

Research Article

Preserving Busan's Unique Heritage: Exploring Urban Planning and Zoning Mechanisms for a Greener, More Resilient Future

Joon Park

Blair Academy, USA

Email: joonpark102023@gmail.com

Received: September 29, 2023

Accepted: October 16, 2023

Published: October 24, 2023

Abstract

This study explores potential urban planning methods that can most effectively preserve a city's unique geographic, economic, cultural, and historical heritage. It analyzes Busan's diverse topography, including rivers, mountains, and coastlines, and its strategic importance as a major economic port hub in Northeast Asia against the backdrop of its colonial, post-war, and industrial past. Using international and local examples, this study describes the institutional, fiscal, and zoning mechanisms that facilitate urban revitalization. It also evaluates the effectiveness and limitations of the existing zoning regulations for safeguarding historic sites and ecosystems. Current urban planning policies in Busan face challenges, such as outdated regulations, limited developable land, and a lack of transparency and public participation. To address these issues, this study proposes inventive solutions for a greener, more resilient, and more equitable future for Busan by drawing on insights from innovative zoning mechanisms in cities like New York City, Singapore, Jeddah, and Barcelona.

Keywords: Planning, Busan, Geography, History, Culture.

1. Introduction

1.1 The Geographic Uniqueness of Busan, South Korea

Busan, located on the southeastern coast of the Korean Peninsula, stands out for its geographical uniqueness. Busan offers a unique blend of natural beauty, cultural heritage, and economic significance as a result of its diverse topography, stunning coastline, and strategic location. From towering mountains to pristine beaches, Busan's geography has shaped its urban development and contributed to its reputation as a thriving metropolis.

Defining feature of Busan is its rugged terrain. The city is situated between the Nakdong River to the west and the Sea of Japan to the east, with a backdrop of picturesque mountains. The peaks of Geumjeongsan and Baegyangsan dominate the city's skyline and provide a dramatic backdrop for urban life. In addition to providing breathtaking vistas, these mountains also serve as popular recreational areas, attracting hikers and nature enthusiasts. Obviously, topography has played a pivotal role in shaping the urban planning of the city, with neighborhoods constructed on slopes and roads winding around mountainsides, resulting in a distinctive spatial layout.

Busan's coastline is another geographical feature that distinguishes it. The city's coastline stretches over 150 km and features numerous beaches, bays, and harbors. Haeundae Beach, one of the most famous beaches in Korea, attracts millions of visitors each year with its golden sand and crystal-clear waters. Gwangalli Beach, with its breathtaking backdrop of the Gwangan Bridge is known for its vibrant nightlife and water sports. These beaches not only provide recreational opportunities, but also promote the city's economy, attract tourists, and foster a thriving hospitality industry.

As a major international port, Busan's strategic location functions as a vital gateway for international trade and commerce. Its strategic location on the southeastern edge of the peninsula provides easy access to neighboring countries, such as Japan, China, and Russia. This locational advantage has facilitated the growth of various industries, including shipping, logistics, and manufacturing, transforming Busan into a key economic hub for Northeast Asia.

2. Busan's History

2.1 Urban Development and Transformation in Spatial Layout

Against the backdrop of its distinctive geographical characteristics, the city of Busan has undergone a number of significant urban development and spatial transformation throughout its history. Modern land use in Busan has been strongly influenced by historical events and socio-economic shifts, especially during the Japanese colonial period, the Korean War, and the subsequent decades of intense industrialization and urbanization leading up to the present day. These periods have left an indelible mark on the city's infrastructure, architecture, and spatial organization of the city.

