URBAN TRANSFORMATIONS AND REVITALIZATION STRATEGIES: INNOVATIVE APPROACHES FOR SUSTAINABLE CITY DEVELOPMENT IN EUROPE AND CROATIA

Olgica Erceg[1]
[1]International University of Travnik, Travnik, Faculty of Polytechnic Sciences
ercegolgica@gmail.com

Scientific article
https://doi.org/10.58952/nit20251302037
***UDC* 711.4(4+497.5):502.131.1**

Abstract

Urban transformations and revitalization processes have become essential components of sustainable development strategies in contemporary cities. This paper explores the theoretical and practical dimensions of urban transformation, emphasizing the balance between economic development, environmental sustainability, and social inclusion. Through an interdisciplinary framework, the research examines the evolution of European urban policies, particularly the shift from industrial urbanism toward post-industrial, knowledge-based development models. Special attention is given to revitalization as a strategic approach for reusing degraded or obsolete urban spaces and transforming them into vibrant, multifunctional environments.

Drawing on examples from major European cities—including Hamburg, Barcelona, Ljubljana, Copenhagen, and Vienna—the paper identifies key factors for successful sustainable regeneration. The case study of Split, Croatia, with emphasis on the areas of Kopilica and Dračevac, is used to evaluate the applicability of European urban transformation models in a local context. The analysis is guided by the zero hypothesis that:

"The application of integrated European revitalization models has no significant impact on sustainable development outcomes in Split's urban zones of Kopilica and Dračevac."

Based on comparative analysis, planning documentation, qualitative spatial assessment, and policy review, the hypothesis is rejected. The study concludes with recommendations for developing resilient and inclusive urban environments in Croatia and outlines directions for future research.

***Keywords**: urban transformation, revitalization, sustainable development, Split, European models, regeneration*

JEL classification: R11, Q01

1. INTRODUCTION

Urban areas across the world are undergoing profound transformation driven by globalization, technological innovation, demographic shifts, and climate-related pressures (1). Cities have evolved from industrial production centers into complex socioeconomic ecosystems that must simultaneously ensure competitiveness, sustainability, and social well-being (2). Modern urban planning increasingly emphasizes adaptability, digitalization, public participation, and human-centered design.

Yet, in Croatia—particularly in Split—urban development remains constrained by governance fragmentation, insufficient infrastructural investment, and the overwhelming influence of tourism-driven growth (7, 8). These challenges hinder the development of comprehensive, integrated frameworks for urban transformation.

1.1 Problem Statement

Given these constraints, this study examines:To what extent can integrated European urban transformation models be applied to the redevelopment of Split, particularly in the urban zones of Kopilica and Dračevac?

The literature shows that European cities have adopted increasingly sophisticated regeneration frameworks that combine sustainability, innovation, participation, heritage protection, and economic diversification (4, 5, 12, 17). The question remains whether such models can be effectively adapted to a Mediterranean, mid-sized, tourism-dependent city such as Split.

1.2 Zero Hypothesis

In line with scientific methodology and reviewer recommendations, the following zero hypothesis is introduced:

H_0: Integrated European revitalization models have no significant applicability or impact on sustainable redevelopment in the urban zones of Kopilica and Dračevac in Split.

The goal of the study is to examine, test, and ultimately reject this hypothesis through comparative evidence, planning documentation, and qualitative assessment.

1.3 Importance of the Study

Split's historical structure, constrained geography, obsolete industrial zones, and rising pressure from mass tourism make it an exemplary case for exploring the transformative potential of integrated revitalization approaches. By analyzing European best practices and comparing them with Split's strategic planning context, this study provides a scientifically grounded foundation for the development of a long-term urban regeneration model.

2. THEORETICAL BACKGROUND: CONCEPTS OF URBAN TRANSFORMATION AND REVITALIZATION

Urban transformation represents a set of multidimensional processes that reshape the physical, functional, economic, and social characteristics of contemporary cities (9). These processes are driven by global economic restructuring, technological innovation, cultural shifts, climate change adaptation pressures, and evolving governance models (10). Scholars emphasize that today's urbanization far exceeds traditional city boundaries and increasingly reflects regional and planetary scales of development (11).

In European planning discourse, urban transformation is commonly examined through paradigms such as the smart city, sustainable city, and resilient city. These paradigms highlight the need to embed digital infrastructure, environmental responsibility, inclusive decision-making,

and long-term urban adaptability into policy frameworks (12, 13).

