

Unveiling Contemporary and Thrilling Waterfront Design Principles through Theoretical and Case-Based Investigations

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Abstract

This study delves into contemporary waterfront architecture, with a strong emphasis on sustainability, community engagement, and economic revitalization. By seamlessly blending historic preservation with innovative design, it champions cultural authenticity. Environmental stewardship plays a pivotal role in achieving sustainable development. The research meticulously examines award-winning waterfronts in cities spanning continents, considering diverse categories such as historical sites and commercial activities. Six notable waterfronts underwent rigorous analysis: Vancouver Waterfront Park (USA), Albarrada Waterfront (Mompox, Colombia), Belgrade Waterfront (Serbia), Victoria & Alfred Waterfront (South Africa), Udaipur Waterfront (India), Waterfront Tavern (Australia). This comprehensive study contributes significantly to our understanding of urban planning and architecture, providing practical recommendations for ambitious waterfront projects. It also underscores the economic, cultural, and environmental benefits inherent in these transformative endeavors.

Keywords: Waterfront, waterfront design theories, contemporary waterfronts, thrilling waterfronts.

Teorik ve Vaka Bazlı Araştırmalar Yoluyla Çağdaş ve Heyecan Verici Sahil Tasarım İlkelerini Ortaya Çıkarmak

Öz

Bu çalışma, sürdürülebilirlik, toplum katılımı ve ekonomik canlandırma konularına güçlü bir vurgu yaparak çağdaş sahil mimarisini detaylıca incelemektedir. Tarihi çevreyi yenilikçi tasarımla harmanlamada kültürel özgünlüğün korunmasının önemi vurgulanmaktadır. Bu çalışma ile ayrıca sürdürülebilir kalkınmanın sağlanmasında çevre yönetiminin önemli rolü belirtilmektedir. Araştırmada, farklı kıtalarda bulunan şehirlerdeki ödüllü kıyıların seçilmesinde tarihi yerler ve ticari faaliyetler gibi farklı kategoriler göz önünde bulundurulmuştur. Altı önemli kıyı bölgesi analize tabi tutulmuştur: Vancouver Waterfront Park (ABD), Albarrada Waterfront (Mompox, Kolombiya), Belgrade Waterfront (Sırbistan), Victoria & Alfred Waterfront (Güney Afrika), Udaipur Waterfront (Hindistan), Waterfront Tavern (Avustralya). Bu kapsamlı çalışma, iddialı kıyı projeleri için pratik öneriler sunmakta olup kentsel planlama ve mimari anlayışımıza katkıda bulunacak öneriler sağlamaktadır. Aynı zamanda bu dönüştürme çabalarının doğasında olan ekonomik, kültürel ve çevresel faydaların da altı çizilmektedir.

Anahtar kelimeler: Kıyı, kıyı tasarım teorileri, çağdaş kıyılar, heyecan verici kıyılar.

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1. Introduction

This study delves into the dynamic field of contemporary waterfront design theories. Waterfronts, serving as vital interfaces between land and water (Üzümçüoğlu & Polay, 2022a), hold immense potential for urban development (Jun, 2023), cultural enrichment (Fernandes et al., 2017), and economic growth (Situmorang et al., 2023). As these spaces undergo transformative changes, there is a growing need to comprehensively understand and evaluate the principles guiding their design and development.

A thorough examination of existing literature forms the foundation of this study. Contemporary waterfront design theories (Üzümçüoğlu & Polay, 2022a; Cialdea & Pompei, 2022; Garcia, 2021), encompassing sustainability (Abd El-Tawab et al., 2020; Girard, 2013; Zaki & Hegazy, 2023), community engagement (Dova et al., 2022; Green, 2023; Zakirzianova, 2021), mixed-use development (Latip et al., 2012; Sealey et al., 2021), cultural preservation (Fernandes et al., 2017; Gunay & Dokmeci, 2012; Tian & Yang, 2020), and innovation (Cialdea & Pompei, 2022; Xie, 2023; Üzümçüoğlu & Polay, 2022b), have been explored in academic and professional discourse. This literature review establishes a theoretical framework to guide our investigation.

Despite the wealth of literature, specific gaps persist in our understanding of how these theoretical principles manifest in real-world waterfront projects. Specifically, there is a need for a comprehensive analysis that integrates theoretical foundations with practical applications, considering diverse waterfront types and geographical contexts.

This article is structured first to establish the theoretical foundations, followed by a rigorous analysis of case studies (Table 1). The purpose of this research is to bridge the gap between theory and practice in contemporary waterfront design. The method of case selection involved a systematic approach, focusing on award-winning waterfronts across continents, aiming for diversity in historical, commercial, and recreational contexts. Preliminary results suggest a convergence between theoretical principles and real-world applications, emphasizing sustainability, community-centric approaches, and cultural preservation.

In contributing to the field, this study strives to offer practical insights for architects, urban designers, policymakers, and researchers involved in waterfront development. By addressing existing gaps and synthesizing theoretical and practical perspectives, the authors aim to enrich the discourse on contemporary waterfront design. This research endeavors to inspire transformative approaches and contribute to the sustainable and culturally vibrant development of waterfront spaces.

Table 1. Analytical framework of the study (Authors)



1.1. The Foundational Principles and Philosophies of Contemporary Waterfront Design Theories

A set of core ideas and philosophies in contemporary waterfront design theories guides the design and building of waterfront areas. The ideas above are indicative of the changing focal points within the fields of urban planning, architecture, and environmental sustainability. Fundamental principles and ideologies inform contemporary waterfront design theories (Figure 1).

Sustainability is widely recognized as a fundamental component of contemporary waterfront design. The concept encompasses the principles of ecological, social, and economic sustainability (Cialdea & Pompei, 2022; Girard, 2013; Hall & Stern, 2014; Hoyle, 1999; Jun, 2023; Shah & Roy, 2017; Üzümcüoğlu & Polay, 2022a). Waterfront initiatives strive to mitigate environmental consequences, diminish carbon footprints, and integrate sustainable materials and methodologies (Chon et al., 2014). This philosophical perspective greatly emphasizes the long-term preservation of environmental well-being and adaptability (Jun, 2023). Moreover, Resilience has emerged as a prominent focus in contemporary waterfront architecture as a direct response to the multifaceted problems of climate change (Theodora & Spanogianni, 2022; Aerts & Wouter Botzen, 2011; Niedziółka et al., 2021; Garcia, 2021; Zakirzianova, 2021). It encompasses several techniques to mitigate the impacts of escalating sea levels, flooding, and extreme weather events. Resilient waterfronts are purposefully engineered to endure and adjust to fluctuating environmental circumstances. Besides, waterfront areas are perceived as public, with contemporary philosophies prioritizing community interaction (Üzümcüoğlu & Polay, 2022a; Hoyle, 1999; Zaki & Hegazy, 2023; Xie, 2023; Green, 2023; Cihan Yavuzcan & Gür, 2023). Incorporating local citizens and stakeholders in the planning process ensures that waterfronts align with the community's needs and wishes. The objective is establishing inclusive and accessible environments that cultivate a sense of belonging. Also, mixed-use development has become increasingly popular in current waterfront developments, as it integrates many functions such as residential, commercial, cultural, and recreational spaces (Üzümcüoğlu & Polay, 2022a). This technique facilitates the development of active, dynamic communities around the clock, diminishing reliance on automobile-centric lifestyles.

