of civic engagement is analyzed from the same perspective.

**SDG 11, Target 1 (11.1) – Ensure Access for All to Adequate, Safe, and Affordable Housing and Essential Services and Upgrade Slums (4 articles)**

Ensuring access to adequate, safe, and affordable housing is important for the sustainable development of cities because affordable housing prevents the formation of slums and ensures that lower-income residents have a place to live and are not socially excluded. Adequate housing means minimizing the risks of poor sanitation and overcrowding. Reaching this target helps to ensure social sustainability in the city.

Marvi et al. (2024) concluded that civic engagement, especially community interaction, is crucial for decision-making about socially sustainable residential neighborhoods that provide housing for residents. Community interaction fosters a sense of community and could enhance the well-being of inhabitants. Kim et al. (2020) and Asensio et al. (2024) found that civic engagement is essential to enhancing the effectiveness of energy transition policies necessary for sustainable urban growth. Taraba et al. (2022) investigated the involvement of local community members in creative activities, focusing on upgrading slums. Creativity-driven urban regeneration is important for urban sustainability.

**SDG 11, Target 2 (11.2) – Provide Access to Safe, Affordable, Accessible, and Sustainable Transport Systems for All, Improving Road Safety, Notably by Expanding Public Transport, with Special Attention to the Needs of Those in Vulnerable Situations, Women, Children, Persons with Disabilities and Older Persons (3 Articles)**

This target can be considered for sustainable cities' economic and social dimensions. Accessible and sustainable transport systems, improved road safety, and a comprehensive public transport network can improve citizens' job-to-home connections and reduce congestion, thereby enhancing economic growth and productivity (the economic pillar of sustainability). SDG 11 target 11.2 also focuses on the needs of women, children, persons with disabilities, and older persons to provide access to safe and affordable transport. This is the aspect of social sustainability.

Hasselwander et al. (2022) focused more on the economic dimension of this target. They researched the role of technologies and digitization in sustainable transport systems. The authors demonstrated that digital civic engagement and open data can help make transport systems more sustainable by mapping routes and developing journey-planning apps. In this case, to achieve the goal of a sustainable transport system, people must use those digital products as much as possible. Allert & Reese (2025) researched the economic and social aspects of SDG 11 target 11.2. They observed that people are important actors in pressuring and supporting policy change, transitioning from a car-centric mobility system to an environmentally sustainable and socially just transport system. Including young voices in urban and traffic planning is not just a question of fairness; it is essential for creating inclusive, safe, and sustainable environments for all (Dehlin, 2025).

### **SDG 11, Target 3 (11.3) – Inclusive and Sustainable Urbanization and Enhanced Capacity for Participatory, Integrated, and Sustainable Human Settlement Planning and Management in All Countries (34 Articles)**

This target characterizes the social and governance pillars of the sustainable urban environment. Most of the articles were related to this target. Those articles can be divided into four groups (see Table 2).

**Table 2**

*Summary of the Scholar's Opinion about the Role of Civic Engagement in Reaching SDG 11 Target 11.3*

<b>Authors</b>	<b>Main idea</b>
<b>1) Focus on both urban planning and management</b>	
Cerreta et al. (2020)	Broad civic engagement can enhance the legitimacy and transparency of policies
Risnoveanu et al. (2021)	The involvement of different socio-economic actors is crucial for urban governance to prioritize urban planning goals
Girard (2021)	The availability of effective assessment tools is essential to verify any proposals' consistency and "build new win-win partnerships."
Sanecka et al. (2020)	Urban policy interventions that increase civic engagement can help construct more efficient management strategies
<b>2) Focus on the role of civic engagement in urban planning and policy-making</b>	
Pánek (2018); Szot (2024); Treijja et al. (2023)	Civic engagement in urban planning are the most common ways for the city to show its commitment to being more sustainable
Cohen et al. (2015); Kontokosta (2016); Chu (2016); Chu et al. (2016); Pino (2018); Hoffman (2022); Bokolo, Jr. (2024)	Community-based participation is identified as essential in urban planning
Chen (2012); Prové et al. (2016)	Civic engagement in urban planning and policy-making can foster urban agriculture initiatives
McCandlish & McPherson, (2021)	Promoting participatory planning requires working with creative methods
Barrat & Swetnam, (2022)	Recognized the role of universities in promoting civic engagement and integrating a 15-minute approach in city planning
Alam (2024)	Researched the role of civic engagement and data-driven decision-making in urban planning

Authors	Main idea
<b>3) Focus on the role of civic engagement in the management of the city</b>	
Portney (2005); Ryan et al. (2008); Ndugwa (n.d.); Kang (2019); McMillen et al. (2020); Righettini (2021); Zeng et al. (2022); Matyushkina (2023) Karkara & Cala (2013); Zen & Shibakawa (2022)	Sustainable urban development is implemented via communication and working closely with civil society
Eichberg & Charles (2024)	Civic engagement of better-educated youth is important for sustainable urban management Collaborative partnership with “Civic Universities” is important for successful urban management
<b>4) Focus on the role of technologies in smart city development</b>	
Johnson et al. (2020); Kapoor & Singh (2021); Hegazy et al. (2024); Buyannemekh et al. (2024)	Integration of smart technologies to foster multi- stakeholder collaboration is necessary to improve quality of life and contribute to making cities smarter

In the fourth group of articles, the relationship between civic engagement and the smart city concept is mentioned. Although smart and sustainable cities are different concepts, a city can be considered both smart and sustainable. Only those articles were selected for the literature review in which smart cities use technologies to support sustainability goals.