2.1 Defining Urban Transformation

Urban transformation involves the reconfiguration of spatial patterns and social relations within cities to meet changing human, economic, and environmental needs (14). Harvey (15) further argues that urban transformation is inseparable from economic and political dynamics that continually reshape urban form, producing both inequalities and opportunities for innovation.
The contemporary shift toward systemic and integrated urbanism aligns with the European Green Deal and the New European Bauhaus (4, 17), both of which promote a holistic understanding of cities as interconnected socio-ecological systems.

2.2 The Role of Revitalization

Within the broader framework of urban transformation, revitalization plays a critical role in regenerating obsolete, degraded, or underused urban areas. It includes several interconnected dimensions:

- Physical revitalization: upgrading infrastructure, buildings, and public spaces; adaptive reuse of existing structures (18)
- Economic revitalization: stimulating new business activity, supporting innovation, and diversifying the economy (19)
- Social revitalization: promoting equity, inclusion, and improved quality of life for local communities (20)
- Environmental revitalization: enhancing green networks, climate resilience, and ecological sustainability (23)

  Revitalization is most effective when based on collaborative governance models and meaningful citizen participation (20).

2.3 The Creative and Green City Paradigm

Post-industrial cities increasingly adopt creative and green development trajectories. Florida (21) argues that thriving cities rely on creativity, technology, and talent, while Gehl (22) emphasizes the importance of human-scale design and socially vibrant public spaces.
Green city models advance climate adaptation, renewable energy, circular economy strategies, and low-carbon mobility systems (23). Cities such as Freiburg, Copenhagen, and Ljubljana exemplify how environmental sustainability can be embedded within major urban transformations (24).

2.4 Methodology (expanded and revised)

This study applies a qualitative, multi-method research design to examine how European urban transformation models can inform the redevelopment of Split—specifically the zones of Kopilica and Dračevac.

2.4.1 Analysis of Planning and Policy Documents

The research examined core strategic frameworks of the City of Split, including:

- Spatial Plan of Split (PPU) (62)
- General Urban Plan (GUP) (63)
- Development Strategy 2020–2030 (64)
- Split Smart City Strategy (65)
- Kopilica Intermodal Hub Study (66)
- Dračevac Innovation District Masterplan (67)

These documents served as the empirical foundation for understanding existing conditions, constraints, future development vectors, and policy intentions.

2.4.2 Comparative Analysis with European Cases

The European cities selected—Hamburg, Barcelona, Ljubljana, Copenhagen, and Vienna—were analyzed using explicit criteria:

- Governance structures
- Stakeholder participation
- Environmental and climate adaptation frameworks
- Heritage and cultural policy
- Economic diversification
- Brownfield and waterfront redevelopment models.

The comparative approach clarifies how these cities inform Split's transformation potential.

2.4.3 Spatial Assessment (Qualitative GIS-Based Review)

Orthophoto maps, cadastral layers, and land-use patterns were reviewed to assess:

- Existing built form
- Connectivity and mobility systems
- Availability of redevelopment parcels
- Environmental vulnerabilities
- Opportunities for greening and public space upgrades.

While not a quantitative GIS analysis, this step provided spatial diagnostics necessary for identifying realistic redevelopment options.

2.4.4 SWOT Analysis

Separate SWOT analyses for Kopilica and Dračevac helped structure:

- Strengths (strategic position, land availability)
- Weaknesses (infrastructure gaps, fragmentation)
- Opportunities (innovation, EU funds, transit integration)
- Threats (tourism pressure, climate risks)

2.4.5 Theoretical Triangulation

Key frameworks—sustainable urbanism, creative city theory, and resilience planning—were synthesized to create the conceptual foundation for the Integrated Urban Regeneration Model developed later in the paper.

3. EUROPEAN URBAN TRANSFORMATIONS: MODELS AND COMPARATIVE RELEVANCE

European cities provide a rich landscape for analyzing how large-scale urban transformations can be implemented through integrated planning that combines sustainability, innovation, heritage preservation, and citizen participation. The five selected cases—Hamburg, Barcelona, Ljubljana, Copenhagen, and Vienna—were chosen because they reflect urban challenges and opportunities directly relevant to Split, particularly in relation to brownfield redevelopment, waterfront transformation, sustainable mobility, cultural identity, and governance capacity (25).

The following sections offer an expanded comparative analysis, illustrating the structural parallels that justify the transferability of European models to the Croatian context.

3.1 Hamburg – HafenCity and Adaptive Waterfront Redevelopment

Hamburg's HafenCity represents one of Europe's largest, most comprehensive brownfield redevelopment projects, transforming former port and industrial land into a mixed-use district integrating residential areas, commercial zones, cultural institutions, and redesigned waterfront spaces (26). The project covers approximately 157 hectares and stands as a model of climate-resilient design, with elevated building platforms, improved flood protection strategies, and innovative architectural solutions (27).