During the period of Japanese colonial rule (1910-1945), Busan underwent a profound shift in its urban development. In an effort to modernize the city, the Japanese colonial administration transformed Busan from unsystematized land dominated agriculture and marine farming, into a strategic port hub. Harbor reconstruction and reclamation began in 1902, and Japanese settlements were established east of the Yongdu Mountains, where commercial and industrial districts developed (Cho and Hatsuda, 2005). The expansion and improvement of the port facilities facilitated maritime trade and made Busan a crucial gateway for Japan's colonial ambitions. The upgrading of the city's road networks and the construction of contemporary structures influenced by Japanese architectural styles reshaped the urban landscape. In addition, the forced relocation of Korean residents and the destruction of traditional Korean neighborhoods to make way for modern development projects altered the spatial layout of the city and created social and spatial inequalities.

The Korean War (1950-1953) brought significant destruction and upheaval to Busan. As the conflict intensified, Busan became the temporary capital and refuge for the South Korean government and a safe haven for thousands of displaced people (Kim, 2017). The war-ravaged city required extensive reconstruction efforts to rebuild its infrastructure and restore normalcy. Busan underwent significant transformation during this period as new residential areas, public facilities, and industrial zones were created to accommodate the influx of people and support economic recovery.

In the post-Korean War period, Busan experienced rapid industrialization and urbanization. As South Korea focused on economic development, Busan played a vital role as a major industrial and manufacturing center. The spatial structure of the city expanded further from the original city core with the establishment of industrial complexes and the construction of new neighborhoods to accommodate the growing population and meet the demands of urban growth. Busan's urban fabric has evolved to include modern high-rise buildings, commercial districts, and transportation networks.

2.2 The History and Origin of Land Use Development in Busan: From the Korean War to a Visionary Future

The Korean War (1950-1953) had a profound impact on Busan, not only in terms of human suffering and destruction but also as a catalyst for a new vision of land-use development. The war created a tabula rasa—a blank slate upon which reformers, policymakers, and visionaries could start envisioning a new future for Busan. During the war, Busan became the temporary capital of South Korea as the conflict pushed the front lines southward. The city faced immense challenges including widespread destruction, a surge in displaced people, and strained resources. Amidst this chaos, however, the situation also provided an opportunity to rethink and reshape the city's land use planning and development.

The vision of a new future was influenced by numerous factors and stakeholders. Local government officials, architects, and urban planners worked together to formulate plans to shape land use in the city. They drew inspiration from international models of urban development and incorporated elements of modernism and functionalism into their visions. The focus is on creating efficient and well-designed urban spaces that would promote economic growth, improve the quality of life modern society.

Land-use development in Busan during this period was characterized by several important initiatives. First, there was a push to establish industrial zones to spur economic growth and provide employment opportunities. This involved designating specific areas for industrial activities such as manufacturing and logistics, which helped concentrate resources and attract investment. These zones have played an important role in transforming Busan into a major industrial and commercial center.

Efforts have been made to improve transportation infrastructure, including the expansion of roads, public transportation development, and modernization of ports. These improvements are aimed at connecting the

various parts of the city more efficiently, facilitating the movement of goods and people, and supporting future growth.

Another significant aspect of land-use development in Busan was the establishment of residential neighborhoods and the construction of public facilities. The city underwent urban expansion with new residential areas being developed to accommodate its growing population. These residential areas have been designed according to modern planning principles and include green spaces, amenities, and community facilities to create a sense of livability (Seo *et al.*, 2015).

Throughout this time period, there was an emphasis on innovation and forward-looking land-use development strategies. Busan became a hub for architectural experimentation with buildings that would reflect the aspirations of modern cities. The Busan skyline began to transform, featuring iconic structures and distinctive buildings that symbolized progress and prosperity.

Today, land use in Busan continues to evolve, guided by a commitment to sustainability (Eco Delta City), resilience in the face of climate change (Kim and Kang, 2018), and technological and inclusive growth (Busan Green U-City). The city has embraced concepts, such as smart city initiatives, green infrastructure, and mixed-use development. Given the ever-increasing conflicts and complexity of the city, Busan's land-use planning must strike a balance between preserving the city's rich heritage and embracing future-oriented strategies. The following cases of urban renewal, characterized by Busan's historical, cultural, and economic background were studied in more detail to evaluate their effectiveness.

