

Urban Transformation Agenda in South Africa: A Spotlight on Designing Theoretically and Evidence-Based Urban Development Strategies

Retsepile C. Kalaoane, Trynos Gumbo

(Dr. Retsepile C. Kalaoane, Department of Urban and Regional Planning, University of Johannesburg, Johannesburg, South Africa; tshepytoya20@gmail.com)

(Prof. Trynos Gumbo, Department of Urban and Regional Planning, University of Johannesburg, Johannesburg, South Africa, tgumbo@uj.ac.za)

1 ABSTRACT

Urban transformation in South Africa presents both significant challenges and opportunities, shaped by the nation's unique historical, social, and economic context. By critically examining current urban policies and practices, this research identifies gaps between theoretical frameworks and practical applications in South Africa's urban planning and governance. It also highlights the need for strategies that not only address the spatial and socio-economic inequalities inherited from the apartheid era but also promote sustainable and inclusive urban growth. Through a comprehensive review of literature, policy analysis, and case studies, the study offers insights into how urban transformation can be more effectively managed in South Africa. It emphasizes the importance of integrating empirical evidence with robust theoretical models to develop strategies that are both contextually relevant and practically implementable. The findings aim to inform policymakers, urban planners, and stakeholders on how to create resilient, equitable, and sustainable urban environments that respond to the complex realities of South African cities

Keywords: Urban Transformation, Agenda, South Africa, SDGs, Urban development

2 INTRODUCTION

Global initiatives such as the New Urban Agenda (UN-Habitat 2016a) and the 2030 United Nations Sustainable Development Goals (SDGs) acknowledge the crucial role of urban transformation in promoting sustainability and resilience in cities (Hölscher and Frantzeskaki, 2021). Approximately 56% of the world's population currently reside in cities and the number is estimated to double by 2050 (World Bank Group, 2025), unequivocally demonstrating the urgent need for action. Thus urban transformation is and has frequently been promoted as a solution to the numerous issues that metropolitan areas face (Crane et al. 2021; Williams, 2021) The significance of urban transformation requires a comprehensive understanding of its meaning. Ostensibly, urban transformation can be defined as a process of significant change to a city's or an urban area's physical, social, economic, and environmental landscape (Apostolopoulou, 2021; Işık, M. E. and Erdem, N. 2024). Urban transformation also increases competitiveness, innovation and development in cities resulting in improved quality of life for urban dwellers (Sarkisyan and Varlamova, 2024). Using the Ibero-American Exposition of 1929 and the Universal Seville Exposition of 1992 as case studies, Simó et al. (2024) reported that urban transformation in these case studies had a major impact on their city's development and the incorporation of former exposition sites into contemporary urban life. Additionally, in one study Alves and Pereira da Silva, (2024) evaluate the implications of urban transformations within the municipalities of Cuiabá and Várzea Grande from 2006 to 2021, findings reveal a positive impact on infrastructure improvement, rising standard of living, and creation of green spaces. Similarly, urban transformation promotes a sense of belonging and improves community engagement through the development of recreational areas (Morano et al. 2023; Alves and Pereira da Silva, 2024).

However, critics contend that urban transformation reinforces the apartheid legacy experienced in African cities. Çetin et al. , (2025) highlight a different picture of Turkey's urban transformation, which led to uneven distribution of population densities. These areas in Turkey lack adequate access to services and facilities as a result of urban transformation projects. Furthermore, Kazmi et al. (2025) point out that one of the aftermaths of urban transformation is uncontrollable development which changes the urban landscape and identity. Thus they need to evaluate the theoretical frameworks and practical applications of urban transformation in cities.

3 RESEARCH METHODOLOGY

A systematic literature review conducted in this study adopted the Preferred Reporting Items for Systematic Review and MetaAnalysis (PRISMA) protocols (Figure 1). PRISMA involves the quantitative approach to

analyze the literature offering clarity, transparency, quality, and limiting bias (Sohrabi et al. 2020; O'Dea et al. 2021). Data collection was conducted through various databases mainly Google Scholar, Web of Science (WoS), and Scopus for a broader and deeper analysis. The search focused on urban transformation dynamics in cities. This was followed by inclusion and exclusion criteria; Only publications within the scope of the study were included for the analysis and review. The exclusion criteria involved discarding all publications that do not use the English language.