Central to HafenCity's success is its governance structure—HafenCity Hamburg GmbH, a dedicated public company responsible for strategic coordination, implementation, and stakeholder engagement (28). This single-agency model ensures continuity, transparency, and long-term planning efficiency.

Relevance to Split

Both Split and Hamburg face challenges of underused or obsolete waterfront and industrial areas situated near the historical core. Kopilica in Split shares functional similarities with Hamburg's pre-redevelopment port zone. HafenCity's governance model is highly applicable to Split, where fragmented institutional structures hinder coordinated development. The establishment of a unified regeneration body could accelerate the transformation of Kopilica and the Eastern Waterfront in Split.

3.2 Barcelona – From Industrial Decline to Creative and Inclusive Transformation

Barcelona's urban transformation, initiated in the 1980s, illustrates how cultural infrastructure, public space redesign, and human-centered planning can revitalize formerly degraded neighborhoods. The renewal of El Raval, once considered one of the most marginalized districts, demonstrates the power of integrating cultural investment (such as the Barcelona Museum of Contemporary Art), social housing, and public space improvements (29).

While Barcelona's regeneration successfully enhanced urban quality and attractiveness, studies note rising risks of gentrification and social displacement (30). The city has since embraced new urban strategies—such as the Urban Innovation Plan 2019–2025—that emphasize digital equity, sustainability, and participatory governance (31).

Relevance to Split

Split's historic core faces pressures similar to those experienced in Barcelona, including over-tourism, loss of residential function, and commercialization. Barcelona's experience highlights the importance of balancing cultural-led regeneration with social protection measures. Furthermore, Barcelona's creative industries model offers a valuable framework for planning the Dračevac Innovation District.

3.3 Ljubljana – Sustainable Urban Infrastructure and Human-Centered Mobility

Ljubljana's transformation has been widely recognized as a leading example of sustainable urban mobility and pedestrian-focused planning (32). The closure of the city center to private vehicles, introduction of cycling routes, greening of public spaces, and revitalization of the riverfront have contributed to Ljubljana being named the European Green Capital.

Ljubljana's approach demonstrates how environmental improvements can simultaneously enhance urban identity, reduce emissions, and improve quality of life (33).

Relevance to Split

Many of Ljubljana's interventions—including pedestrianization, riverfront redesign, and ecological corridors—are directly transferable to Split's Eastern Waterfront. Split's mobility challenges, exacerbated by seasonal tourism, make Ljubljana's model particularly relevant for structuring sustainable transport solutions in Kopilica.

3.4 Copenhagen – Climate Adaptation and Blue–Green Infrastructure

Copenhagen aims to become the world's first carbon-neutral capital by 2025. Its Climate Adaptation Plan (34) integrates water-sensitive design, rainwater management, coastal defense, and expansive networks of cycling and public transport infrastructure. The city employs multifunctional blue–green public spaces that provide stormwater retention, cooling, recreation, and biodiversity benefits (35).

Public participation is embedded within Copenhagen's planning process, with digital platforms facilitating transparent, citizen-led decision-making (36).

Relevance to Split

Split's coastal location makes it vulnerable to heatwaves, flooding, and sea-level rise. Copenhagen's adaptation-led urbanism provides essential guidance for designing

climate-resilient redevelopment strategies, particularly for Kopilica and Dračevac, which require integrated mobility and environmental solutions.

3.5 Vienna – Inclusive Housing, Governance Stability, and Smart Development

Vienna is often cited as one of the world's most livable cities, largely due to its strong institutional capacity, long-term governance stability, and robust social housing system (37). Over 60% of residents live in subsidized housing, ensuring social stability and affordability (38). Vienna's Smart City Strategy integrates sustainability targets, digitalization, energy efficiency, and participatory governance frameworks (39).

Relevance to Split

Split faces rising housing costs and increasing displacement of residents due to tourism-driven market pressures. Vienna's example shows how coordinated policy frameworks and social housing models can preserve affordability while pursuing urban transformation. These insights support Split's need for a regulated, socially inclusive approach to redevelopment.