The conclusion is that the role of local government and community in participatory, integrated, and sustainable human settlement planning and management is important in all sustainability dimensions:

- economic – to build win-win partnerships (Girard, 2021), to foster economic growth through urban agriculture and farmers’ markets (Prové et al., 2016; Chen, 2012);
- social – to build sustainable communities based on co-creation, dialogue, and mutual respect (Szot, 2024), and to create strategies that reflect communities' needs and values (Matyushkina, 2023);
- environmental – to have a voice in climate actions (Chu et al., 2016);
- cultural – to develop a more representative cultural landscape (McCandlish & McPherson, 2021).

### **SDG 11, Target 4 (11.4) – Strengthen Efforts to Protect and Safeguard the World’s Cultural and Natural Heritage (8 Articles)**

SDG 11 target 11.4 concerns the sustainable city's cultural and environmental dimensions. Communities are recognized as fundamental actors in preserving cultural and natural heritage (Zhou et al., 2023). Cultural heritage objects are not always only well-known objects or large sites. Civic attention and responsibility are more important for preserving small, lesser-known heritage sites (Gravagnuolo et al., 2021).

Hussein et al. (2020), Pintossi et al. (2021), and Verdini et al. (2017) recognized the role of urban planning authorities, urban designers, and community participation in preserving the historic urban landscape (HUL). Hussein et al. (2020) recommended that national urban planning authorities recognize HULs as repositories of cultural memories.

Pintossi et al. (2023) described the role of future citizens in engaging with the Adaptive Reuse of Cultural Heritage (ARCH). They recognized that the challenge in modernization and the use of cultural heritage is the lack of civic engagement. Civic engagement tools should involve diverse stakeholders and empower them to identify key values in their urban areas, safeguard their heritage, and promote sustainable development (Saikia, 2019). Procentese and Gatti (2023) noted that interdependency shapes and gives meaning to local heritage, which can become a driver of sustainable plans and actions.

### **SDG 11, Target 5 (11.5) – Significantly Reduce the Number of Deaths and the Number of People Affected and Substantially Decrease the Direct Economic Losses Relative to Global GDP Caused by Disasters, Including Water-Related Disasters, with a Focus on Protecting the Poor and People in Vulnerable Situations (2 Articles)**

This target can be considered for sustainable cities' economic and environmental dimensions. It is part of the economic dimension because reducing disasters and deaths lowers direct economic losses and increases GDP. Because this target is focused on protecting the poor and people in vulnerable situations, it is also considered part of social sustainability.

Diallo et al. (2024) noted that “sustainable cities use early warning systems and emergency reporting mechanisms to mitigate the impact of natural disasters. It means improved effectiveness and sustainability of urban management through active user engagement”. Chioni et al. (2023) also concluded that adopting digitally enhanced disaster risk reduction practices promotes civic engagement and evidence-based decision-making.

### **SDG 11, Target 6 (11.6) – Reduce the Adverse per Capita Environmental Impact of Cities, Including by Paying Special Attention to Air Quality and Municipal and Other Waste Management (5 Articles)**

This target is part of the environmental dimension of a sustainable city. Esposito De Vita et al. (2023) and Srun and Kurisu (2019) showed the role of civic engagement in effective waste management. Developing a multilayer, circular, adaptive civic engagement model is necessary to raise awareness and improve the efficiency of local waste management policies. Srun and Kurisu (2019) concluded that voluntary civic engagement is more vital for addressing waste disposal in public open spaces than government interventions.

Derrien et al. (2020) observed youth participation in the project investigating the distribution of heavy metals in air pollution using moss growing on street trees. This project was an essential forum for engaging youths in environmental justice and health concepts.

Trott (2024) highlights the role of young people as agents addressing climate change impacts in their communities. Leal Filho et al. (2023) revealed that higher education institutions

help people understand and address the impacts of climate change through their outreach and civic engagement work.

All five articles focused mainly on waste management, air quality, and climate change.

### **SDG 11, Target 7 (11.7) – Provide Universal Access to Safe, Inclusive, and Accessible Green and Public Spaces, in Particular for Women and Children, Older Persons, and Persons with Disabilities (10 Articles)**

This target covers three aspects of sustainability – environmental, economic, and social.

The environmental benefits of green public spaces include improved air quality, reduced urban heat, increased biodiversity, stormwater management, and flood reduction. The economic benefits of safe, accessible, and green public spaces include higher income from more tourists and higher property values near green spaces. As social benefits, enhanced social inclusion, equity, and accessibility can be mentioned.