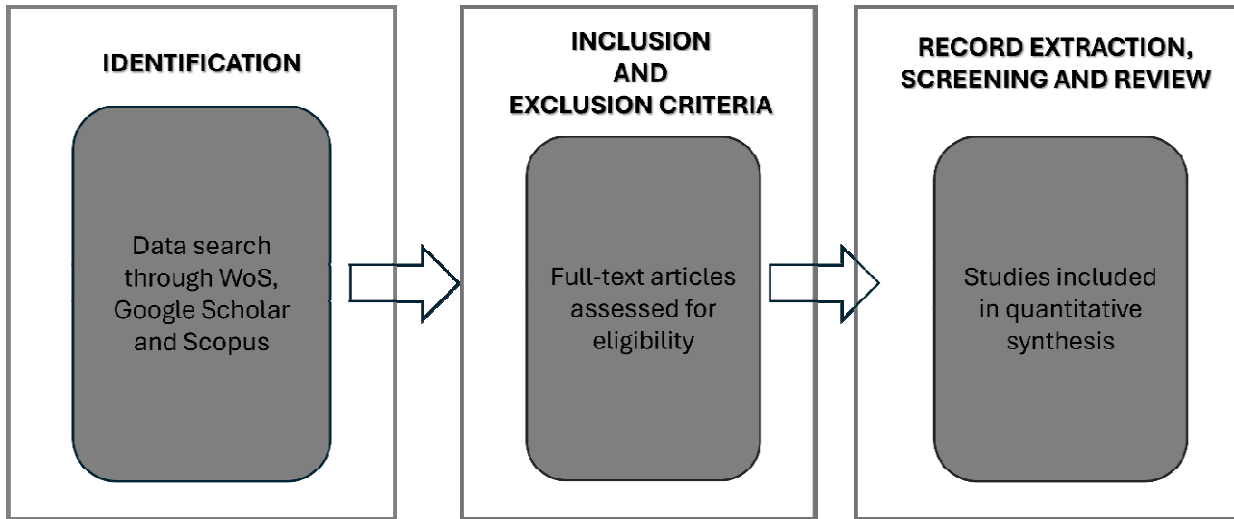


Figure 1: Systematic literature review approach

The last stage involved record extraction, screening and review. This stage involves the extraction of key insights from selected studies to identify patterns, challenges, and best practices in urban transformation. Additionally, policy reviews included policy and legislative frameworks, government reports, and strategic plans guiding urban transformation. Data was then analyzed using thematic analysis and MATLAB. Key themes from the literature and case studies, including technological advancements, social repercussions, and economic factors, were identified through the application of thematic analysis. Urban development policies, infrastructural investments, and socioeconomic consequences in various cities were examined using a comparative perspective. To draw attention to persistent issues and trends, MATLAB was used for visualization. Although MATLAB is often used for numerical computation and algorithm creation, it can also be used for data analysis and visualization. MATLAB (short for Matrix Laboratory) is a programming tool often used across different fields like engineering, physics, economics, and other sciences for its robust toolboxes and integrated functionality for intricate mathematical and statistical calculations (Moler and Little, 2020; Gatzke, 2021).

4 FINDINGS AND DISCUSSIONS

4.1 Publication years and trends

Urban transformation has become much more prominent in the literature around early 2015 (Figure 2). Using various case studies, Mitrasinovic (2015) identified the role of urban transformation and approaches utilized to reinvent the cities, highlighting the need for inclusive and participatory urban planning in the future that extends beyond the physical aspects of the environment. Consequently, there is a noticeable dip in 2017-2019, associated with numerous factors, including the focus shift of research into other approaches to the city's revitalization. However, In 2019, due to rapid urbanization, there was a surge of interest driven by increasing challenges in cities that require urban transformation due to rapid urbanization. In 2021, there was a marked resurgence in research growth, driven by increasing climate change and a call for an urban transformation to mitigate the challenges (Hölscher and Frantzeskaki, 2021; Henrique and Tschakert, 2021; Grainger-Brown et al. 2022; Cobbinah and Finn, 2023).