3.6 Comparative Lessons for Split

A cross-case comparison reveals several recurring principles that underpin European success in urban transformation:

1. Unified and long-term governance
2. Adaptive reuse of industrial and waterfront areas
3. Sustainable mobility and climate adaptation
4. Cultural identity as a driver of regeneration
5. Strong citizen participation and co-creation
6. Economic diversification grounded in innovation ecosystems

Direct Link to Split

European City	Key Feature	Comparable Challenge in Split	Application to Kopilica & Dračevac
Hamburg	Unified governance & brownfield redevelopment	Fragmented institutions	Kopilica redevelopment & Eastern Waterfront
Barcelona	Cultural-led regeneration; gentrification risk	Over-tourism in Split's old town	Heritage-sensitive planning for Dračevac
Ljubljana	Sustainable mobility & public space	Overloaded transport system	Kopilica multimodal hub
Copenhagen	Climate adaptation & blue–green systems	Coastal vulnerability	Integrated climate-resilient design
Vienna	Social housing & inclusive governance	Rising housing costs	Socially inclusive redevelopment models

The analysis demonstrates that European models are not only relevant, but structurally aligned with Split's urban context—forming the basis for rejecting the zero hypothesis.

4. CASE STUDY: URBAN TRANSFORMATION AND REVITALIZATION IN SPLIT

Split, the second largest city in Croatia, represents a complex Mediterranean urban

system shaped by its Roman heritage, constrained coastal morphology, limited land availability, and an economy heavily dependent on tourism. These characteristics amplify the need for integrated and adaptive urban transformation strategies. The city's redevelopment potential is particularly concentrated in two large underutilized zones: Kopilica and Dračevac. Both areas align conceptually and spatially with European regeneration models analyzed in earlier sections.

4.1 Rationale for Selecting Kopilica and Dračevac

The selection of these two locations is grounded in methodological criteria established in this study and supported by the City of Split's strategic documents (62–67):

4.1.1 Strategic Position in City Planning

Both sites are explicitly identified as priority redevelopment zones in:

- Development Strategy of Split 2020–2030 (64),
- Split Smart City Strategy (65),
- Kopilica Intermodal Hub Study (66),
- Dračevac Innovation District Masterplan (67).

4.1.2 Brownfield or Underutilized Character

- Kopilica: A fragmented transport–industrial zone with obsolete facilities, poorly integrated into the urban fabric.
- Dračevac: A former military area with significant land reserves suitable for conversion to innovation and technology activities.

4.1.3 High Potential for Integrated Regeneration

Both zones require interventions linking mobility, economy, environment, digital infrastructure, and public space design—matching European best practices.

4.1.4 Comparability to European Cases

Kopilica ↔ Hamburg (brownfield), Copenhagen (mobility), Ljubljana (space integration)

Dračevac ↔ Barcelona (cultural/creative renewal), Vienna (innovation, governance)

Thus, both sites provide an ideal testing ground for evaluating the zero hypothesis.

4.2 Existing Conditions and Challenges

4.2.1 Kopilica

Kopilica is currently characterized by:

- The central railway and intercity bus terminus
- Low-density industrial and storage buildings
- extensive paved surfaces and minimal greenery
- traffic congestion
- insufficient cycling and pedestrian infrastructure
- Weak spatial integration with Split's historic center

The Kopilica Intermodal Hub Study (66) identifies Kopilica as a future multimodal mobility core capable of connecting rail, bus, cycling, and ferry traffic. However, without coordinated planning, the area remains underused despite its exceptional location.

4.2.2 Dračevac

Dračevac contains:

- Obsolete military structures
- Large unused parcels of land
- Poor accessibility and few public services
- Limited economic activity

- Strong potential for redevelopment into innovation-oriented functions

The 2023 Innovation District Masterplan (67) envisions a research–technology district focusing on green energy, entrepreneurship, and higher education.

4.3 Transformation Potentials Identified Through Methodology

The combined methodological approach—including document analysis, comparative study, spatial assessment, and SWOT—highlights clear transformation potentials.

4.3.1 Kopilica: A Multimodal Transport and Innovation Hub

Drawing on models from Hamburg and Copenhagen, Kopilica can be developed as:

- A major multimodal hub, integrating railway, buses, cycling, micromobility, and pedestrian flows
- A gateway district, with redesigned public spaces, mixed-use development, cultural and commercial anchors
- An innovation corridor, linking the University of Split with Dračevac and the city center
- A sustainable mobility zone, incorporating renewable energy systems, intelligent transport management, and low-emission mobility

Spatial analysis (66) confirms that the area offers sufficient land availability, strategic location, and transport potential to support such transformation.

4.3.2 Dračevac: Innovation and Green Technology District

Inspired by Barcelona's creative regeneration and Vienna's innovation frameworks, Dračevac can evolve into:

- a regional innovation hub with start-up incubators, research facilities, and training centers;
- a green technology district, implementing renewable energy systems, circular economy principles, and climate-adaptive infrastructure;
- a cultural and creative cluster, using adaptive reuse of military heritage;
- a campus-like urban environment, integrating greenery, promenades, and collaborative workspaces.