3. Case Study

3.1 The Case of Gamcheon Village in Busan

Gamcheon Village in Busan, South Korea, has a rich history dating back to the early 20th century. A modest hillside settlement was established in the 1920s, to provide affordable housing for fishermen and laborers near the port. The unique structure of the village, with narrow alleyways and tightly packed houses, is influenced by its hilly terrain.

During the Korean War, Busan became a haven for refugees, and many sought shelter in Gamcheon Village due to its proximity to the port and makeshift dwellings were constructed to accommodate the influx of people, leading to the vertical expansion of the urban fabric.

Despite the economic challenges, a transformative revitalization project was initiated by the local government in the early 2000s. Gamcheon Village was reimagined as an artistic and cultural hub, preserving the original structure while adding colorful murals, sculptures, and installations throughout the area. The objective of the initiative was to improve living conditions, promote tourism, and showcase the village's architectural and cultural heritage. This is a regional innovation model for successful urban revitalization (Kim and Hong, 2017). The vibrant atmosphere, artistic appeal, and improved infrastructure have made it a popular tourist destination that contributes to the local economy and promotes cultural exchange. This transformation from an underdeveloped neighborhood to a thriving cultural landmark serves as inspiration for future urban redevelopment initiatives.

3.2 The Case of Gukje Market

The Gukje Market, located in Jung-gu, central Busan, is an iconic traditional market in the region. Its origins can be traced back to the post-liberation period of 1945 when it first emerged as a trading hub for goods abandoned by the Japanese and products imported by Koreans from overseas. Initially known as Dottaegi Market, it was a bustling flea market that occupied vacant lots. In 1948, the construction of a building was renamed Free Market. Subsequently, in 1950, as the market began handling items sourced from the United States military, it was given the name Gukje, meaning "international" market.

During the 1950s and the 1990s, the market flourished, as foreign goods, United States army munitions, smuggled items, and electronic products were sold. Over time, it has evolved into a place that caters to the needs of individuals from all walks of life, offering everything from birth to old age. Over the past 70 years, the Gukje Market, along with Food Alley, Arirang Street, Youth Street, and Kujae Alley, has become an integral part of Busan's identity, encompassing a variety of stories that reflect modern Korean history. In 2017, the market entered a new phase by renovating the Global Complex of Cultural Space (609 Youth Mall) and embracing the innovative ideas of younger generations. Various shops were established to transform the Gukje Market into an eclectic space for enticement and entertainment. The transformation that the market

has undergone exemplifies how traditional markets can be a regenerative force that combines culture, history, and a vision of the future.

3.3 The Case of Bosu-dong: A Haven for Memories

Bosu-dong Book Street has an intriguing origin. It came into being after Korea's independence on August 15, 1945, and it initially served as a residential area, occupying the empty space after the demolition of the Gukje Market. Gradually, bookstores sprouted up and what is now known as Bosu-dong Book Street was born. This charming street enjoys great popularity among avid readers, attracting them with a diverse range of used and new books.

Bosu Book Street has witnessed a significant decline in the number of independent bookstores over the past two decades, with more than half closing. This decline can be attributed to the rapid expansion of chain bookstores and the increasing popularity of e-books. Consequently, only 30 bookstores continue to operate on the street.

Recognizing the historical significance and unique characteristics of Bosu Book Street, efforts have been made to preserve its heritage sites. In 2019, Busan Metropolitan City took an important step by officially designating bookstore alleys to be Busan's Future Heritage. This designation acknowledges the street's pivotal role as a cultural hub for book enthusiasm, spanning over seven decades. This action was intended move aimed to preserve the street's character and ensure its continued significance as a cherished cultural space for future generations.