Furthermore, incorporating natural features into the constructed environment is crucial in contemporary waterfront design (Guo, 2023; Jeon & Jo, 2023; Karmanov & Hamel, 2008). It may encompass the rehabilitation of wetlands, the establishment of recreational areas, and the conservation of indigenous ecosystems. The objective is to establish a harmonious integration between the urban environment and the natural world. Besides, Waterfront areas frequently possess historical and cultural importance for cultural preservation (Fernandes et al., 2017; Gunay & Dokmeci, 2012; Osman & Farahat, 2018; Üzümcüoğlu & Polay, 2022a). The primary objective of contemporary design ideas is to safeguard and commemorate cultural history while incorporating contemporary conveniences and practicality. Preserving cultural heritage has a significant role in fostering a sense of place and maintaining authenticity. Also, promoting creative architectural and design concepts is a crucial aspect of contemporary waterfront design (Long & Cui, 2020; Tian & Yang, 2020; Zhao, 2020; White, 2016). It may entail utilizing advanced materials, distinctive aesthetic methodologies, and innovative technology applications. Promoting innovation contributes to the development of aesthetically appealing and utilitarian waterfront areas (Xie, 2023; Üzümcüoğlu & Polay, 2022b). In addition, the economic viability of waterfront developments is anticipated to be both sustainable and financially feasible (Brückner et al., 2022; Hein, 2016; Situmorang et al., 2023). The generation of economic advantages for the community should encompass various aspects, including but not limited to augmented property values, money from tourists, and the provision of employment opportunities. Economic feasibility assessment holds significant importance in the decision-making process of urban planners and developers. Aside from that, environmental stewardship is a core principle underpinning the waterfront design idea, emphasizing the need to conserve the natural environment (Chon et al., 2014; Doka et al., 2022; Bonney et al., 2023). Various strategies, including sustainable stormwater management, erosion control, and responsible land use, are implemented to safeguard and improve the ecological integrity of coastal areas (Liu & Meng, 2023). Likewise, waterfront places' availability can influence physical and mental well-being, thereby contributing to public health (Roe et al., 2019; Yocom et al., 2016; Knöll, 2023). Design theories frequently emphasize elements such as waterfront promenades, green areas, and recreational amenities that promote an active and health-conscious way of life.

A set of fundamental principles and ideologies influence the present-day theories of waterfront design. The approach above to urban planning and development is characterized by its holistic nature, as it places significant emphasis on the harmonious cohabitation of human activities with the natural environment, cultural heritage, and the overall well-being of communities.

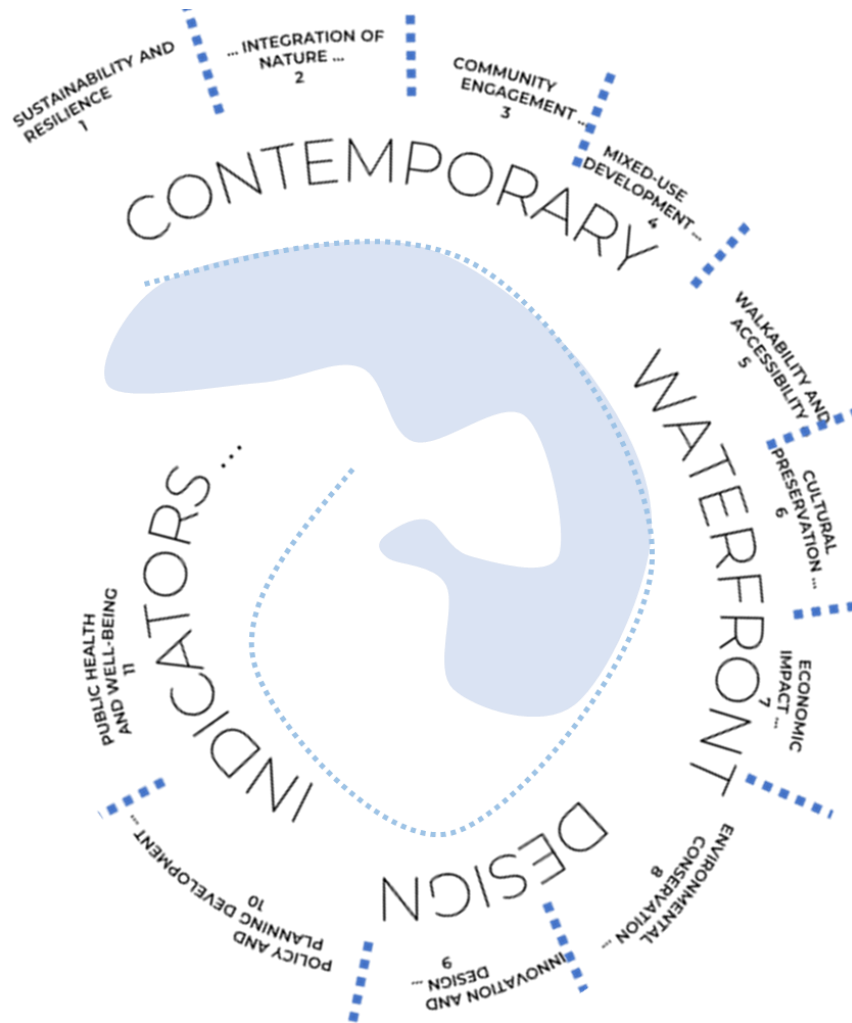


Figure 1. Contemporary waterfront design indicators (Authors)

1.2. The Basic Tenets and Approaches that Form the Basis of Thrilling Waterfront Designs

The foundation of fascinating, lively, and memorable waterfront places lies in the principles and methodologies underpinning thrilling waterfront designs. These principles guide the planning and execution of waterfront projects, enhancing their appeal and impact. The following are the foundational principles and methodologies that form the basis of captivating waterfront designs:

Thrilling waterfronts typically refer to shore with exciting and captivating features, making them appealing to visitors, residents, and tourists alike. These features can vary widely depending on the location and development of the waterfront area. Some standard features of thrilling shores are related to scenic beauty (Yang, 2014; Hu et al., 2023; Sun et al., 2021; Tan & Peng, 2020). Thrilling waterfronts often boast breathtaking natural scenery, including picturesque shorelines, stunning sunsets, and panoramic ocean views. These aesthetic qualities draw visitors seeking a visually pleasing environment. Besides, waterfront areas provide a wide range of recreational activities, such as swimming, surfing, kayaking, paddleboarding, snorkeling, and beach combing. Thrilling shores offer ample opportunities for water sports and outdoor adventures (Kostopoulou, 2013; Üzümcüoğlu & Polay, 2022a). Also, waterfront ecosystems are often rich in biodiversity (Chen & Ma, 2023; Yasin et al., 2023). Thrilling waterfronts may be home to diverse marine life, including dolphins, whales, and colorful coral reefs. Birdwatching and wildlife observation are also popular activities in these areas.