This vision is consistent with the City of Split's medium-term development strategies (64, 65, 67).

4.4 Evaluation of the Zero Hypothesis

The zero hypothesis stated:

H_0: Integrated European revitalization models have no significant impact on sustainable redevelopment in Kopilica and Dračevac.

However, the case study demonstrates clear applicability:

- Hamburg shows how a unified agency can manage large-scale regeneration → applicable to Split's fragmented governance.
- Barcelona provides strategies for creative, socially balanced renewal → relevant for Dračevac.
- Ljubljana illustrates successful mobility and public space redesign → relevant for Kopilica and Eastern Waterfront.
- Copenhagen showcases climate-resilient planning → directly relevant to Split's coastal risks.
- Vienna demonstrates institutional stability and inclusive housing → critical for addressing Split's affordability pressures.

Conclusion:

The zero hypothesis is rejected.

European models significantly inform feasible redevelopment pathways for both zones.

4.5 Integration with Split's Strategic Plans

To ensure contextual relevance, the proposed regeneration strategies were aligned with:

- PPU – Spatial Plan (62): land-use, zoning, infrastructure guidelines

- GUP (63): development rules, density standards, mobility networks
- Development Strategy 2020–2030 (64): pillars of innovation, sustainability, quality of life
- Smart City Strategy (65): digital services, data-driven planning
- Kopilica Intermodal Hub Study (66): transport integration
- Dračevac Masterplan (67): innovation ecosystems

These documents confirm that the proposed regeneration model is feasible, coherent, and strategically aligned with the city's long-term objectives.

4.6 Summary of Case Study Findings

The analysis shows that:

1. Kopilica and Dračevac are strategic assets for Split's future development.
2. European models offer highly relevant frameworks for redevelopment.
3. Integrated planning is essential for managing tourism pressure, climate risks, and housing affordability.
4. Split's urban transformation requires coordinated governance, innovation, sustainability, and heritage protection.
5. The methodological evaluation provides a strong empirical basis for rejecting the zero hypothesis.

These findings form the foundation for the Integrated Urban Regeneration Model elaborated in the Discussion section.

5. DISCUSSION

The findings of this research highlight that Split's urban transformation challenges—in Kopilica and Dračevac—are structurally comparable to those encountered in many European cities at earlier stages in their development. The comparative analysis revealed significant alignment between Split's strategic goals and established European regeneration practices (48). This indicates that integrated, sustainable, and innovation-driven models can be effectively adapted to the local context.

However, the successful application of such models requires strong governance capacity, strategic coordination, and institutional continuity—areas where Croatian coastal cities, including Split, traditionally face difficulties due to administrative fragmentation, political instability, and inconsistent long-term planning (49).

To address these issues, this Discussion section synthesizes insights from the European case studies, the spatial and strategic analysis of Split, the methodological findings, and the implications for the zero hypothesis. It also outlines key recommendations for future transformation processes.

5.1 Governance and Institutional Capacity: A Precondition for Transformation

European examples, particularly Hamburg, Vienna, and Copenhagen, demonstrate that large-scale urban regeneration requires stable and unified governance structures (50). HafenCity Hamburg GmbH, for instance, integrates planning, financing, implementation, and public coordination within a single body, facilitating long-term development and protecting projects from political fluctuations (51).

In contrast, Split's current institutional landscape is fragmented, with multiple departments and agencies responsible for land-use planning, mobility, infrastructure, culture, heritage protection, and economic development. Such fragmentation slows decision-making and prevents integrated planning.

Key Recommendation:

Establish a Split Urban Regeneration Agency responsible for coordinating all major redevelopment processes (Kopilica, Dračevac, Eastern Waterfront). This agency would serve as a central governance platform ensuring long-term continuity.

5.2 Community Participation and Social Inclusion

Sustainable urban transformation in Europe is characterized by strong citizen

participation and community engagement (52). Barcelona's neighborhood governance mechanisms and Copenhagen's digital participation tools show how community involvement contributes to project acceptance, social cohesion, and equitable development (53).

In Split, participatory mechanisms remain relatively weak and often symbolic. Residents are generally informed rather than actively engaged in shaping redevelopment strategies.

Recommendations:

- Establish neighborhood participation councils for Kopilica and Dračevac.
- Use digital tools for public consultations (maps, surveys, simulations).
- Implement participatory budgeting for certain phases of redevelopment (54).

Meaningful participation fosters public trust and supports socially balanced transformation.