3.4 The Case of Eco Delta City (EDC)

Eco Delta City (EDC) is a waterfront development that incorporates energy-efficient technologies and innovative urban planning (Han and Kim, 2022). Incorporating green management techniques into the EDC, such as low-maintenance planting, green walls, and drone-assisted management technology, has brought many benefits to Busan Citizens Park. These practices not only promote urban greening and biodiversity but also help reduce air pollution, curb urban heat islands, and improve drainage and water management. In addition, the National Strategy for Green Growth provides a robust framework for Busan to achieve its long-term objectives of promoting eco-friendly growth engines, improving quality of life, and contributing to international efforts to combat climate change. By adopting energy-efficient technologies and incorporating eco-friendly practices into urban development, Busan can become a greener, healthier, and more resilient city.

4. Current Situation in Busan

4.1 Current Land-Use Practices in Busan, Korea

Over the last few decades, Busan's land-use practice has witnessed a continued evolution in its regulatory and legal frameworks, driven by the above urban renewal projects, such as Gamcheon Village, Gukje Market, Bosu-dong Book Street, and the EDC, as well as the pursuit of sustainable development. The city has prioritized the revitalization of urban spaces, preservation of cultural heritage sites, and public transportation infrastructure improvement. The establishment of waterfront parks, the transformation of former industrial areas into cultural and recreational zones, and the integration of green spaces into the urban fabric have contributed to a more livable and environmentally friendly cityscape.

City zoning regulations and urban planning in Busan have been instrumental in preserving the historical sites and ecosystems. For example, Haeundae District, which is famous for its beaches and marine resources, has taken significant measures to preserve its coastal ecosystem, as increased development has led to an increase in coastal erosion (Yang *et al.*, 2010). This includes the monitoring and control of construction activities within the coastal zone, as well as the promotion of environmentally responsible tourism practices. Busan has enacted a number of policies focused on preserving and revitalizing its natural and cultural heritage, including the Environmental Policy Division's ordinance on the conservation of the natural environment (BMC Ordinance, 2019), the Busan Cultural Heritage Conservation Policy, and the Busan Cultural Asset Management Plan. These policies seek to preserve the city's historical, natural, and cultural resources by encouraging the adaptive reuse of old buildings, providing financial support for restoration, and offering tax incentives for preservation.

4.2 Current Urban Planning Initiatives and the Zoning System in Busan

Zoning regulations define distinct zones within a city, each with its own set of permitted land uses, building heights, densities, and design guidelines. By establishing these zoning boundaries, cities seek to control and

manage the distribution of various residential, commercial, industrial, and recreational activities to promote efficient land use and minimize conflicts between different land uses.

In Busan, residential, commercial, industrial, and coastal zones are key components of the city's zoning practices. The objective of residential zoning is to provide suitable housing options for various income groups and to create balanced communities. The purpose of commercial zoning is to stimulate business growth and prevent commercial encroachment on residential neighborhoods by concentrating commercial activities in specific areas. Industrial zoning strategically designates areas for industrial activities to promote economic development and minimize conflicts with residential areas. Coastal zoning in Busan is divided into conservation, development-restricted, and development-promoted areas along the waterfront (Min *et al.*, 2002). These zoning practices contribute to the city's economic growth, livability, and the overall development of Busan.

While the current zoning system in Busan mostly permits single use and density in predetermined zones, resulting in uniform and strict land-use patterns (Gallent and Kim, 2001), there is scope for exploring innovative approaches to land-use planning. The Urban Management Plan is the primary zoning plan in Busan, which imposes legally binding restrictions on land use for specific purposes. Busan's land-use planning has been formulated based on patterns of urban growth, development, transportation, preservation, and population projections.

4.3 Limitations and Challenges of Current Zoning Practices in Busan

In recent years, Busan has faced demographic and economic challenges due to depopulation, aging, and a resulting decline in demand for urban development (OECD iLibrary). Due to its geography, Busan suffers from a limited supply of newly developed land. Development restriction green zones cover approximately 28% of Busan's total land area, and already planned master plans further limit the prospects for new developments. More than ever, cities need to look at creative solutions to meet the population's need for regeneration and revitalization of existing areas, rather than continuing to expand and develop new areas.