An important aspect of urban transformation is to analyze the changing focus and trends in the literature (Figure 2). Understanding the main issues and focal points in the field of urban transformation is greatly aided by the prevalence of particular keywords in the research.

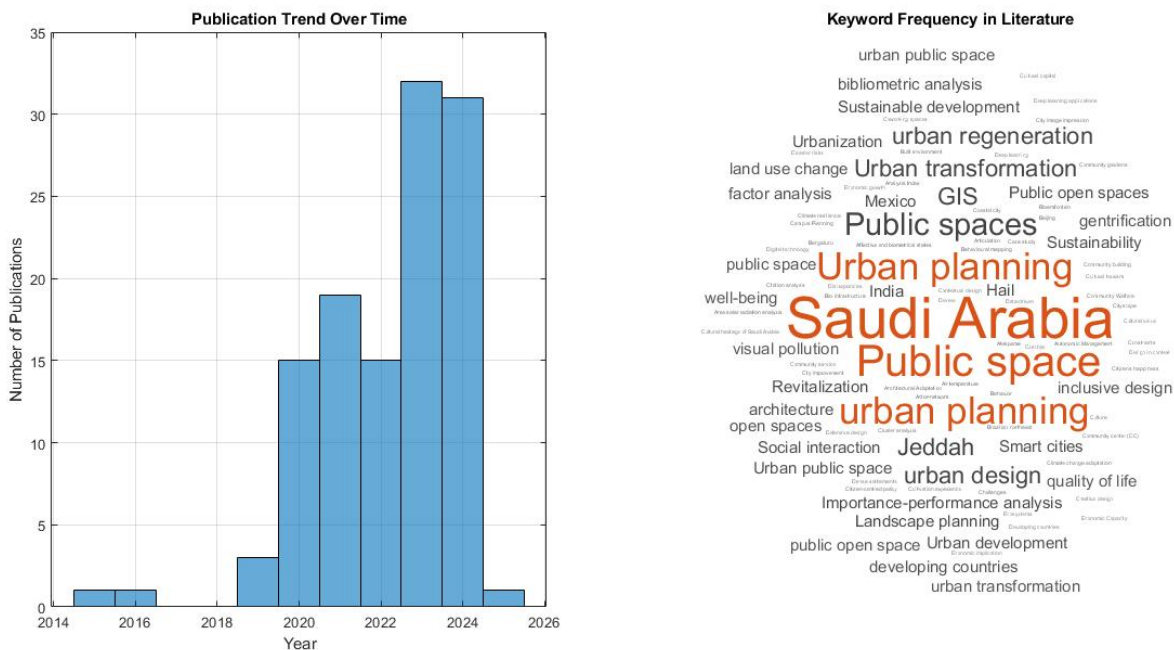


Figure 2: Publication years and trends overtime

In addition, Figure 3 illustrates the research areas that researchers were most interested in at various points in time, this determined by looking at the most frequent keywords during this time (Figure 3).