Articles are grouped based on the research focus – public spaces or place attachment (see Table 3).

**Table 3**

*Summary of the Scholar's Opinion about the Role of Civic Engagement in Reaching SDG 11 Target 11.7*

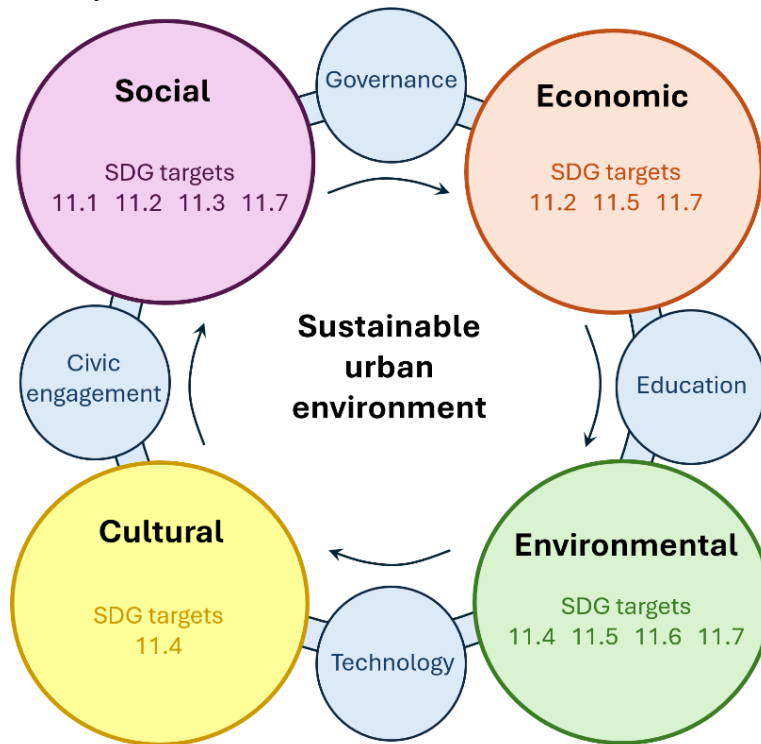
<b>Authors</b>	<b>Main idea</b>
<b>Focus on relationships between civic engagement and the quality of public spaces</b>	
Koplin et al. (2017); Liu (2017); De Lange et al. (2019); Itair et al. (2023)	Enhancing the inclusivity of public spaces necessitates a comprehensive approach that engages citizens in their governance
Deore & Lathia (2019)	streets as public spaces are engines of economic activities, social hubs, and platforms for civic engagement.
Działek et al. (2025); Lungu & Rîșnoveanu (2021)	Universities' Campuses provide opportunities for social interaction and community engagement; however, universities have limited civic engagement in assessing and raising awareness of the role of green areas for urban communities
<b>Focus on place attachment</b>	
Kamani Fard & Paydar (2024)	Place attachment and civic engagement have a positive effect on pro-environmental behaviors
Blanc (2019); Kloppenburg et al. (2022)	Alliances between human beings and environmental elements highlight people's attachment to places. Collective activities (gardening, socialization, etc.) help to make cities more sustainable

The analysis revealed that civic engagement is vital to achieving all outcome targets (11.1-11.7) of SDG 11: making cities and human settlements inclusive, safe, resilient, and

sustainable. The paper's authors designed the improved sustainable urban environment dimensions model, incorporating civic engagement.

**Figure 9**

*Model of the Sustainable Urban Environment Dimensions*



The model is based on the theoretical concept of sustainable development and its three main dimensions: economic, social, and environmental. The cultural dimension was added as the 4th dimension of sustainability because preserving historical landmarks, traditions, and local knowledge helps maintain the city's unique identity and sustainability. The role of culture and education in supporting social cohesion, well-being, and creative learning opportunities is also underscored by A New European Agenda for Culture (European Commission, 2018). It highlights that promoting access to cultural activities and integrating culture-based creativity into education can contribute to achieving broader sustainable development goals, such as social inclusion and community resilience. In 2025, the European Commission (2025) launched a new strategic framework called the Culture Compass for Europe, which also highlights that participation in cultural activities is closely linked to civic engagement and sustainable development.

Governance, technology, education, and civic engagement are preconditions to achieve sustainable development goals. Technology is a tool to improve the performance of all dimensions. Higher levels of education are strongly associated with increased civic engagement. Education fosters civic engagement by developing human, social, and identity capital (Murshed & Sabates, 2025). Better education will help people understand the concept and importance of sustainable urban development and support the achievement of the SDGs.

Civic engagement is the foundation of the public administration ecosystem, enabling every individual to participate in the sustainable growth of their city.