Some thrilling waterfronts have cultural or historical significance, featuring landmarks, museums, or archaeological sites that tell the story of the region's past. These attractions provide educational and cultural enrichment (Üzümcüoğlu & Polay, 2022a; Üzümcüoğlu & Polay, 2022b; Fernandes et al., 2017; Xie, 2023). In addition, waterfront cities and towns along thrilling shores frequently offer a vibrant culinary scene with seafood restaurants, beachside cafes, and bars. Live music, festivals, and cultural

events enhance the entertainment options (Üzümcüoğlu & Polay, 2022c). Apart from this, waterfront areas often have boutique shops, art galleries, and craft markets showcasing local artisans' work. Visitors can find unique souvenirs and artwork that reflect the local culture (Kostopoulou, 2013). Besides, waterfront regions may have hiking trails, nature reserves, or marine sanctuaries that invite exploration. Visitors can embark on hikes, scuba diving expeditions, or guided eco-tours to discover the area's natural wonders (Abd El-Tawab et al., 2020). Aside from this, thrilling waterfronts often feature high-end resorts, beachfront villas, and boutique hotels that provide luxury accommodations and amenities for travelers seeking an indulgent getaway. Also, various waterfront communities host annual festivals and events celebrating local culture, seafood, or maritime traditions (Dova et al., 2022; Pizzichini et al., 2022; Guerreiro et al., 2019; Riyanto & Sari, 2023). These gatherings offer a glimpse into the local way of life. In addition, waterfront areas can be ideal for relaxation and wellness activities, including beachfront yoga sessions, spa treatments, and meditation retreats (Lee & Han, 2020). The soothing sound of ocean waves adds to the overall sense of tranquility. Thrilling waterfronts may also prioritize environmental conservation and sustainable practices to protect the area's natural beauty (Smith, 2023). It can include efforts to reduce pollution, protect wildlife habitats, and promote eco-friendly tourism. Besides, sunbathing, building sandcastles, and simply lounging on the beach are classic activities on thrilling waterfronts. The combination of sun and sea creates a laid-back atmosphere. In addition, some waterfront areas offer thrilling activities like parasailing, jet skiing, and zip-lining, providing an adrenaline rush for adventure enthusiasts (Constantin et al., 2022).

It is important to note that what makes a waterfront area thrilling can vary from person to person. Some may be drawn to the natural beauty and tranquility, while others seek adventure and entertainment. Thrilling waterfronts typically aim to provide diverse experiences to cater to different interests and preferences.

In the course of the theoretical inquiry conducted thus far in this study, it has been explicated that there exist eleven primary principles about contemporary conceptions of waterfront architecture (Figure 1). However, numerous indicators can also be incorporated into these principles to enhance the appeal of shore areas. Figure 2 illustrates the integration of the thirteen highlighted indicators of the thrilling waterfront idea with relevant principles. For instance, the second principle can be combined with features A and C, while the third principle can be mixed with features G and I (Figure 2).

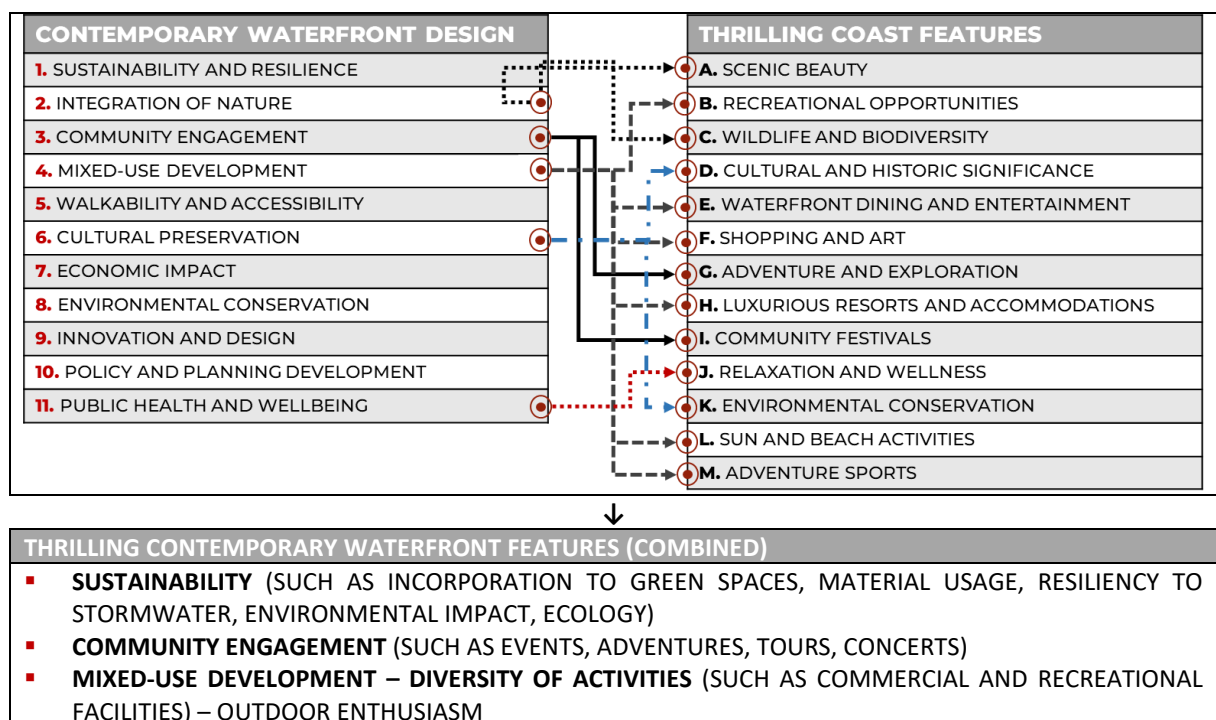


Figure 2. Indicators of the contemporary waterfront design through the prism of thrilling waterfront features (Authors)

- **RESPECT TO AND PROMOTION OF CULTURAL HERITAGE** (ACKNOWLEDGING THE REGIONS HISTORY) – INCREASING AWARENESS BY USING PUBLIC ART
- **CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN**
- **PROMOTION AND PROTECTION OF SCENIC BEAUTY** – BREATHTAKING VISTAS
- **PUBLIC HEALTH AND WELL-BEING** (SUN AND BEACH ACTIVITIES)
- **ACCESSIBILITY** (SUCH AS APPROPRIATE WALKING PATHS, GREEN SPACES, CYCLING, INCLUSIVE URBAN DESIGNING)
- **ECONOMIC CONTRIBUTION** (LUXURIOUS RESORTS AND ACCOMODATIONS, INVESTMENT, INCREASED TOURIST ATTRACTION)

Figure 2. Indicators of the contemporary waterfront design through the prism of thrilling waterfront features (Authors) (continued)

2. Material and Method

The following methodology was employed to ensure a systematic approach to the study.