There are several challenges associated with zoning practices in Busan. Outdated regulations and inflexibility can hinder urban revitalization and limit a city's ability to adapt to changing needs. Lack of public participation in the zoning process creates a disconnect between community desires and zoning outcomes. Unequal distribution of resources can perpetuate social and spatial inequalities. Inadequate enforcement undermines the integrity of the zoning system and leads to unplanned development. Conflicts and overlapping jurisdictions complicate the zoning process, and sustainability and environmental concerns must be prioritized. Overcoming these challenges is crucial for developing effective and equitable zoning practices in Busan.

5. Learning from Case Studies about Innovative Zoning Mechanisms

In recent years, there has been a growing awareness of the importance of preserving historic structures and ecosystems while promoting sustainability in urban planning and zoning regulations. The following analysis focuses on case studies of cities that have succeeded in balancing these objectives in ways that could be applicable to Busan, Korea.

5.1 Case Study 1. The Highline and New York City's Transferable Development Rights

The High Line in New York City is a 2.4-kilometer linear elevated railway park widely recognized as the embodiment of Landscape Urbanism. The transformation of the High Line in New York City was made possible by significant zoning changes. In 2005, the city established the West Chelsea/High Line Special District to provide a regulatory framework and guidelines for the development and preservation of the area surrounding the derelict-elevated railways. Prior to the rezoning, most of the area was designated as a light-manufacturing district.

To allow a mix of diverse uses in the area while preserving the city's prominent art gallery district and developing new and affordable housing in the neighborhood, the Department of City Planning established a special development corridor and progressive land use and specific design regulations that enabled the realization of the visionary project, creating a unique urban green space, and helped to revitalize the surrounding neighborhoods. Since its opening in 2009, the High Line has evolved into a bustling hub that hosts more than 450 programs and activities, and attracting more than 20 million visitors. Notably, nearly 50 percent of these visitors have been New York City residents, highlighting the strong local appeal and appreciation for this innovative urban park.

One of the key components that made the project possible was a zoning mechanism called Transferable Development Rights (TDR). TDR, whose origins date back to the 1960s, was developed to address issues revolving around land use, density, preservation, and transfer of development rights. It aims to unlock additional floor areas, generate revenue for the community, and achieve other planning goals. While some of these initiatives have proven successful as in the case of the Highline, others have faced challenges.

Because of the inherent incentives focused on development, the system allows prioritization of economic interests and development potential over the quality of the built environment. Specifically, the system can generate what is known as a "constituency effect" which leverages the power positions of developers to establish supportive coalitions in favor of growth by implementing new laws that mobilizes pro-growth constituencies, often overshadowing the need for thoughtful urban design and integration into the existing urban fabric (Hills and Schleicher, 2020). Midtown Manhattan has been a focal point of concern, because it has allowed developers to concentrate their rights in certain locations, leading to a disproportionate concentration of high-rise buildings in limited areas that has resulted in a disjointed skyline that lacks coherence and visual harmony.

Another criticism is the lack of public participation and transparency in the process. The transfer of development rights often takes place behind closed doors with limited input from community stakeholders and the public. This has raised concerns regarding the decision-making process and the possibility of undue influence by developers and powerful interest groups.

5.2 Case Study 2. Singapore and the Green Plot Ratio

Singapore, a densely populated city-state, has managed to balance urban development with the preservation of its natural landscape and ecosystem by incorporating extensive greenery into its urban planning. A key urban planning mechanism that has allowed the creation of Singapore's urban greenery is the Green Plot Ratio (GPR), an innovative metric used to promote and measure the incorporation of greenery in development. GPR is a planning guideline that aims to improve the overall green coverage and environmental sustainability of buildings. It considers the total area of greenery, including landscaping, rooftop gardens, vertical greenery, and other forms of vegetated spaces, in proportion to the total site area (Pomeroy, 2012). Specifically, the GPR is based on the scientific concept of leaf area index (LAI), which measures the total area of leaf per unit of ground area. The resulting GPR represents the average LAI of vegetation on the site, and the specific ratio varies depending on the type of vegetation present.