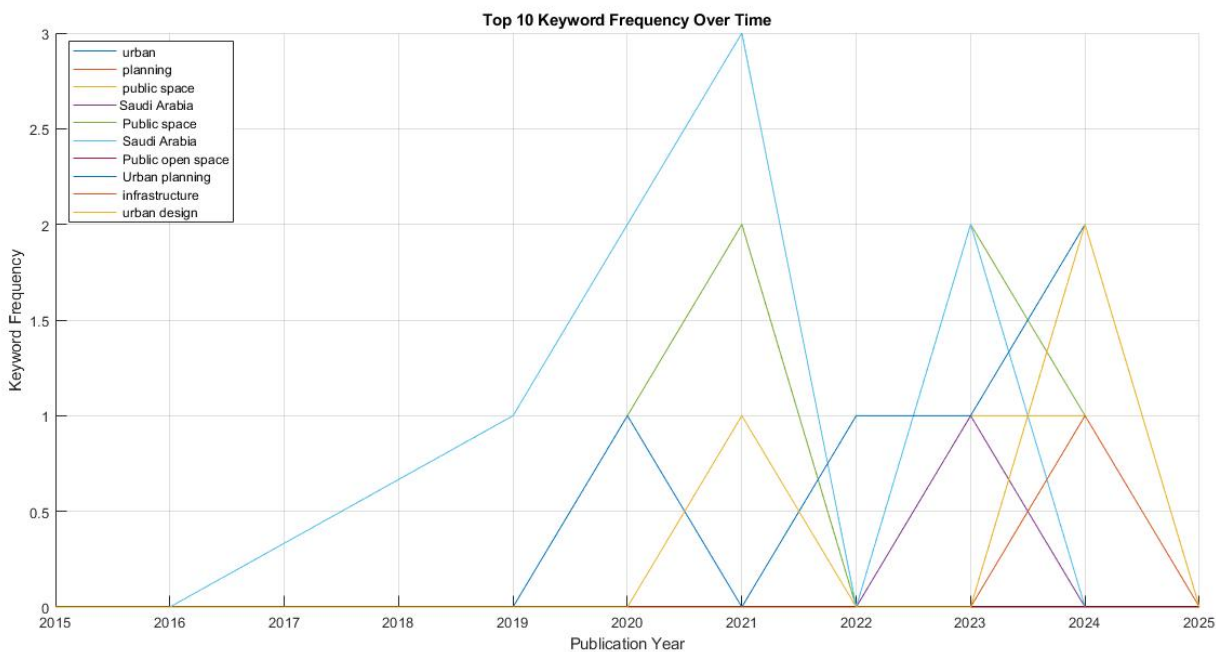


Figure 3: Keywords Frequency over time

The most frequent keywords are; Saudi Arabia, public spaces, urban planning, infrastructure, urban regeneration and urban design. Keywords like urban planning further emphasize the role of urban planning in shaping cities. Urban planning's suitability as a tool to support sustainable development is called into doubt by Saudi Arabia's urbanization pattern. However, the detrimental effects of urbanization on sustainable development are lessened when planning is done at several geographic scales (Addas and Alserayhi, 2020; Almulhim and Cobbinah, 2023; Vazquez, 2024). In Mauritius, urban planning proved to be an inefficient tool in addressing the transportation needs of the public rather than more focused on pushing the economic agenda on transport infrastructure, in contrast to policy improvements that are in line with public requirements (Thondoo, 2020) reflecting African experiences. Equally important are green spaces and public

spaces in cities. Using street photos and information from Baidu Maps to direct urban development, Liu (2024) highlights the impact of safety, aesthetics, and green areas and the utilization of data-driven approaches to citizen involvement. The studies state that urban transformation is not just a process of changing the socioeconomic landscapes of cities, it is equally important to investigate how the process is implemented and what are strategies employed to address the current challenges.

4.2 Drivers of Urban Transformation in South Africa

The effectiveness of urban transformation in shaping South African cities can be better examined through case studies that highlight its key drivers behind implementation and implications. In South Africa, urban transformation is often propelled by socioeconomic and physical dynamics, apartheid legacy, policy and technological advancements.

JOHANNESBURG'S INNER CITY REVITALIZATION

The city center (CBD) of Johannesburg has changed significantly, especially in the past 20 years (Figure 4). The public and private sectors are working together to transform abandoned buildings into retail establishments, office buildings, and loft apartments.