1. Selection of Case Studies:
 - Purpose: To represent a diverse range of prominent waterfront projects globally.
 - Criteria: Receipt of prestigious awards for excellence in waterfront design.
 - Limitation: Focused on cities situated on waterfronts across various continents to achieve a controllable sample size and representativeness.
2. Comprehensive Documentary Analysis:
 - Purpose: To gather in-depth information about each selected case study. The cases were evaluated according to the thrilling contemporary waterfront design principles, which were founded through a literature review and combined in Figure 2.
 - Method: Conducted a comprehensive analysis involving the collection of project documentation, architectural plans, historical information, and available reports.
 - Scope: Encompassed the design, development, and post-implementation phases of the waterfront projects.
3. Qualitative Analyses:
 - Purpose: To derive meaningful insights from the collected data for each case study.
 - Method: Applied qualitative analyses to interpret findings and understand the nuances of each project.
4. Synthesis of Qualitative Findings:
 - Purpose: To create a comprehensive narrative for each case study.
 - Method: Synthesized qualitative findings to highlight key success factors, challenges, and policy approaches aligned with contemporary waterfront design theories.
5. Discussion of Synthesized Findings:
 - Purpose: To discuss and contextualize the synthesized findings in relation to contemporary waterfront design theories.
 - Emphasis: Explored how the selected projects embodied and manifested these theories in real-world settings.
6. Acknowledgment of Methodological Limitations:
 - Purpose: To address the limitations inherent in the chosen research methodology.
 - Limitations: The limited sample size was acknowledged due to selection criteria and geographic focus. Recognized potential omissions of significant projects. Highlighted varying data availability among case studies.
7. Evaluation of Methodological Rigor:
 - Purpose: To assess the reliability and validity of the research methodology.
 - Strengths: Emphasized the systematic approach in choosing, collecting data on, and examining a wide range of esteemed waterfront projects. Highlighted the significance of the knowledge gained regarding current theories and practical implementations in waterfront architecture.

This systematic order outlines the steps taken in the study, from the selection of case studies to the acknowledgment of limitations and evaluation of methodological rigor.

3. Findings and Discussion

3.1. Findings

Prestigious waterfront projects exemplify contemporary theories of waterfront design, effectively turning theoretical concepts into captivating and functional real-world environments. A collection of case studies is presented within this area, each carefully chosen based on its typical approaches and global acclaim.

The selection of examples was mainly based on their practice approaches. Initially, the waterfronts that had received pertinent awards were chosen. A limitation has been implemented to ensure a manageable sample size due to abundant waterfront areas. Therefore, as a criterion for selection, the cities should be located on waterfronts across several continents. Furthermore, different categories of waterfront tried to be chosen, including those of historical significance, those for commercial and recreational purposes, and those dedicated to retail and manufacturing activities. Therefore, six waterfront locations from various countries were chosen for investigation based on the imposed limits. The waterfront locations mentioned include Vancouver Waterfront Park in the United States, Albarrada Waterfront in Mompox, Colombia, Belgrade Waterfront in Serbia, Victoria & Alfred Waterfront in South Africa, Udaipur Waterfront in India, and Waterfront Tavern in Australia (Figure 3).



Figure 3. Location of the chosen cases (Authors)

3.1.1. Case 1. Vancouver Waterfront Park in the United States

The evaluation of the Vancouver Waterfront Park in the United States (Table 2) according to the principles of contemporary waterfront design theories and thrilling coast features:

Table 2. Information on Vancouver Waterfront Park in the United States


	
Name Of the Waterfront	Vancouver Waterfront Park in the United States
Award	Award Of Excellence from the International Lighting Design Awards
Scale	28,328sqm
THRILLING CONTEMPORARY WATERFRONT FEATURES	EVALUATION OF THE CASE AREA
<ol style="list-style-type: none"> 1. USTAINABILITY 2. COMMUNITY ENGAGEMENT 3. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES 4. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE 5. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN 6. PROMOTION AND PROTECTION OF SCENIC BEAUTY 	<ol style="list-style-type: none"> 1. According to contemporary waterfront design principles, Vancouver Waterfront Park is committed to sustainability through its environmentally friendly design. It incorporates green spaces, sustainable materials, and stormwater management systems that reduce environmental impact. The park's ecological sensitivity aligns with contemporary sustainability principles (City of Vancouver, Parks Department, n.d.). 2. Besides, the park prioritizes community engagement. It hosts events, provides gathering spaces, and features amenities that cater to residents and visitors alike (The Waterfront Vancouver, USA, 2023). 3. The waterfront park is designed to meet the community's recreational and cultural needs. Also, Vancouver Waterfront Park embraces mixed-use development by incorporating commercial and recreational spaces. It encourages diverse activities like dining, shopping, and outdoor recreation, creating a dynamic and economically viable waterfront. In addition, the park integrates nature into its design with waterfront trails, green spaces, and public art installations. These elements celebrate the natural beauty of the Columbia River, connecting urban life with the environment (Visit Vancouver WA, 2024). 4. Apart from this, while contemporary in its design, the park respects cultural heritage by incorporating elements that acknowledge the region's history. It features interpretive signage and public art that educates visitors about the area's indigenous peoples and pioneers (Landezine, 2021). 5. Also, Vancouver Waterfront Park showcases innovative design through waterfront architecture, and innovative landscaping. The cable-stayed Grant Street Pier, in particular, is a standout example of modern design (The Waterfront Vancouver, USA, n. d.). 6. According to thrilling coast features, the park capitalizes on the scenic beauty of the Columbia River, offering stunning views of the water and Mount Hood. Its carefully landscaped areas provide vantage points for enjoying these breathtaking vistas (The Waterfront Vancouver, USA, 2023).

Table 2. Information on Vancouver Waterfront Park in the United States (continued)

<p>7. PUBLIC HEALTH AND WELL-BEING</p> <p>8. ACCESSIBILITY</p> <p>9. ECONOMIC CONTRIBUTION</p>	<p>7. Apart from this, Vancouver Waterfront Park hosts a variety of entertainment and cultural activities, including summer concerts and festivals. These events add to the park's vibrancy and appeal. Likewise, the park's design incorporates sustainable features like permeable pavements, LED lighting, and native landscaping, contributing to environmental stewardship and resilience. Aside from that, the park's emphasis on walking paths, green spaces, and recreational amenities supports public health and well-being, providing a space for relaxation, exercise, and outdoor enjoyment (The Waterfront Vancouver, USA, 2023).</p> <p>8. Also, Vancouver Waterfront Park offers a wide range of recreational activities, from walking and biking along the waterfront trails to kayaking and paddleboarding in the river. These opportunities cater to outdoor enthusiasts, making it a thrilling coastal destination (Visit Vancouver WA, 2024).</p> <p>9. Besides, the park actively engages the community through events, concerts, and public art installations. Its amphitheater and open spaces provide venues for cultural and recreational events that draw residents and tourists alike. In addition, with its blend of retail, dining, and entertainment options, the park fosters a lively, mixed-use environment. Visitors can shop, dine, and enjoy cultural experiences while enjoying the waterfront scenery (The Waterfront Vancouver, USA, 2023; Landezine, 2021; Visit Vancouver WA, 2024).</p>
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In summary, Vancouver Waterfront Park successfully embodies the principles of contemporary waterfront design theories and features that make it a thrilling coastal destination. It balances sustainability, community engagement, mixed-use development, nature integration, cultural preservation, and innovative design while offering scenic beauty, diverse recreation, community events, and public health and well-being opportunities. This waterfront park serves as a model for creating vibrant and sustainable coastal spaces that enrich the lives of residents and visitors.