## Conclusion

The literature review demonstrates that, while some models propose 4 or 5 dimensions of a sustainable urban environment, all models rely on a three-dimensional framework that emphasizes the economic, social, and environmental aspects of urban sustainability. Each target of SDG 11 is intrinsically connected to these foundational dimensions of sustainability, enabling their integration into the conceptual model of a sustainable urban environment. Within this model, civic engagement plays a pivotal role in achieving and maintaining urban sustainability. In the context of the limitations of the literature review, it should be noted that the diversity and generalizability of the results are constrained by the scope of the review, which included only selected sources.

Numerous authors have extensively investigated the role of civic engagement in urban sustainability, with leading contributions predominantly originating in Europe and the United States. These nations, characterized by strong democratic traditions and well-established civil societies, have a relatively long history of civic participation. While issues of civic participation have been on the public and academic agenda for an extended period, a notable increase in scientific articles addressing these topics has occurred only in the late 2010s. Existing scholarly works exploring the role of civic engagement in fostering a sustainable urban environment primarily focus on its importance in urban planning and governance. The prevailing conclusion is that civic engagement is the cornerstone of sustainable city development, ensuring that urban growth remains inclusive, resilient, and community-driven. Active resident participation in decision-making helps shape policies and initiatives catering to diverse needs, including environmental protection, economic development, cultural activities, and social equity. By fostering a culture of collaboration and shared responsibility, civic engagement strengthens local governance and builds trust between citizens and public authorities. Public involvement in urban planning, climate action, and policymaking yields more effective and enduring solutions that significantly enhance the quality of life. The findings suggest that civic engagement is a governance mechanism that contributes to achieving specific SDG targets. From a policy perspective, this means that city governments should introduce participatory mechanisms into planning and implementation systems. Incorporating citizen engagement into land-use planning, environmental monitoring, or local SDG reporting systems can improve responsiveness to local needs and increase citizens' responsibility for the sustainability transition.

It is essential to involve all segments of society in civic engagement activities; however, youth participation is particularly important. As future leaders equipped with innovative ideas and early adopters of technology, young people have the potential to lead climate activism, advocate for green and sustainable practices, and take responsibility for safeguarding the planet's future. Youth can be pivotal in shaping sustainability efforts and driving meaningful change. The literature review emphasizes the need to educate young individuals about sustainability principles, highlighting their capacity to contribute significantly to sustainable urban development. Nevertheless, a notable gap exists in the academic discourse regarding the specific role of youth civic engagement in fostering sustainable urban environments. Future

research will address this gap by surveying youth on their civic engagement activities and exploring their relationship to sustainability practices.

### **Funding**

The study is conducted with the support of the European Union Recovery and Resilience Mechanism under the Research and Development Grant No RTU-PA-2024/1-0040 "NextGen Civic Engagement: Shaping Sustainable Urban Futures" within the project No 5.2.1.1.1.i.0/2/24/I/CFLA/003 "Implementation of consolidation and management changes at Riga Technical University, Liepaja University, Rezekne Academy of Technologies and Latvian Maritime Academy and Liepaja Maritime College for excellence in higher education, science and innovation".

### **Author Contributions**

Conceptualization, I.J. and P.J.; methodology, I.J., I.V. and L.S.; software, I.J. and I.V.; validation, I.J., I.V. and D.M.; formal analysis, I.J. and I.V.; investigation, I.J. and I.V. and D.M.; resources, P.J.; data curation, L.S.; writing – original draft preparation, I.J., I.V., P.J., D.M. and L.S.; writing – review and editing, I.J., I.V. and P.J.; visualization, I.J.; supervision, I.J.; project administration, P.J.; funding acquisition, P.J. All authors have read and agreed to the published version of the manuscript.