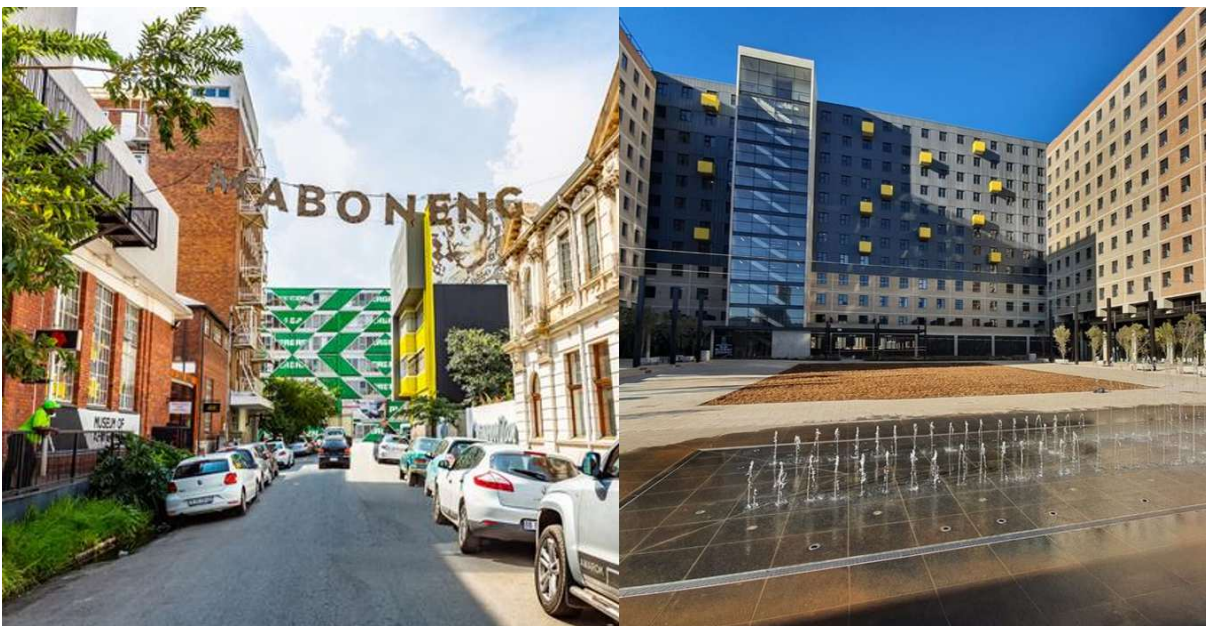


Figure 4: Maboneng, Johannesburg (Solterbeck, 2024)

The construction of important landmarks like the Maboneng Precinct (Figure 4), a bustling neighbourhood full of eateries, art galleries, and creative companies, is another example of revitalization (Parker and Khanyile, 2024). However, Maboneng's building and neighbourhood improvements benefitted the recently arrived “creative class”, whereas Jeppestown’s supply of cheap dwellings decreased.

CAPE TOWN V&A WATERFRONT

One of the most prominent instances of urban change is the Victoria & Alfred (V&A) Waterfront in Cape Town (Figure 5). It was once an industrial harbor region but has since been transformed. The transformation involves a significant development of mixed-use business and tourism centers featuring retail centers, eateries, lodging facilities, and residential areas (Demhardt, 2023; Sarhan, et al. 2020; Kelly, 2021). This change is a component of a larger movement to revitalize cities to draw in investment and tourists (Swart et al. 2024).

5 THEORETICAL PERSPECTIVES AND REALITIES OF URBAN TRANSFORMATION

Urban transformation in cities can be viewed through different theoretical lenses. Key theories include the modernization theory, developed in scholarly sociology following the 1950s, impacted by several American, British, and European theorists, such as Ernest Gellner and Talcott Parsons. The theory views urban development as a non-linear process that can be associated with industrialization (Damianos, 2022) and following the path of developed countries (Thaha and Galib, 2022). In contrast, theories such as “right to the

city” by Lefebvre in 1967 advocate for citizen participation in the urban development and transformation process because the city inherently is a capitalist space, exacerbating social inequalities (Roulier, 2022; Friendly, 2024; Karchagin, 2024). Meanwhile, smart city theory and urbanism drive the integration of data-driven decision-making and technological advancements in city transformation (Krivý, 2016; Verrestand Pfeffer, 2019). Although these ideas provide different perspectives, they all concur that urban development is profoundly political and social rather than merely technological.