Developers are encouraged to achieve higher GPR values by incorporating various green features into their projects. These features include sky gardens, green walls, rooftop landscapes, and vertical greenery. By increasing GPR, developers are helping to create a more sustainable and environmentally friendly urban environment.

GPR is an important component of Singapore's urban planning and sustainability efforts. This is consistent with the city-state's vision of a "City in a Garden where green spaces are seamlessly integrated into the urban fabric. It also helps ensure green elements are prioritized in new developments and contribute to the overall greenery and livability of the city. By implementing the Green Plot Ratio, Singapore has achieved a high level of green coverage in its urban areas, increased biodiversity, improved air quality, mitigated the effects of heat islands, and provided residents with access to natural and recreational spaces. GPR plays a vital role in maintaining Singapore's reputation as a green and sustainable city.

Numerous innovative applications of the Green Plot Ratio exist in the city, most notably the Gardens by the Bay, Punggol Eco-Town, and numerous residential to commercial complexes. Gardens by the Bay is a world-renowned horticultural attraction that feature the iconic Supertree Grove and a series of vertical gardens that act as environmental engines preserving local plant species. The Punggol Eco-town is yet another pioneering example of a new town planning that fully embraces the Green Plot Ratio (GPR) principle through the use of green corridors, rooftop gardens, recreational and ecological water bodies, and transportation infrastructure.

5.3 Case Study 3. The Al-Balad District and Form-based Zoning Code

The Al-Balad district, also known as the historic center of Jeddah, Saudi Arabia, has a unique and significant zoning strategy that seeks to preserve its cultural heritage and architectural character. The zoning regulations implemented in the district are intended to preserve the traditional urban fabric and protect historic buildings while promoting sustainable development and tourism.

A novel approach to preserving the cultural heritage of the Al-Balad District is the introduction of form-based codes, which serve as legislative tools to regulate the relationships between buildings and spaces in the urban environment. Since their introduction by the pioneers of new urbanism in the United States in 1987, form-based codes have been applied to diverse projects globally, ranging from individual buildings to entire communities. All form-based codes include at least five basic elements: a regulatory plan, public space standards, building form standards, administration, and definitions. Other standards include architectural standards, landscaping standards, signage standards, environmental resource standards, and annotations (Badawi and Elborombaly, 2015).

The zoning regulations in the Al-Balad district prioritize the preservation of historic buildings in the area that date back centuries. These regulations restrict the height and scale of new construction, and ensure that the skyline and streetscape retain their traditional characteristics (Jeddah Municipality, 2014). Al-Balad district enforces zoning that encourages adaptive reuse and restoration of historic buildings. Old buildings are transformed into museums, galleries, shops, restaurants, and cultural centers, to promote economic growth and creating a vibrant atmosphere that celebrates the district's heritage.

Zoning regulations also prioritize pedestrian-friendly streets and public spaces. Narrow alleyways and traditional souks (markets) are preserved, to provide visitors a unique and immersive experience. The emphasis on walkability and the absence of vehicular traffic in certain areas creates a safe and enjoyable environment for pedestrians to explore the district's rich history and vibrant street life (Hegazy *et al.*, 2021). By encouraging adaptive reuse, limiting new construction, and prioritizing pedestrian-friendly streets, the zoning approach supports sustainable development and tourism while preserving the historic authenticity of the district. However, challenges, such as managing growth pressures and ensuring building preservation, remain important considerations for authorities seeking to protect and enhance this important historic district.