3.1.2. Case 2. Albarrada Waterfront in Mompox, Colombia

Evaluating the Albarrada Waterfront in Mompox, Colombia (Table 3) according to contemporary waterfront design principles and thrilling coast features:

Table 3. Information on Albarrada Waterfront in Mompox, Colombia

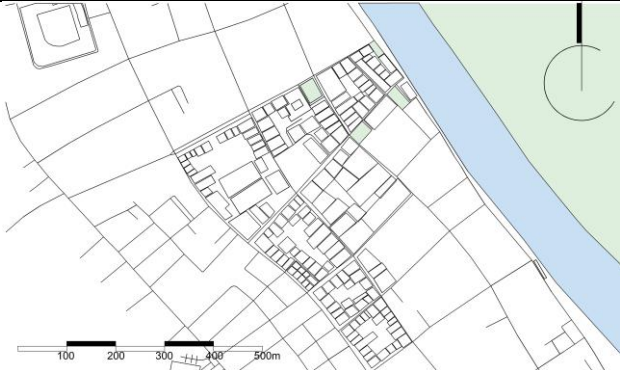
	
<p>Name Of the Waterfront</p> <p>Award</p> <p>Scale</p>	<p>Albarrada Waterfront in Mompox, Colombia</p> <p>In 2016, the Revitalization of Mompox was awarded the Colombian Biennale's top prize in landscape and urban architecture.</p> <p>180,000sqm</p>

Table 3. Information on Albarrada Waterfront in Mompox, Colombia (continued)

THRILLING CONTEMPORARY WATERFRONT FEATURES	EVALUATION OF THE CASE AREA
<ol style="list-style-type: none"> 1. SUSTAINABILITY 2. COMMUNITY ENGAGEMENT 3. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES 4. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE 5. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN 6. PROMOTION AND PROTECTION OF SCENIC BEAUTY 7. PUBLIC HEALTH AND WELL-BEING 8. ACCESSIBILITY 9. ECONOMIC CONTRIBUTION 	<ol style="list-style-type: none"> 1. According to contemporary waterfront design principles, The Albarrada Waterfront demonstrates sustainability by preserving the historical architecture of Mompox while integrating modern amenities. Sustainable materials and preservation techniques are employed to minimize the environmental impact of development (Landezine Media LLC, n. d.; Opus Studio, n.d.). 2. Besides, this waterfront project prioritizes community engagement. It offers spaces for social gatherings, events, and cultural activities, fostering a sense of belonging among residents and visitors (Landezine Media LLC, n. d.). 3. Also, while preserving historical structures, the Albarrada Waterfront encourages mixed-use development by incorporating cafes, galleries, and artisan shops. This blend of commercial and recreational spaces promotes economic viability. In addition, the waterfront embraces its natural surroundings along the Magdalena River. Green spaces, trees, and gardens complement the historical architecture, creating a harmonious connection between the urban and natural environments (Opus Studio, n.d.). 4. Apart from this, Albarrada Waterfront values cultural preservation, as evident in its commitment to preserving the historical architecture and heritage of Mompox. The waterfront celebrates the town's rich history through design elements and public spaces (Opus Studio, n.d.). 5. Although the project emphasizes historic preservation, it demonstrates creatively repurposing existing structures and enhancing accessibility for modern needs (Opus Studio, n.d.; Landezine Media LLC, n. d.). 6. According to thrilling coastal features, the waterfront's location along the Magdalena River offers stunning views and an idyllic atmosphere. The historic buildings and the river create a visually captivating scene (Opus Studio, n.d.; Landezine Media LLC, n. d.). 7. Apart from this, while focusing on preservation, the project incorporates environmentally friendly features such as green spaces and sustainable construction practices, aligning with environmental stewardship principles. Moreover, Albarrada Waterfront provides a serene environment for leisurely walks, relaxation, and social interaction, promoting public health and well-being (Opus Studio, n.d.; Landezine Media LLC, n. d.). 8. Also, visitors can engage in recreational activities such as riverside strolls, boat rides along the Magdalena River, and exploring historical landmarks. The waterfront provides a tranquil setting for relaxation and exploration (Landezine Media LLC, n. d.). 9. Besides, Albarrada Waterfront fosters community engagement through events, festivals, and cultural activities celebrating Mompox's traditions and heritage. These events draw residents and tourists alike. Likewise, including cafes, galleries, and artisan shops adds vibrancy to the waterfront. It creates opportunities for residents and visitors to dine, shop, and experience local culture. In addition, the waterfront hosts cultural events, festivals, and art exhibitions that enrich the cultural fabric of Mompox. These activities contribute to a dynamic and exciting atmosphere (Opus Studio, n.d.).

In summary, the Albarrada Waterfront in Mompox, Colombia, successfully integrates contemporary waterfront design principles while preserving the town's historical and cultural heritage. It offers scenic beauty, diverse recreational opportunities, community engagement, mixed-use development, cultural activities, and environmental sensitivity. It makes it a thrilling coastal destination that respects its past while embracing modernity, enriching the lives of both residents and visitors.

3.1.3. Case 3. Belgrade Waterfront in Serbia

Evaluating the Belgrade Waterfront in Serbia (Table 4) according to contemporary waterfront design principles and thrilling coast features:

Table 4. Information on Belgrade Waterfront in Serbia


	
Name Of the Waterfront	Belgrade Waterfront in Serbia
Award	The Belgrade Waterfront project was honored with the esteemed European Property Awards in the "Mixed-use Development." Furthermore, in addition to this noteworthy acknowledgment, Belgrade Waterfront was also proclaimed the victor in "Development Marketing."
Scale	27,000sqm
THRILLING CONTEMPORARY WATERFRONT FEATURES	EVALUATION OF THE CASE AREA
<ol style="list-style-type: none"> 1. SUSTAINABILITY 2. COMMUNITY ENGAGEMENT 3. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES 4. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE 5. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN 6. PROMOTION AND PROTECTION OF SCENIC BEAUTY 7. PUBLIC HEALTH AND WELL-BEING 	<ol style="list-style-type: none"> 1. According to contemporary waterfront design principles, the Belgrade Waterfront project incorporates sustainability through modern architectural designs emphasizing energy efficiency and using sustainable materials. It includes green spaces and promotes walkability, reducing the carbon footprint (Hristić et al., 2021). 2. Besides, the project prioritizes community engagement by creating public spaces, cultural venues, and recreational areas that cater to residents and visitors. It aims to enhance the quality of life for the local community (Hristić et al., 2021; Cvetinović et al., 2016). 3. Also, the Belgrade Waterfront embraces mixed-use development, combining residential, commercial, and recreational spaces. This approach fosters a dynamic urban environment with 24/7 activity. The project also integrates natural elements with modern urban design, incorporating parks, green rooftops, and waterfront promenades. It strives to create a harmonious coexistence between urban life and nature (Hristić et al., 2021; Cvetinović et al., 2016). 4. The project also respects cultural preservation by preserving historic landmarks and heritage sites while introducing modern structures. It honors the city's history and cultural identity (Hristić et al., 2021). 5. Besides this, Belgrade Waterfront showcases innovative design with contemporary architecture and waterfront promenades that enhance accessibility and aesthetics while incorporating modern amenities (Hristić et al., 2021; Cvetinović et al., 2016). 6. According to thrilling coastal features, the location along the Sava and Danube Rivers confluence provides stunning panoramic views, especially from high-rise buildings within the project. The scenic beauty of the waterfront is a notable feature (Hristić et al., 2021). 7. Besides, while focused on urban development, the project incorporates environmental considerations such as green spaces and energy-efficient building designs. Also, Belgrade Waterfront provides ample green spaces, waterfront promenades, and recreational areas that contribute to public health and well-being, encouraging an active lifestyle (Hristić et al., 2021; Cvetinović et al., 2016).

Table 4. Information on Belgrade Waterfront in Serbia (continued)

<p>8. ACCESSIBILITY 9. ECONOMIC CONTRIBUTION</p>	<p>8. jogging and cycling paths, river cruises, and waterfront dining. Residents and visitors can engage in a wide range of outdoor activities (Hristić et al., 2021). 9. Moreover, Belgrade Waterfront promotes community engagement through cultural events, festivals, and art exhibitions. The inclusion of a cultural district enhances the city's cultural vibrancy. The project also features a mix of residential, commercial, and entertainment spaces, creating a lively urban environment with numerous dining, shopping, and entertainment options. Apart from this, cultural venues, theaters, and concert halls enhance the city's cultural scene. It hosts events and activities that attract a diverse audience (Hristić et al., 2021).</p>
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In summary, the Belgrade Waterfront project successfully integrates contemporary waterfront design principles with a focus on sustainability, community engagement, mixed-use development, cultural preservation, innovation in design, and environmental stewardship. It offers scenic beauty, diverse recreational opportunities, community engagement, mixed-use development, cultural activities, and a commitment to environmental sustainability. It makes it a compelling and dynamic waterfront destination that enriches the lives of residents and visitors while honoring the city's cultural heritage.

3.1.4. Case 4. Victoria & Alfred Waterfront in South Africa

Evaluating the Victoria & Alfred (V&A) Waterfront in South Africa (Table 5) according to contemporary waterfront design principles and thrilling coast features:

Table 5. Information on Victoria & Alfred Waterfront in South Africa

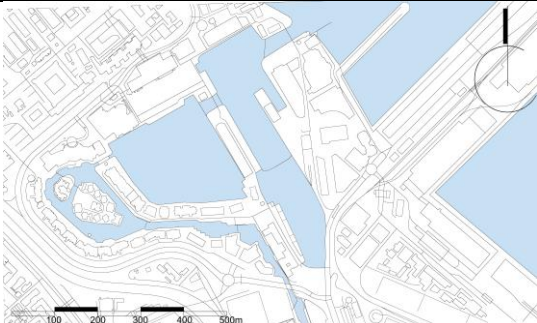
	
<p>Name of the Waterfront</p>	<p>Victoria & Alfred Waterfront in South Africa</p>
<p>Award</p>	<p>The V&A Waterfront demonstrates a solid commitment to the preservation of historical significance, the safeguarding of heritage structures, the promotion of responsible tourism practices, and the implementation of environmentally sustainable initiatives. Over the years, this entity has received numerous accolades, recognizing its notable accomplishments in these respective domains.</p>
<p>Scale</p>	<p>1,230,000sqm</p>
<p>THRILLING CONTEMPORARY WATERFRONT FEATURES</p> <p>1. SUSTAINABILITY 2. COMMUNITY ENGAGEMENT</p>	<p>EVALUATION OF THE CASE AREA</p> <p>1. According to contemporary design principles, the V&A Waterfront demonstrates sustainability through responsible land use, green building practices, and energy-efficient technologies. It also focuses on water conservation and waste reduction, aligning with contemporary sustainability principles (Ferreira & Visser, 2007). 2. Besides, the project places a strong emphasis on community engagement. It offers numerous public spaces, cultural attractions, and recreational amenities catering to residents and tourists. This approach fosters a sense of belonging and inclusivity (Ferreira & Visser, 2007).</p>

Table 5. Information on Victoria & Alfred Waterfront in South Africa (continued)