## References

- Alam, T. (2024). Metaverse of things (MoT) applications for revolutionizing urban living in smart cities. *Smart Cities*, 7(5), pp. 2466–2494. <https://doi.org/10.3390/smartsities7050096>
- Allert, V., & Reese, G. (2025). On the challenges of civic engagement in the mobility transition: A conceptual analysis of the linkages between car dependence and collective action. *Journal of Cleaner Production*, 486, 144533. <https://doi.org/10.1016/j.jclepro.2024.144533>
- Almulhim, A.I., Sharifi, A., Aina, Y.A. et al. (2024). Charting sustainable urban development through a systematic review of SDG11 research. *Nature Cities* 1, 677–685 (2024). <https://doi.org/10.1038/s44284-024-00117-6>
- Almulhim, A. I., & Yigitcanlar, T. (2025). Understanding Smart Governance of Sustainable Cities: A Review and Multidimensional Framework. *Smart Cities*, 8(4), 113. <https://doi.org/10.3390/smartsities8040113>
- Asensio, O. I., Churkina, O., Rafter, B. D., & O’Hare, K. E. (2024). Housing policies and energy efficiency spillovers in low and moderate income communities. *Nature Sustainability*, 7(5), pp. 590–601. <https://doi.org/10.1038/s41893-024-01314-w>
- Barratt, P., & Swetnam, R. (2022). A civic and sustainable 15-minute campus? Universities should embrace the 15-minute city concept to help create vibrant sustainable communities. *Local Economy*, 37(8), pp. 1–13. <https://doi.org/10.1177/02690942231175096>
- Blanc, N. (2019). From ordinary environmentalism to the public environment: Theoretical reflections based on French and European empirical research. *Ecology and Society*, 24(3), Article 33. <https://doi.org/10.5751/ES-11166-240333>
- Bokolo, A., Jr. (2024). The role of community engagement in urban innovation towards the co-creation of smart sustainable cities. *Journal of the Knowledge Economy*, 15, pp. 1592–1624. <https://doi.org/10.1007/s13132-023-01176-1>
- Buyannemekh, B., Gasco-Hernandez, M., & Gil-Garcia, J. R. (2024). Fostering smart citizens: The role of public libraries in smart city development. *Sustainability*, 16(5), 1750. <https://doi.org/10.3390/su16051750>
- Cerreta, M., Muccio, E., Poli, G., & Regalbuto, S. (2020). City-port circular model: Towards a methodological framework for indicators selection. In *Lecture Notes in Computer Science* (Vol. 12251 LNCS, pp. 855–868). [https://doi.org/10.1007/978-3-030-58808-3\\_61](https://doi.org/10.1007/978-3-030-58808-3_61)
- Chen, S. (2012). Civic agriculture: Towards a local food web for sustainable urban development. *APCBEE Procedia*, 1, pp. 169–176. <https://doi.org/10.1016/j.apcbee.2012.03.027>
- Chioni, C., Pezzica, C., & Favargiotti, S. (2023). Territorial digital twins: A key for increasing the community resilience of fragile mountain inner territories? *Sustainable Development*, 32(2), pp. 1548–1563. <https://doi.org/10.1002/sd.2688>
- Chu, E. (2016). The political economy of urban climate adaptation and development planning in Surat, India. *Environment and Planning C: Government and Policy*, 34(2), pp. 281–298. <https://doi.org/10.1177/0263774X15614174>

- Chu, E., Anguelovski, I., & Carmin, J. (2016). Inclusive approaches to urban climate adaptation planning and implementation in the global South. *Climate Policy*, 16(3), pp. 372–392. <https://doi.org/10.1080/14693062.2015.1019822>
- Cohen, M., Wiek, A., Kay, B., & Harlow, J. (2015). Aligning public participation to stakeholders' sustainability literacy: A case study on sustainable urban development in Phoenix, Arizona. *Sustainability*, 7(7), pp. 8709–8728. <https://doi.org/10.3390/su7078709>
- Dehlin, J. (2025, January 31). *The importance of including children and youth in urban and traffic planning*. Interreg North Sea. <https://www.interregnorthsea.eu/mm/news/the-importance-of-including-children-and-youth-in-urban-and-traffic-planning>
- De Lange, M., Synnes, K., & Leindecker, G. (2019). Smart citizens in the hackable city: On the datafication, playfulness, and making of urban public spaces through digital art. In *Lecture Notes in Computer Science* (Vol. 11380 LNCS, pp. 157–166). [https://doi.org/10.1007/978-3-030-13417-4\\_13](https://doi.org/10.1007/978-3-030-13417-4_13)
- Deore, P., & Lathia, S. (2019). Streets as public spaces: Lessons from street vending in Ahmedabad, India. *Urban Planning*, 4(2), pp. 138–153. <https://doi.org/10.17645/up.v4i2.2058>
- Derrien, M. M., Zuidema, C., Jovan, S., Bidwell, A., Brinkley, W., López, P., Barnhill, R., & Blahna, D. J. (2020). Toward environmental justice in civic science: Youth performance and experience measuring air pollution using moss as a bio-indicator in industrial-adjacent neighborhoods. *International Journal of Environmental Research and Public Health*, 17(19), 7278. <https://doi.org/10.3390/ijerph17197278>
- Diallo, E. H., Abdallah, R., Dib, M., & Dib, O. (2024). Decentralized incident reporting: Mobilizing urban communities with blockchain. *Smart Cities*, 7(4), pp. 2283–2317. <https://doi.org/10.3390/smartcities7040090>
- Działek, J., Jarecka-Bidzińska, E., Staniewska, A., & Téoule, F. (2025). (Re)greening transition of academic green spaces as a response to social and environmental challenges: The role of bottom-up initiatives. *Urban Forestry & Urban Greening*, 105(6), 128692. <https://doi.org/10.1016/j.ufug.2025.128692>
- Eichberg, E. T. A. M., & Charles, A. (2024). The role of the civic university in facilitating inclusive and transformative pedagogical approaches to the sustainable development goals: A systematic literature review. *Sustainability*, 16(7), 2752. <https://doi.org/10.3390/su16072752>
- Esposito De Vita, G., Visconti, C., Ganbat, G., & Rigillo, M. (2023). A collaborative approach for triggering environmental awareness: The 3Rs for sustainable use of natural resources in Ulaanbaatar (3R4UB). *Sustainability*, 15(18), 13846. <https://doi.org/10.3390/su151813846>
- European Commission (2018). *A New European Agenda for Culture*. <https://culture.ec.europa.eu/document/a-new-european-agenda-for-culture-swd2018-267-final>
- European Commission (2025). *A Culture Compass for Europe*. <https://culture.ec.europa.eu/document/a-culture-compass-for-europe>
- European Commission. (n.d.). *Sustainable urban development*. Retrieved May 5, 2025 from: [https://ec.europa.eu/regional\\_policy/policy/themes/urban-development\\_en](https://ec.europa.eu/regional_policy/policy/themes/urban-development_en)