5.3 Economic Diversification and Innovation Ecosystems

Split suffers from substantial economic dependency on tourism, making the city vulnerable to market fluctuations, global crises, and high seasonality (55). For long-term resilience, the redevelopment of Kopilica and Dračevac must be designed to diversify the economy.

Kopilica can evolve into a transport, mobility, and innovation hub, providing:

- Offices for creative and digital industries
- Co-working spaces
- Research facilities
- Mobility innovation labs connected to the University of Split

Dračevac can develop into a regional innovation district, hosting:

- Renewable energy labs
- Green technology start-ups
- Educational institutions
- Incubation and acceleration programs (56, 57)

Examples from Vienna and Barcelona show how innovation-oriented environments stimulate long-term economic growth while reinforcing sustainable development.

5.4 Environmental Sustainability and Climate Adaptation

Mediterranean coastal cities face severe climate risks, including heatwaves, flash flooding, drought, and sea-level rise (58). Copenhagen's and Ljubljana's climate adaptation strategies illustrate the importance of integrating blue–green infrastructure, water-sensitive urban design, and sustainable mobility systems into transformation projects.

Recommendations for Split:

- Introduce blue–green corridors connecting Kopilica, Dračevac, and Eastern Waterfront.
- Implement permeable surfaces and advanced stormwater retention systems.
- Expand shaded pedestrian routes and bicycle infrastructure.
- Integrate renewable energy systems (solar, microgrids) into new developments.

Environmental adaptation is not optional—it is essential for long-term resilience.

5.5 Heritage and Identity as Drivers of Regeneration

Split's unique historical identity—shaped by Diocletian's Palace and its layered Mediterranean urban fabric—is one of its greatest assets. European examples such as Vienna's MuseumsQuartier and London's Tate Modern highlight how heritage can be leveraged as a catalyst for cultural and economic revitalization (59, 60).

Implications:

- Heritage must be embedded into the design logic of Kopilica and Dračevac.
- Public spaces should reflect local cultural narratives.

- Adaptive reuse of buildings (especially in Dračevac) can create authentic, place-based identity.

Heritage is not a constraint; it is a development resource.

5.6 Foundation for the Integrated Urban Regeneration Model

On the basis of the comparative analysis, spatial assessment, and strategic review, the study identifies the following foundational principles of a future Integrated Urban Regeneration Model for Split:

1. Unified governance and long-term institutional stability
2. Participatory and transparent planning processes
3. Climate adaptation and blue–green infrastructure
4. Transit-oriented development and sustainable mobility
5. Economic diversification through innovation ecosystems
6. Heritage-led public space design
7. Digital and data-driven planning frameworks
8. Alignment with existing Split strategic documents (62–67)

Relation to the Zero Hypothesis

These findings clearly demonstrate that European models are highly applicable to Split's urban context. Thus, the zero hypothesis is rejected. European revitalization frameworks significantly influence, guide, and enhance sustainable redevelopment opportunities in Kopilica and Dračevac.

5.7 Recommendations for Urban Policy and Practice

Based on the discussion, the following recommendations are proposed:

- Create a Split Urban Regeneration Agency.
- Integrate planning with PPU, GUP and Smart City Strategy
- Establish participatory platforms for citizens and stakeholders
- Redevelop Kopilica as a multimodal transit-oriented development hub
- Implement Dračevac as a green innovation and creative district
- Integrate climate adaptation in all phases of redevelopment
- Prioritize heritage-led design principles
- Develop measurable sustainability metrics to monitor progress

CONCLUSION

Urban transformation has become a defining challenge for contemporary cities facing pressures related to climate change, demographic shifts, economic restructuring, spatial constraints, and social inequality (61). For Mediterranean coastal cities such as Split, these pressures are amplified by tourism dependency, limited land availability, and fragmented governance structures. This study explored the relevance and applicability of integrated European urban revitalization models to the redevelopment of Split, with emphasis on the strategic areas of Kopilica and Dračevac. Using a comprehensive qualitative methodology—including comparative analysis, policy and planning document review, spatial assessment, and SWOT analysis—the paper tested the zero hypothesis:

H_0: Integrated European revitalization models have no significant impact on sustainable redevelopment opportunities in Split's key urban zones of Kopilica and Dračevac.

Based on the evidence, the zero hypothesis is clearly rejected.

Key Findings

1. European models are structurally relevant to Split.

Strategies from Hamburg, Barcelona, Ljubljana, Copenhagen, and Vienna align closely with the challenges of Kopilica and Dračevac, particularly regarding governance, mobility, innovation, sustainability, and heritage.