5.4 Case Study 4. Barcelona

Barcelona is widely acknowledged as a leader in environmental justice and sustainability. The Barcelona Lab for Urban Environmental Justice and Sustainability has developed several programs to promote climate change adaptation and sustainable urban development. One of these projects is the re-urbanization of the seafont "Área de las Térmicas del Besos," which focuses on transforming an industrial area into a vibrant urban space, integrating environmental, social, and economic aspects (Usón Guardiola *et al.*, 2016). Another innovative experiment in Barcelona is the application of eco-design methodology on an urban scale in the neighborhood of Vallbona. This approach involves the strategic planning of green spaces, development of pedestrian-friendly streets, and incorporation of energy-efficient technologies, among other measures, to create a more sustainable and livable community. The successful implementation of this methodology in Vallbona has demonstrated the viability of eco-design as a model for sustainable urban development in other cities.

Several studies have taken a new approach to sustainability in Barcelona, highlighting the different urban fabrics that promote environmentally friendly development, including green roofs, urban gardens, and bicycle lanes (Farreny *et al.*, 2011). These initiatives contribute to the city's overall strategy of promoting sustainable urban development and preserving its historic fabric.

6. Conclusion

In conclusion, a comprehensive analysis of various urban planning and sustainable development case studies in Busan, Korea, highlights the potential benefits of using similar approaches to preserve the city's historic fabric and natural landscape. By strategically re-zoning existing city infrastructure and implementing creative solutions for historic building preservation and sustainable development, Busan can draw inspiration from successful examples of fiscal instruments and zoning mechanisms that promote sustainable growth while protecting its natural and historic heritage.

The examined urban regeneration cases, such as Gamcheon Village, Gukje Market, Bosu-dong Book Street, and Eco Delta City, provide valuable insights into the potential of adaptive reuse, cultural preservation, and green infrastructure to revitalize neighborhoods and promote tourism, creating a seamless blend of past and future.

To meet the upcoming challenges of depopulation, limited developable land, and changing social and environmental needs, Busan's zoning practices in Busan must evolve toward flexibility, transparency, and

inclusivity. Embracing innovative zoning mechanisms and actively involving the public in the decision-making process will pave the way for a more equitable distribution of resources and empower local communities to shape the city's sustainable and resilient future. By taking a holistic approach to urban planning and zoning, Busan can ensure that its unique heritage thrives while becoming a model for greener, more resilient, and socially inclusive urban development.

Declarations

Acknowledgments: The author would like to thank the Blair Academy, USA for the encouragement and support.

Author Contribution: The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Conflict of Interest: The author declares no conflict of interest.

Consent to Publish: The author agrees to publish the paper in International Journal of Recent Innovations in Academic Research.

Data Availability Statement: Not applicable.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Research Content: The research content of manuscript is original and has not been published elsewhere.