- Girard, L. F. (2021). The evolutionary circular and human centered city: Towards an ecological and humanistic “re-generation” of the current city governance. *Human Systems Management*, 40(6), pp. 753–775. <https://doi.org/10.3233/HSM-211218>
- Gravagnuolo, A., Micheletti, S., & Bosone, M. (2021). A participatory approach for “circular” adaptive reuse of cultural heritage. Building a heritage community in Salerno, Italy. *Sustainability*, 13(9), 4812. <https://doi.org/10.3390/su13094812>
- Hasselwander, M., Kiko, M., & Johnson, T. (2022). Digital civic engagement, open data, and the informal sector: A think piece. *Transportation Research Interdisciplinary Perspectives*, 16, pp. 1–10. <https://doi.org/10.1016/j.trip.2022.100700>
- Hegazy, I., Bahreldin, I., & Alamoudi, M. (2024). Youth, urbanism, and the city: Visions and framework for transforming Jeddah into a youth-friendly city and the city: Visions and framework for transforming Jeddah into a youth-friendly city. *IJPP-Italian Journal of Planning Practice*, XIV(1), pp. 20–57. <https://ijpp.dicam.unitn.it/current/articles/>
- Hoffman, J. (2022). Toward civic co-production: Using worldbuilding to go beyond participation in urban planning and enact more equitable cities. *Frontiers in Sustainable Cities*, 4, 907541. <https://doi.org/10.3389/frsc.2022.907541>
- Horelli, L., & Wallin, S. (2024). Civic Engagement in Urban Planning and Development. *Land*, 13(9), 1446. <https://doi.org/10.3390/land13091446>
- Hussein, F., Stephens, J., & Tiwari, R. (2020). Memory for social sustainability: Recalling cultural memories in Zanjit Alsitat historical street market, Alexandria, Egypt. *Sustainability*, 12(19), 8141. <https://doi.org/10.3390/su12198141>
- Itair, M., Shahrour, I., & Hijazi, I. (2023). The use of the smart technology for creating an inclusive urban public space. *Smart Cities*, 6(5), pp. 2484–2498. <https://doi.org/10.3390/smartcities6050112>
- Johnson, P. A., Acedo, A., & Robinson, P. J. (2020). Canadian smart cities: Are we wiring new citizen-local government interactions? *Canadian Geographer*, 64(3), pp. 1–14. <https://doi.org/10.1111/cag.12623>
- Jonek-Kowalska, I. (2025). Dimensions of Urban Social Sustainability: A Study Based on Polish Cities. *Sustainability*, 17(19), 8615. <https://doi.org/10.3390/su17198615>
- Jurs, P., & Samuseviča, A. (2020). *Pilsoniskā līdzdalība: Jauniešu potenciāls* [Civic engagement: Youth potential]. Liepājas Universitātes izdevniecība LiePA. <https://dom.lndb.lv/data/obj/858521.html>
- Kamani Fard, A., & Paydar, M. (2024). Place attachment and related aspects in the urban setting. *Urban Science*, 8(3), 135. <https://doi.org/10.3390/urbansci8030135>
- Kang, S. (2019). Communicating sustainable development in the digital age: The relationship between citizens’ storytelling and engagement intention. *Sustainable Development*, 27(3), pp. 337–348. <https://doi.org/10.1002/sd.1905>
- Kapoor, A., & Singh, D. P. (2021). Technological solutions to encourage civic engagement in urban planning: Experts’ perspectives. *Journal of Community Positive Practices*, 21(4), pp. 34–47. <https://doi.org/10.35782/JCPP.2021.4.03>
- Karkara, R., & Cala, F. (2013). Advancing youth civic engagement and human rights with young women and young men. *UN-HABITAT*, 84.