<p>3. SUSTAINABILITY</p> <p>4. COMMUNITY ENGAGEMENT</p> <p>5. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES</p> <p>6. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE</p> <p>7. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN</p> <p>8. PROMOTION AND PROTECTION OF SCENIC BEAUTY</p> <p>9. PUBLIC HEALTH AND WELL-BEING</p> <p>10. ACCESSIBILITY</p> <p>11. ECONOMIC CONTRIBUTION</p>	<p>3. According to contemporary design principles, the V&A Waterfront demonstrates sustainability through responsible land use, green building practices, and energy-efficient technologies. It also focuses on water conservation and waste reduction, aligning with contemporary sustainability principles (Ferreira & Visser, 2007).</p> <p>4. Besides, the project places a strong emphasis on community engagement. It offers numerous public spaces, cultural attractions, and recreational amenities catering to residents and tourists. This approach fosters a sense of belonging and inclusivity (Ferreira & Visser, 2007).</p> <p>5. Also, the V&A Waterfront epitomizes mixed-use development by integrating residential, commercial, cultural, and recreational spaces (Ferreira & Visser, 2007). This combination creates a lively, 24/7 community that reduces the need for car-dependent lifestyles. In addition, natural elements are integrated into the project through carefully designed green spaces, landscaped gardens, and waterfront promenades. The project's design respects and preserves the natural beauty of the coastal environment.</p> <p>6. Aside from this, while embracing modernity, the V&A Waterfront honors its cultural heritage by preserving historical landmarks and repurposing historic buildings. It seamlessly blends the old and the new, celebrating the city's history (Ferreira & Visser, 2007).</p> <p>7. The project also showcases innovative design through its striking modern architecture, waterfront promenades, and creative use of technology. Iconic structures like the Zeitz Museum of Contemporary Art Africa (MOCAA) exemplify design innovation (Nielsen, 2023).</p> <p>8. According to thrilling coastal features, located in the heart of Cape Town's working harbor, the V&A Waterfront offers stunning views of Table Mountain, the harbor, and the sea. The scenic beauty of the waterfront is a primary attraction (Ferreira & Visser, 2007; Nielsen, 2023).</p> <p>9. In addition, the abundance of open spaces, waterfront promenades, and recreational facilities supports public health and well-being, providing opportunities for relaxation, exercise, and leisure (Ferreira & Visser, 2007).</p> <p>10. Besides, visitors can enjoy many recreational activities, including shopping, dining, boat trips, live music performances, and leisurely walks along the quayside. The wide range of offerings caters to diverse interests. Also, the waterfront hosts numerous cultural events, concerts, and art exhibitions, promoting community engagement (Nielsen, 2023).</p> <p>11. It provides venues for locals and tourists to immerse themselves in cultural experiences. In addition, with a diverse array of shops, boutiques, restaurants, and entertainment options, the V&A Waterfront offers a vibrant mix of activities, making it a thriving destination for locals and visitors alike (Ferreira & Visser, 2007). Aside from this, cultural institutions like the Zeitz MOCAA, theaters, and live music venues add to the waterfront's cultural vibrancy. It serves as a hub for entertainment and cultural activities. Moreover, the project incorporates environmentally friendly features such as green roofs, sustainable landscaping, and responsible waste management, demonstrating a commitment to environmental stewardship (Nielsen, 2023).</p>
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In summary, the Victoria & Alfred Waterfront in South Africa successfully embodies the principles of contemporary waterfront design theories while offering thrilling coastal features. It excels in sustainability, community engagement, mixed-use development, cultural preservation, innovation in design, and environmental stewardship. The waterfront is a captivating destination that combines scenic beauty, diverse recreational opportunities, community engagement, mixed-use development, cultural activities, and a commitment to sustainability. It serves as a dynamic and enriching waterfront destination that celebrates the city's heritage and offers an array of memorable experiences for residents and visitors alike.

3.1.5. Case 5. Udaipur Waterfront in India

Evaluating the Udaipur Waterfront in India (Table 6) according to contemporary waterfront design principles and thrilling coast features:

Table 6. Information on Udaipur Waterfront in India

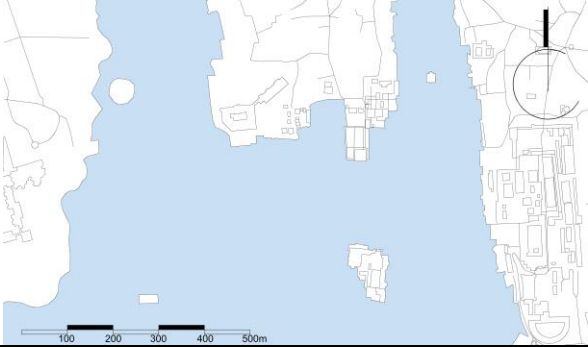
	
Name Of the Waterfront	Udaipur Waterfront in India
Award	Udaipur has been awarded the prestigious "India's Best Leisure Destination."
Scale	20,000sqm
THRILLING CONTEMPORARY WATERFRONT FEATURES	EVALUATION OF THE CASE AREA
<ol style="list-style-type: none"> 1. SUSTAINABILITY 2. COMMUNITY ENGAGEMENT 3. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES 4. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE 5. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN 6. PROMOTION AND PROTECTION OF SCENIC BEAUTY 7. PUBLIC HEALTH AND WELL-BEING 8. ACCESSIBILITY 	<ol style="list-style-type: none"> 1. According to contemporary design principles, The Udaipur Waterfront project embraces sustainability by incorporating eco-friendly building practices and materials. Efforts to minimize the environmental impact align with contemporary sustainability principles (Samant, 2010). 2. Besides, the project demonstrates a community-centered approach by creating public spaces, recreational areas, and cultural venues that cater to the local population. It fosters community engagement and cultural enrichment (Samant, 2010). 3. Also, while preserving historical architecture, the Udaipur Waterfront encourages mixed-use development by incorporating shops, restaurants, and cultural spaces. This mix enhances the economic viability of the area. In addition, the waterfront integrates nature through well-maintained gardens, promenades, and the presence of Lake Pichola. These elements celebrate the region's natural beauty and create a harmonious urban-nature interface (Samant, 2010). 4. Aside from this, Udaipur is known for its rich cultural heritage, and the project honors this by preserving historical landmarks and celebrating local traditions. Cultural preservation is a central theme of the waterfront's design (Samant, 2010). 5. Apart from this, while retaining historical charm, the Udaipur Waterfront showcases innovation through creative landscaping, modern amenities, and the adaptive reuse of heritage structures (Samant, 2010). 6. According to thrilling coastal features, the Udaipur Waterfront offers breathtaking views of the lake, the Aravalli hills, and the surrounding palaces around Lake Pichola. Its scenic beauty is one of its primary attractions (Samant, 2010; Naik, 1997). 7. In addition, the serene lakeside environment, walking paths, and recreational facilities promote public health and well-being, offering spaces for relaxation, exercise, and enjoyment of nature (Samant, 2010). 8. Besides, visitors can enjoy various recreational activities such as boat rides on Lake Pichola, lakeside dining, and leisurely walks along the promenades. The serene environment provides opportunities for relaxation and exploration (Samant, 2010).

Table 6. Information on Udaipur Waterfront in India (continued)

<p>9. ECONOMIC CONTRIBUTION</p>	<p>9. Also, the waterfront is a hub for cultural events, festivals, and art exhibitions that engage residents and tourists. It celebrates local culture and fosters community participation. In addition, including restaurants, shops, and cultural spaces encourages a vibrant mix of activities. It creates an inviting atmosphere for people to shop, dine, and experience local culture. The Udaipur Waterfront also hosts cultural events, traditional music performances, and dance shows, enhancing the city's cultural vibrancy. These activities add to the waterfront's allure. Aside from this, the project incorporates environmentally responsible features such as sustainable landscaping and eco-friendly construction materials, contributing to environmental stewardship (Samant, 2010).</p>
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In summary, the Udaipur Waterfront in India successfully combines contemporary waterfront design principles with thrilling coastal features. It exemplifies sustainability, community engagement, mixed-use development, cultural preservation, innovation in design, and environmental sensitivity. The waterfront's scenic beauty, diverse recreational opportunities, cultural engagement, mixed-use character, and commitment to preserving local heritage make it a captivating destination for residents and visitors. It is a dynamic and enriching waterfront that celebrates the region's cultural legacy while providing memorable experiences.