2. Split's existing planning documents support integrated regeneration.

The PPU, GUP, Development Strategy, Smart City Strategy, and masterplans for Kopilica and Dračevac (62–67) collectively provide a strong foundation for sustainable transformation.

3. Kopilica and Dračevac have significant redevelopment potential.
   Kopilica can become a multimodal mobility hub and innovation corridor; Dračevac can evolve into a regional innovation and green technology district.
4. Integrated urban regeneration is essential.
   Fragmented or sectoral planning approaches cannot address the scale of challenges facing Split. A unified model is required.
5. Governance is the critical success factor.
   A dedicated urban regeneration agency would significantly improve coordination, reduce political fragmentation, and enable long-term implementation.

Contribution of the Study

This research contributes:

- A structured comparison of European transformation models
- A methodology for evaluating their applicability
- A detailed assessment of Split's urban conditions,
- And a conceptual Integrated Urban Regeneration Model tailored for Split

Future Research

Future studies should focus on:

- Quantitative modelling of mobility and climate adaptation scenarios
- Economic feasibility testing for the innovation district and mobility hub
- Social impact and housing affordability research
- Advanced GIS simulations and climate risk mapping
- And participatory planning evaluations.

Closing Remark

With strategic coordination, innovative governance, and a clear long-term vision, Split has the potential to transition from fragmented development to a resilient, inclusive, and future-oriented Mediterranean city—one that harmonizes its unique heritage with European standards of sustainable urban transformation.

REFERENCES

1. Brenner, N., & Schmid, C. (2014). Planetary Urbanization. Urban Studies, 52(3), 597–615.
2. Sassen, S. (2018). Global Cities and Urban Transformations. London: Routledge.
3. Hall, P. (2002). Cities of Tomorrow: An Intellectual History of Urban Planning and Design. Oxford: Blackwell.
4. European Commission. (2021). New European Bauhaus Initiative. Brussels: EU Publications.
5. Tiesdell, S., & Oc, T. (1998). Revitalizing Historic Urban Quarters. Oxford: Architectural Press.
6. Robert, P., & Sykes, H. (2000). Urban Regeneration: A Handbook. London: SAGE.
7. Barišić, M. (2020). Urban Development Challenges in Croatian Cities. Zagreb: Faculty of Architecture, University of Zagreb.
8. Mlinarić, D. (2022). Urban Planning and Governance in Croatia. Zagreb: Institute for Urbanism.
9. Harvey, D. (2008). The Right to the City. New Left Review, 53, 23–40.
10. OECD. (2019). The Governance of Land Use in OECD Countries. Paris: OECD Publishing.
11. Florida, R. (2002). The Rise of the Creative Class. New York: Basic Books.
12. Gehl, J. (2010). Cities for People. Washington, DC: Island Press.
13. European Commission. (2020). The European Green Deal. Brussels: EU Publications.
14. HafenCity Hamburg GmbH. (2020). HafenCity Masterplan Update 2020. Hamburg: City of Hamburg.
15. Roberts, P., & Sykes, H. (2000). Urban Regeneration: A Handbook. London: SAGE.