- Kim, J., Jung, T. Y., & Kim, Y. G. (2020). Multilevel analysis of civic engagement and effectiveness of energy transition policy in Seoul: The Seoul eco-mileage program. *Sustainability*, *12*(23), 9905. <https://doi.org/10.3390/su12239905>
- Kloppenborg, E., Martins, B., Nachareun, C., Poschmann, R., & Neuhaus, F. (2022). Civic discourse and space activation as a collaborative city-building process. *WIT Transactions on Ecology and the Environment*, *258*, pp. 65–76. <https://doi.org/10.2495/SDP220061>
- Kontokosta, C. E. (2016). The quantified community and neighborhood labs: A framework for computational urban science and civic technology innovation. *Journal of Urban Technology*, *23*(4), pp. 67–84. <https://doi.org/10.1080/10630732.2016.1177260>
- Koplin, M., Siegert, S., Neuvonen, A., Salo, K., Kerney, K., Skelton, C., Culén, A., & Nadelkovski, I. (2017). The smart city as shared design space. In *Smart Cities in the Mediterranean* (pp. 1–20). [https://doi.org/10.1007/978-3-319-54558-5\\_7](https://doi.org/10.1007/978-3-319-54558-5_7)
- Kumar, A. (2022). Chapter 7 - Sustainable smart cities, Editor(s): Kumar, A. *Ecosystem-Based Adaptation*, Elsevier, 2022, pp. 325–416. <https://doi.org/10.1016/B978-0-12-815025-2.00007-1>
- Leal Filho, W., Aina, Y. A., Dinis, M. A. P., Purcell, W., & Nagy, G. J. (2023). Climate change: Why higher education matters? *Science of the Total Environment*, *892*, 164819. <https://doi.org/10.1016/j.scitotenv.2023.164819>
- Liu, J. (2017). What can massively multiplayer online gaming do for urban public playgrounds? *Sustainable Development and Planning*, *VIII*(1), pp. 481–491. <https://doi.org/10.2495/SDP160401>
- Lungu, S., & Rîșnoveanu, G. (2021). Urban natural areas, from nature conservation to well-being assets. In *Proceedings of the 4th International Conference on Economics and Social Sciences: Resilience and Economic Intelligence through Digitalization and Big Data Analytics* (pp. 192–202). <https://doi.org/10.2478/9788366675704-020>
- Marvi, H., Kalwar, S., Talpur, M. A. H., Memon, I. A., Soomro, M., & Ahsan, N. (2024). Cultivating community: Addressing social sustainability in rapidly urbanizing Hyderabad City, Pakistan. *Societies*, *14*(9), 161. <https://doi.org/10.3390/soc14090161>
- Matyushkina, A. (2023). How civil society organizations drive innovative cultural strategies in shrinking cities: A comparative case study of Oberhausen, Germany and Riga, Latvia. *Sustainability*, *15*(7), 6151. <https://doi.org/10.3390/su15076151>
- McCandlish, A., & McPherson, G. (2021). Promoting tangible and intangible hidden cultural heritage: Local communities influencing civic decision-making and international cultural policy. *International Journal of Cultural Policy*, *27*(5), pp. 683–698. <https://doi.org/10.1080/10286632.2020.1822348>
- McMillen, H. L., Campbell, L. K., Svendsen, E. S., Kealiikanakaolehaililani, K., Francisco, K. S., & Giardina, C. P. (2020). Biocultural stewardship, indigenous and local ecological knowledge, and the urban crucible. *Ecology and Society*, *25*(2), 9. <https://doi.org/10.5751/ES-11386-250209>
- Murshed, R., & Sabates, R. (2025). Are educated individuals more likely to be civically engaged? Evidence from rural Bangladesh. *International Journal of Educational Research*, *131*, 102574. <https://doi.org/10.1016/j.ijer.2025.102574>
- Ndugwa, R. (n.d.). *Indicator 11.3.2: Proportion of cities with a direct participation structure of civil society in urban planning and management that operates regularly and*

- democratically. UN-HABITAT. Retrieved April 20, 2025, from: <https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-08/4.12%20UN-Habitat%2011.3.2%20Reclassification.pdf>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *The BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Pánek, J. (2018). Emotional maps: Participatory crowdsourcing of citizens' perceptions of their urban environment. *Cartographic Perspectives*, (91), pp. 17–29. <https://doi.org/10.14714/CP91.1419>
- Parra-Pulido, R. A., Hernández-Peña, Y. T., & Zafra-Mejía, C. A. (2024). Systematic Review of Dimensions and Indicators in Sustainable and Smart Cities: Trends, Interdependencies, and Continental Variations. *Urban Science*, 8(4), 202. <https://doi.org/10.3390/urbansci8040202>
- Pino, J. M. (2018). The new holistic paradigm and the sustainability of historic cities in Spain: An approach based on the World Heritage Cities. *Sustainability*, 10(7), 2301. <https://doi.org/10.3390/su10072301>
- Pintossi, N., Ikiz Kaya, D., & Pereira Roders, A. (2021). Identifying challenges and solutions in cultural heritage adaptive reuse through the historic urban landscape approach in Amsterdam. *Sustainability*, 13(10), 5547. <https://doi.org/10.3390/su13105547>
- Pintossi, N., Ikiz Kaya, D., van Wesemael, P., & Pereira Roders, A. (2023). Challenges of cultural heritage adaptive reuse: A stakeholders-based comparative study in three European cities. *Habitat International*, 136, 102807. <https://doi.org/10.1016/j.habitatint.2023.102807>
- Portney, K. (2005). Civic engagement and sustainable cities in the United States. *Public Administration Review*, 65(5), pp. 579–591. <https://doi.org/10.1111/j.1540-6210.2005.00485.x>
- PRISMA. (n.d.). *PRISMA Flow Diagram*. Retrieved March 02, 2025, from: <https://www.prisma-statement.org/prisma-2020-flow-diagram>
- Procentese, F., & Gatti, F. (2023). Valorizing community identity and social places to implement participatory processes in San Giovanni a Teduccio (Naples, Italy). *Sustainability*, 15(19), 14216. <https://doi.org/10.3390/su151914216>
- Prové, C., Dessein, J., & de Krom, M. (2016). Taking context into account in urban agriculture governance: Case studies of Warsaw (Poland) and Ghent (Belgium). *Land Use Policy*, 56, pp. 16–26. <https://doi.org/10.1016/j.landusepol.2016.04.025>
- Righettini, M. S. (2021). Framing sustainability: Evidence from participatory forums to tailor the regional 2030 agenda to local contexts. *Sustainability*, 13(8), 4435. <https://doi.org/10.3390/su13084435>
- Rîșnoveanu, G., Bărbulescu, D., & Lungu, S. (2021). Civic universities and their impact on green infrastructure governance in cities: A principles-based framework for human well-being. In *The 4th International Conference on Economics and Social Sciences: Resilience and Economic Intelligence through Digitalization and Big Data Analytics* (pp. 203–212). <https://doi.org/10.2478/9788366675704-021>
- Ryan, D. E., Brown, N. W., & Middleton, J. K. (2008). Wikiplanning™: The virtual design charrette. *WIT Transactions on Ecology and the Environment*, 117, pp. 517–526. <https://doi.org/10.2495/SC080491>