Figure 5: V&A Waterfront project in Cape Town, South Africa (Business Tech, 2024)

While the case of Maboneng and Cape Town showcases the successful implementation of urban transformation, it has also caused low-income residents to be uprooted, which resulted in the loss of their social and economic support systems (Letlape and Gumbo, 2019; Mudzunga, 2022). Consequently, Low-income neighbourhoods are often left out of these advancements, which exacerbates socioeconomic and geographic disparities. Additionally, participatory initiatives such as policy frameworks like South Africa’s Breaking New Ground (BNG) housing policy have attempted to address the inequalities, however, Private developers often gain more from revitalization initiatives like Maboneng and Cape Town examples. Though they provide strong frameworks for rethinking cities, urban transformation theories are difficult, contentious, and highly political to implement in practice and policy. Therefore, this advocates for inclusive urban development and sensitive to a variety of lived experiences, whether this is accomplished through smart technologies, rights-based design, locally grounded methods, or modern infrastructure.

6 IMPLICATIONS FOR POLICY AND PRACTICE

The shortcomings of South African urban transformation initiatives highlight the significance of community-focused, sustainable, and inclusive development approaches. Despite the Cape Town and Johannesburg urban transformation initiatives, it has exacerbated social inequalities by creating environments that are not conducive to the urban poor (Marutlulle, 2021). Long-term planning, financial responsibility, and environmental sustainability must be given top priority in future initiatives, and local communities must be actively included in the process. In addition to consultation, this entails true empowerment and ownership in the planning, execution, and oversight of these projects. More successful and equitable urban transitions in South Africa can result from learning from past failures like the Johannesburg and Cape Town experiences. This should also include tackling some important concerns, such as poor community participation, opaque finance management, and a lack of consideration for environmental impact. Additionally, to guarantee that

these initiatives continue to be sensitive to the changing needs of the communities they serve, the urban transformation process needs to be data-driven.

7 CONCLUSION AND FURTHER RESEARCH

A significant gap in the literature surrounding urban transformation in South Africa is the lack of data-driven approaches and concrete guidelines for evaluating and enhancing the effectiveness of these processes. While theoretical frameworks exist, practical, measurable tools and methodologies are needed to assess the impact of interventions, track progress, and inform decision-making. This includes developing robust indicators for social, economic, and environmental outcomes, as well as establishing clear benchmarks for success. Addressing this gap through rigorous research and the development of evidence-based guidelines is critical for ensuring that future urban transformation projects are not only well-intentioned but also demonstrably successful in achieving their stated goals and creating positive, lasting change for communities.