16. Marshall, T. (2004). Transforming Barcelona: The Renewal of a European Metropolis. London: Routledge.
17. Degen, M., & García, M. (2012). The Transformation of Barcelona's El Raval: Culture and Conflict in Urban Regeneration. International Journal of Urban and Regional Research, 36(5), 1022–1038.
18. European Commission. (2016). European Green Capital Award: Ljubljana. Brussels: EU Publications.
19. City of Copenhagen. (2011). Copenhagen Climate Adaptation Plan. Copenhagen: City of Copenhagen.
20. City of Vienna. (2019). Smart City Wien Framework Strategy 2019. Vienna: City of Vienna.
21. UN-Habitat. (2020). World Cities Report 2020: The Value of Sustainable Urbanization. Nairobi: UN-Habitat.
22. City of Split. (2023). Strategic Plan for Urban Mobility and Development. Split: City Council.
23. Couch, C., & Karecha, J. (2006). Controlling Urban Sprawl in Europe: The Case of Compact City Policies. European Planning Studies, 14(2), 267–286.
24. Šimunović, L. (2022). Challenges of Urban Governance in Croatian Coastal Cities. Journal of Urban Studies, 5(1), 45–60.
25. HafenCity Hamburg GmbH. (2020). HafenCity Masterplan Update 2020. Hamburg: City of Hamburg.
26. Roberts, P., & Sykes, H. (2000). Urban Regeneration: A Handbook. London: SAGE.
27. Marshall, T. (2004). Transforming Barcelona: The Renewal of a European Metropolis. London: Routledge.
28. Ajuntament de Barcelona. (2020). Barcelona Urban Innovation Plan 2019–2025. Barcelona: City Council.
29. Degen, M., & García, M. (2012). The Transformation of Barcelona's El Raval: Culture and Conflict in Urban Regeneration. IJURR, 36(5), 1022–1038.
30. Smith, N. (1996). The New Urban Frontier: Gentrification and the Revanchist City. London: Routledge.
31. European Commission. (2016). European Green Capital Award: Ljubljana. Brussels: EU Publications.
32. Municipality of Ljubljana. (2015). Sustainable Urban Strategy 2014–2020. Ljubljana: City Office for Development.
33. UNECE. (2020). Smart Sustainable Cities Profile: Ljubljana. Geneva: United Nations.
34. City of Copenhagen. (2011). Copenhagen Climate Adaptation Plan. Copenhagen: City of Copenhagen.
35. European Environment Agency. (2020). Urban Climate Resilience in Europe. Copenhagen: EEA.
36. City of Copenhagen. (2022). Citizen Participation Framework for Sustainable Planning. Copenhagen: City of Copenhagen.
37. Förster, W. (2019). Social Housing in Vienna: 100 Years of Red Vienna. Vienna: Municipal Department for Housing.
38. City of Vienna. (2019). Smart City Wien Framework Strategy 2019. Vienna: City of Vienna.
39. Mercer. (2023). Quality of Living City Ranking Report. London: Mercer Consulting.
40. Barišić, M. (2020). Urban Development Challenges in Croatian Cities. Zagreb: Faculty of Architecture.
41. Kušan, L. (2021). Heritage and Tourism Pressures in Coastal Croatia. Journal of Mediterranean Urbanism, 4(2), 54–68.
42. City of Split. (2023). Urban Transformation Strategy for the Eastern Waterfront. Split: City Office for Spatial Planning.
43. Pavlović, I. (2022). Smart and Green Infrastructure Development in Croatian Cities. Urban Policy Review, 9(3), 112–127.
44. City of Split. (2023). Eastern Waterfront Revitalization Project Proposal. Split: City Council.

45. City of Split. (2023). Kopilica Intermodal Transport Hub Plan. Split: Urban Development Office.
46. City of Split. (2023). Strategic Plan for Innovation District Dračevac. Split: City Council.
47. European Institute of Innovation & Technology (EIT). (2022). Urban Mobility Innovation Hubs in Southern Europe. Budapest: EIT.
48. Couch, C., & Karecha, J. (2006). Controlling Urban Sprawl in Europe: The Case of Compact City Policies. European Planning Studies, 14(2), 267–286.
49. Šimunović, L. (2022). Challenges of Urban Governance in Croatian Coastal Cities. Journal of Urban Studies, 5(1), 45–60.
50. HafenCity Hamburg GmbH. (2020). HafenCity Masterplan Update 2020. Hamburg: City of Hamburg.
51. Roberts, P., & Sykes, H. (2000). Urban Regeneration: A Handbook. London: SAGE.
52. UN-Habitat. (2020). World Cities Report 2020: The Value of Sustainable Urbanization. Nairobi: UN-Habitat.
53. European Commission. (2021). The New European Bauhaus Initiative. Brussels: EU Publications.
54. City of Copenhagen. (2022). Citizen Participation Framework for Sustainable Planning. Copenhagen: City of Copenhagen.
55. Eurostat. (2023). Tourism Statistics – Croatia. Brussels: European Union.
56. City of Split. (2023). Strategic Plan for Innovation District Dračevac. Split: City Council.
57. European Institute of Innovation & Technology (EIT). (2022). Urban Mobility Innovation Hubs in Southern Europe. Budapest: EIT.
58. European Environment Agency. (2020). Urban Climate Resilience in Europe. Copenhagen: EEA.
59. Council of Europe. (2021). Cultural Heritage and Sustainable Urban Development. Strasbourg: CoE Publications.
60. Miles, M. (2017). Art, Space and the City: Public Art and Urban Futures. London: Routledge.
61. UN-Habitat. (2022). Sustainable Urban Futures 2050 Report. Nairobi: UN-Habitat.
62. City of Split. (2020). Spatial Plan of Split (PPU).
63. City of Split. (2020). General Urban Plan (GUP).
64. City of Split. (2021). Development Strategy of Split 2020–2030.
65. City of Split. (2022). Split Smart City Strategy.
66. City of Split. (2023). Kopilica Intermodal Hub Study.
67. City of Split. (2023). Dračevac Innovation District Masterplan.