References

1. A Survey of Transferable Development Rights Mechanisms in New York City. 2015. <https://www.nyc.gov/assets/planning/download/pdf/plans-studies/transferable-development-rights/research.pdf>
2. Badawi, S. and Elborombaly, H.H. 2015. A Form Based Code for Historic Conservation In Jeddah K.S.A "Case study Khouzam Palace Area". 13th International Operations and Maintenance Conference. 17-19 November 2015, Intercontinental citystars Hotel, Cairo, Egypt.
3. Busan Metropolitan City Ordinance on the Conservation of the Natural Environment. 2019. Amended by Ordinance No. 5930, May 29, 2019. <https://www.busan.go.kr/eng/bsordinan/1305276>
4. Center for Liveable Cities Singapore. 2021. Punggol: From Farmland to Smart Eco-town, <https://www.clc.gov.sg/docs/default-source/urban-systems-studies/uss-punggol.pdf>
5. Cho, Y.H and Hatsuda, T. 2005. The City Extension and the Development of Busan Seen from the Distribution of the City Facilities, Commerce and Industry from the 1870s to the 1910s: A Study on the Development of Urban districts of Busan, Korea in the Modern Age Part 1. *Journal of Architecture and Planning (Transactions of AIJ)*, 70: 251-258.
6. Farreny, R., Oliver-Solà, J., Montlleó, M., Escibà, E., Gabarrell, X. and Rieradevall, J. 2011. Transition towards sustainable cities: opportunities, constraints, and strategies in planning. A neighbourhood ecodesign case study in Barcelona. *Environment and Planning A*, 43(5): 1118-1134.
7. Gallent, N. and Kim, K.S. 2001. Land zoning and local discretion in the Korean planning system. *Land Use Policy*, 18(3): 233-243.
8. Gamcheon Village Project. <https://obs.agenda21culture.net/en/good-practices/gamcheon-culture-village-project>.
9. Gukje Market website. <http://engm.gukjemarket.co.kr/em-history/History>
10. Han, D. and Kim, J.H. 2022. Multiple Smart Cities: The Case of the Eco Delta City in South Korea. *Sustainability*, 14(10): 6243.
11. Hegazy, I., Helmi, M., Qurnfulah, E., Naji, A. and Samir Ibrahim, H. 2021. Assessment of urban growth of Jeddah: towards a liveable urban management. *International Journal of Low-Carbon Technologies*, 16(3): 1008-1017.
12. Hills Jr, R.M. and Schleicher, D. 2020. Building Coalitions Out of Thin Air: Transferable Development Rights and "Constituency Effects" in Land Use Law. *Journal of Legal Analysis*, 12: 79-135.
13. Jeddah Municipality, Guidelines for the Building Regulation of Historic Jeddah: The Gate to Makkah, 2014. <https://whc.unesco.org/document/167415>

14. Kim, D. and Kang, J.E. 2018. Integrating climate change adaptation into community planning using a participatory process: The case of Saebat Maeul community in Busan, Korea. *Environment and Planning B: Urban Analytics and City Science*, 45(4): 669-690.
15. Kim, J.C. 2017. Pusan at war: Refuge, relief, and resettlement in the temporary capital, 1950-1953. *The Journal of American-East Asian Relations*, 24(2-3): 103-127.
16. Kim, N.R. and Hong, S.G. 2017. Case Study of the Actual Application of a Regional Innovation Model Focusing on Gamcheon Culture Village. *International Journal of u- and e- Service, Science and Technology*, 10: 83-90.
17. Min, B.H., Lee, H.S., Lee, J.H. and Kang, D.S. 2002. The Study on the Direction of Development Waterfront for Busan Costal Zone. *Journal of the Korean Society of Civil Engineers*, 22, 2002.
18. Pomeroy, J. 2012. Greening the Urban Habitat: Singapore, *CTBUH Journal*, 2012(1): 30-35.
19. Seo, J.K., Cho, M. and Skelton, T. 2015. Dynamic Busan: Envisioning a global hub city in Korea. *Cities*, 46: 26-34.
20. South Korea: Busan Green u-City-Smart City Builds on Clouds Services Delivered by Public-Private-Partnership. https://www.gsma.com/iot/wp-content/uploads/2012/08/cl_busan_08_121.pdf
21. The Governance of Land Use in Korea: Urban Regeneration, OECD iLibrary. <https://www.oecd-ilibrary.org/sites/ded0e64c-en/index.html?itemId=/content/component/ded0e64c-en>
22. Usón Guardiola, E., Vives Rego, J. and Uson Maimo, D. 2016. Case study of urban property development along the Barcelona seafront employing sustainable strategies. In *Conference Proceedings of the 4th Annual International Conference on Architecture and Civil Engineering* (pp. 359-366). Global Science and Technology Forum.
23. Yang, J., Seo, D., Lim, H. and Choi, C. 2010. An analysis of coastal topography and land cover changes at Haeundae Beach, South Korea. *Acta Astronautica*, 67(9-10): 1280-1288.

Citation: Joon Park. 2023. Preserving Busan's Unique Heritage: Exploring Urban Planning and Zoning Mechanisms for a Greener, More Resilient Future. *International Journal of Recent Innovations in Academic Research*, 7(10): 27-35.

Copyright: ©2023 Joon Park. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.