8 REFERENCES

- Addas, A. and Alserayhi, G. 2020. Quantitative evaluation of public open space per inhabitant in the Kingdom of Saudi Arabia: A case study of the city of Jeddah. *Sage Open*, 10(2), pp. 1-18, <https://doi.org/10.1177/2158244020920608>
- Almulhim, A. I. and Cobbinah, P. B. 2023. Can rapid urbanization be sustainable? The case of Saudi Arabian cities. *Habitat International*, 139, pp. 1-13, <https://doi.org/10.1016/j.habitatint.2023.102884>
- Alves, L. , & Pereira da Silva, J. M. 2024. Morphology and agents of urban transformation. *Entrópico*, 2(2). <https://doi.org/10.33413/eau.2024.367>
- Çetin, Y. , Taş, M. and Taş, N. 2025. Urban Transformation: A Comparative Analysis of Building and Population Densities in Urban Housing Settlements with Diverse Textures in Terms of Sustainability – The Case of Bursa Osmangazi. *Sustainability*, 17(3), p. 806.
- Cobbinah, P. B. and Finn, B. M. 2023. Planning and climate change in African cities: Informal urbanization and ‘Just’ Urban transformations. *Journal of planning literature*, 38(3), pp. 361-379.
- Crane, M. , Lloyd, S. , Haines, A. , Ding, D. , Hutchinson, E. , Belesova, K. , Davies, M. , Osrin, D. , Zimmermann, N. , Capon, A. and Wilkinson, P. 2021. Transforming cities for sustainability: A health perspective. *Environment international*, 147, 1-10, <https://doi.org/10.1016/j.envint.2020.106366>
- Damianos, A. 2022. *Modernisation Theory*. Oxford University Press eBooks. <https://doi.org/10.1093/oso/9780192845474.003.0003>.
- Demhardt, I. J. 2023. Maps in history: Cape Town’s changing waterfront. *International Journal of Cartography*, 9(3), pp. 655-656
- Friendly, A. 2024. Right to the City. *Urban Studies*. <https://doi.org/10.1093/obo/9780190922481-0081>
- Gatzke, E. 2021. Introduction to MATLAB. In *Introduction to Modeling and Numerical Methods for Biomedical and Chemical Engineers* (pp. 99-121). Cham: Springer International Publishing.
- Grainger-Brown, J. , Malekpour, S. , Raven, R. and Taylor, E. 2022. Exploring urban transformation to inform the implementation of the Sustainable Development Goals. *Cities*, 131, p. 103928.
- Henrique, K. P. and Tschakert, P. , 2021. Pathways to urban transformation: From dispossession to climate justice. *Progress in Human Geography*, 45(5), pp. 1169-1191.
- Hölscher, K. and Frantzeskaki, N. 2021. Perspectives on urban transformation research: transformations in, of, and by cities. *Urban Transformations*, 3, pp. 1-14, <https://doi.org/10.1186/s42854-021-00019-z>.
- Işık, M. E. and Erdem, N. 2024. Problems encountered in urban transformation applications and solution suggestions: A case study of Osmaniye Province. *Advanced Land Management*, 4(1), pp. 26-37, <https://publish.mersin.edu.tr/index.php/alm/article/view/1351>.
- Karchagin, E. 2024. The right to the city: the history of the concept. *Sociologija Goroda*, 4, pp. 5–16. https://doi.org/10.35211/19943520_2024_4_5
- Kazmi, A. R. , Malik, I. , & Malik, S. 2025. Exploring the Impact of Urban Transformation on Building Functions: A Case Study of Main Saddar Bazar Sialkot Cantt. *International Journal of Built Environment and Sustainability*, 12(1), 157–174. <https://doi.org/10.11113/ijbes.v12.n1.1359>
- Kelly, K. , 2021. V&A Waterfront’s journey to saving water. *Water&Sanitation Africa*, 16(3), pp. 40-42.
- Krivý, M. 2016. Towards a critique of cybernetic urbanism: The smart city and the society of control. *Planning Theory*, 17(1), pp. 8-30. <https://doi.org/10.1177/1473095216645631>
- Letlape, B. H. and Gumbo, T. 2019. Land Use and Physical Structure Changes: An Expo of Maboneng Precinct. In *IS THIS THE REAL WORLD? Perfect Smart Cities vs. Real Emotional Cities*. Proceedings of REAL CORP 2019, 24th International Conference on Urban Development, Regional Planning and Information Society (pp. 475-481). CORP–Competence Center of Urban and Regional Planning.
- Liu, B. , Liu, Z. and Fang, L. 2024. Innovative Approaches to Assessing Urban Space Quality: A Multi-Source Big Data Perspective on Knowledge Dynamics. *Journal of the Knowledge Economy*, pp. 1-39.
- Liu, B. , Liu, Z. and Fang, L. 2024. Innovative Approaches to Assessing Urban Space Quality: A Multi-Source Big Data Perspective on Knowledge Dynamics. *Journal of the Knowledge Economy*, pp. 1-39.
- Marutlulle, N. K. , 2021. A critical analysis of housing inadequacy in South Africa and its ramifications. *Africa’s Public Service Delivery & Performance Review*, 9(1), p. 16.
- Mitrasinovic, M. , 2015. *Concurrent urbanities: designing infrastructures of inclusion*. Routledge.
- Moler, C. and Little, J. , 2020. A history of MATLAB. *Proceedings of the ACM on Programming Languages*, 4(HOPL), pp. 1-67.
- Morano, P. , Tajani, F. and Anelli, D. 2023. The value recapture of complex urban transformation interventions: a rational procedure for the fair share of public and private benefits. *Valori e Valutazioni*, 16(33), pp. 47-64.