- Saikia, M. (2019). Revisiting the role of architecture for “surviving” development buildings and sustainable cities: A study of the colonial buildings in Guwahati city. In *Proceedings of the 53rd International Conference of the Architectural Science Association* (pp. 275–283). <https://archscience.org/wp-content/uploads/2020/03/29-Buildings-and-sustainable-cities—a-study-of-the-colonial-buildings-in-Guwahati-city.pdf>
- Sanecka, J., Barthel, S., & Colding, J. (2020). Countryside within the city: A motivating vision behind civic green area stewardship in Warsaw, Poland. *Sustainability*, *12*(6), 2313. <https://doi.org/10.3390/su12062313>
- Srun, P., & Kurisu, K. (2019). People’s tendency toward norm-interventions to tackle waste disposal in public open spaces in Phnom Penh, Cambodia. *Sustainability*, *11*(23), 6603. <https://doi.org/10.3390/su11236603>
- Szot, J. (2024). Video games in civic engagement in urban planning: A methodology for effective and informed selection of games for specific needs. *Sustainability*, *16*(23), 10411. <https://doi.org/10.3390/su162310411>
- Taraba, J., Forgaci, C., & Romein, A. (2022). Creativity-driven urban regeneration in the post-socialist context: The case of Csepel Works, Budapest. *Journal of Urban Design*, *27*(2), pp. 161–180. <https://doi.org/10.1080/13574809.2021.1951604>
- Trejia, S., Stauskis, G., Koroļova, A., & Bratuškins, U. (2023). Community engagement in urban experiments: Joint effort for sustainable urban transformation. *Landscape Architecture and Art*, *22*(22), pp. 89–97. <https://doi.org/10.22616/J.LANDARCHART.2023.22.09>
- Trott, C. D. (2024). Envisioning action-oriented and justice-driven climate change education: Insights from youth climate justice activists. *Children and Society*, *38*(5), pp. 1802–1823. <https://doi.org/10.1111/chso.12846>
- UN / United Nations. (n.d.). *Goal 11: Make cities inclusive, safe, resilient, and sustainable*. Retrieved May 5, 2025, from: <https://www.un.org/sustainabledevelopment/cities/>
- UNDP / United Nations Development Programme. (n.d.). *Sustainable development goals: Background of the goals*. Retrieved May 5, 2025, from: <https://www.undp.org/sdg-accelerator/background-goals>
- Verdini, G., Frassoldati, F., & Nolf, C. (2017). Reframing China’s heritage conservation discourse: Learning by testing civic engagement tools in a historic rural village. *International Journal of Heritage Studies*, *23*(4), pp. 1–18. <https://doi.org/10.1080/13527258.2016.1269358>
- Zeng, X., Yu, Y., Yang, S., Lv, Y., & Sarker, M. N. I. (2022). Urban resilience for urban sustainability: Concepts, dimensions, and perspectives. *Sustainability*, *14*(5), 2481. <https://doi.org/10.3390/su14052481>
- Zen, I. S., & Shibakawa, H. (2022). Quintuple helix lens for transformation: An Okayama model of education for sustainable development. *Frontiers in Sustainability*, *3*, 798330. <https://doi.org/10.3389/frsus.2022.798330>
- Zhou, T., Zang, T., Jiang, J., Yang, X., & Ikebe, K. (2023). Analysis of the influencing factors of social participation awareness on urban heritage conservation: The example of Suzhou, China. *Sustainability*, *15*(3), 2713. <https://doi.org/10.3390/su15032713>