- Mudzunga, G. 2022. The social injustice of urban regeneration initiatives in the Johannesburg inner city. *Journal of Urban Regeneration & Renewal*, 15(4), pp. 379-393.
- O'Dea, R. E. , Lagisz, M. , Jennions, M. D. , Koricheva, J. , Noble, D. W. , Parker, T. H. , Gurevitch, J. , Page, M. J. , Stewart, G. , Moher, D. and Nakagawa, S. , 2021. Preferred reporting items for systematic reviews and meta-analyses in ecology and evolutionary biology: a PRISMA extension. *Biological Reviews*, 96(5), pp. 1695-1722.
- Parker, A. and Khanyile, S. 2024. Creative writing: Urban renewal, the creative city and graffiti in Johannesburg. *Social & Cultural Geography*, 25(1), pp. 158-178.
- Roulier, S. M. 2022. Henri Lefebvre: Reclaiming Urban Space, Recovering Citizenship. *Theory and Event*, 25(3), pp. 595–613. <https://doi.org/10.1353/tae.2022.0029>
- Sarhan, H. T. E. , El-Eashy, A. M. and Elwazir, M. A. , 2020. Applicable Comparative Study for Sustainable Urban Development Strategies. *MEJ-Mansoura Engineering Journal*, 42(1), pp. 32-36.
- Sarkisyan, L. and Varlamova, M. 2024. Green and innovative transformations for globalizing cities. *Economy and Society* , (68), 1-6, <https://doi.org/10.32782/2524-0072/2024-68-124>
- Simó, A. , Anghel, A. A. , Frigura-Iliasa, F. M. , & Dogaru, E. A. (2024). Urban Regeneration of Universal Expos' Ex-Sites. Case Study of Seville. <https://doi.org/10.20944/preprints202412.1465.v1>
- Sohrabi, C. , Franchi, T. , Mathew, G. , Kerwan, A. , Nicola, M. , Griffin, M. , Agha, M. and Agha, R. , 2021. PRISMA 2020 statement: what's new and the importance of reporting guidelines. *International Journal of Surgery*, 88, p. 105918.
- Swart, L. , Swilling, M. and Gcanga, A. 2024. Exploring a Water–Energy–Food (WEF) Nexus Approach to Governance: A Case Study of the V&A Waterfront in Cape Town, South Africa. *Energies*, 17(16), pp. 1-16, <https://doi.org/10.3390/en17164005>
- Thaha, R. and Galib, W. K. 2022. Analysis of Modernization Theory in the Perspective of Rostow's Economic Growth Theory. <https://doi.org/10.61963/jkt.v1i1.24>
- Thondoo, M. , Marquet, O. , Márquez, S. and Nieuwenhuijsen, M. J. 2020. Small cities, big needs: Urban transport planning in cities of developing countries. *Journal of Transport & Health*, 19, 1-14, <https://doi.org/10.1016/j.jth.2020.100944>
- Vazquez, S. A. , Madureira, A. M. , Ostermann, F. O. and Pfeffer, K. 2024. Challenges and opportunities of public space management in Mexico. *Cities*, 146, p. 104743, <https://doi.org/10.1016/j.cities.2023.104743>.
- Verrest, H. and Pfeffer, K. 2019. Elaborating the urbanism in smart urbanism: distilling relevant dimensions for a comprehensive analysis of Smart City approaches. *Information, Communication & Society*, 22(9), pp. 1328-1342.
- Williams, J. , 2021. *Circular cities: a revolution in urban sustainability*. Routledge.
- World Bank Group. 2025. Urban Development. World Bank Group, <https://www.worldbank.org/en/topic/urbandevelopment>.