3.1.6. Case 6. Waterfront Tavern in Australia

Evaluation of Waterfront Tavern's (Table 7) design, features, and amenities framework based on contemporary waterfront design principles and thrilling coast features:

Table 7. Information on Waterfront Tavern in Australia


	
Name of the Waterfront	Waterfront Tavern in Australia
Award	The 23rd Australian Timber Design Awards recognizes the architectural excellence of Waterfront Tavern, a project designed by H&E Architects. The Awards acknowledge the utilization of timber and prioritize commendable design and inventive approaches in the implementation of timber and wood products. The utilization of timber and wood products is experiencing a growing range of applications due to the increasing interest of developers and designers in harnessing the advantages of a low-carbon, sustainable, and economically viable construction material.
Scale	4,450sqm
THRILLING CONTEMPORARY WATERFRONT FEATURES	EVALUATION OF THE CASE AREA
1. SUSTAINABILITY	1. According to contemporary design principles, a waterfront establishment can demonstrate sustainability by adopting environmentally friendly practices

Table 7. Information on Waterfront Tavern in Australia (continued)

<p>2. COMMUNITY ENGAGEMENT</p> <p>3. MIXED-USE DEVELOPMENT – DIVERSITY OF ACTIVITIES</p> <p>4. RESPECT TO AND PROMOTION OF CULTURAL HERITAGE</p> <p>5. CREATIVE / INNOVATIVE APPROACH OF URBAN DESIGN</p> <p>6. PROMOTION AND PROTECTION OF SCENIC BEAUTY</p> <p>7. PUBLIC HEALTH AND WELL-BEING</p> <p>8. ACCESSIBILITY</p> <p>9. ECONOMIC CONTRIBUTION</p>	<p>such as energy-efficient lighting, waste reduction, and sustainable materials (Abdel, 2022).</p> <p>2. Besides, a successful waterfront tavern prioritizes community engagement by offering spaces for social gatherings, events, and activities catering to residents and tourists (Abdel, 2022).</p> <p>3. Also, integrating commercial spaces, restaurants, and recreational areas can contribute to a vibrant and economically viable waterfront. This mix can encourage a diverse range of activities and visitors. In addition, a waterfront location takes advantage of its natural surroundings, whether a coastal view. Incorporating green spaces and outdoor seating helps integrate nature into the design (The Waterfront Tavern, 2023; Abdel, 2022).</p> <p>4. Apart from this, while modern in design, waterfront establishments pay tribute to the local culture and heritage through design elements, decor, or even showcasing local art and traditions (Abdel, 2022).</p> <p>5. Besides, innovation is demonstrated through unique architectural features, creative use of space, and modern amenities that enhance the overall dining and leisure experience (Abdel, 2022).</p> <p>6. According to thrilling coastal features, being located on the waterfront, the Waterfront Tavern ideally offers stunning waterfront views. Outdoor seating areas with water views and coastal landscapes draw significantly (The Waterfront Tavern, 2023).</p> <p>7. Also, providing relaxing spaces, outdoor seating, and opportunities for visitors to enjoy the coastal atmosphere contributes to public well-being (The Waterfront Tavern, 2023; Abdel, 2022).</p> <p>8. Besides, waterfront establishments often benefit from their proximity to water-based recreational activities. Whether it is offering boat rentals, waterside seating, and access to water sports, these opportunities can enhance the visitor experience (Abdel, 2022).</p> <p>9. Also, hosting events, live music, and themed nights can foster community and encourage locals and tourists to frequent the establishment. In addition, combining dining, entertainment, and leisure activities within the tavern can create a lively and dynamic environment that attracts a diverse crowd. Besides, offering live entertainment, cultural events, and showcasing local artists can make the establishment a cultural hub and a source of visitor excitement. Apart from this, promoting environmental responsibility by implementing sustainable practices appeals to eco-conscious patrons (The Waterfront Tavern, 2023; Abdel, 2022).</p>
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In summary, integrating contemporary waterfront architectural ideas with captivating coastal characteristics has proven successful for a New South Wales South Coast bar. The attributes above encompass sustainability, active community involvement, integrating many functions within a single development, incorporating innovative design elements, and a heightened awareness of environmental considerations. The mesmerizing allure of the waterfront lies in its picturesque aesthetics and unwavering dedication to preserving local identity. This combination of factors makes it an enticing location for inhabitants and tourists. The waterfront is characterized by its lively and enriching nature, as it serves as a platform for celebrating the region's cultural past while offering remarkable experiences.

3.2. Discussion

Contemporary waterfront design is increasingly synonymous with sustainability, reflecting a global commitment to ecological responsibility. As posited by Pramesti (2017), sustainability is not merely an aspect but a fundamental pillar, evident in the selection of case studies, such as Vancouver Waterfront Park's commitment to green infrastructure and eco-friendly practices. However, a critical lens prompts consideration of the varying degrees to which sustainability is embraced. Are these projects truly regenerative, or do they merely adhere to minimum environmental standards? A nuanced analysis

could draw on the works of Badach & Raszeja (2019) and Sodiq et al. (2019), advocating for a more stringent integration of sustainable practices that extend beyond token gestures.

The emphasis on community engagement is a laudable aspect of contemporary waterfront design, aligning with principles of inclusivity and participatory urbanism (Cihan Yavuzcan & Gür, 2023). However, the extent to which communities are genuinely empowered in decision-making processes requires examination. While the Victoria & Alfred Waterfront project in South Africa showcases community-centric features, the experiences of marginalized groups must be considered. The works of Avni & Fischler (2019) and Wessells (2014) provide a critical framework to evaluate the power dynamics within community engagement initiatives, urging a more profound exploration of equity and social justice.

Striking a Balance between Historic Preservation and Innovation. The integration of historic preservation with modern design is a delicate dance. Albarrada Waterfront's endeavor to balance historical significance with contemporary functionality is commendable. However, challenges arise in delineating the line between preservation and innovation. Scholars like Üzümcüoğlu & Polay (2023) argue that in the pursuit of progress, there is a risk of erasing cultural memory. This discussion urges a critical examination of how waterfront designs negotiate the tension between honoring heritage and embracing innovation.

Waterfront developments often promise economic growth, with an anticipation of increased tourism and commercial activities. Belgrade Waterfront's economic contributions are evident, yet a closer look at gentrification concerns is imperative (Gunay & Dokmeci, 2012). The economic boom can inadvertently displace local communities and alter the socio-economic fabric. Harvey's (2015) concept of the "right to the city" offers a critical lens to assess whether these developments genuinely benefit the existing population or lead to exclusionary urban restructuring.

While environmental stewardship is a core principle, the practical challenges of implementation must be addressed. The complexity of restoring waterfront areas and promoting sustainable development requires a more nuanced understanding. Insights from Giovinazzi & Giovinazzi (2008) prompt a critical inquiry into the feasibility and effectiveness of environmental initiatives within these projects.

Synthesizing Theoretical and Practical Perspectives. The synthesis of theoretical frameworks with practical applications reveals a rich tapestry of successes and challenges. Acknowledging that the presented projects embody contemporary waterfront design theories to varying extents, the critical discussion underscores the need for continual scrutiny. The study encourages an ongoing dialogue that transcends celebratory narratives to confront the complexities and contradictions inherent in the evolution of waterfront spaces, balancing aspirations with realities. This critical perspective invites future research to delve deeper into the unintended consequences and latent challenges that may surface over time, ensuring that the discourse on contemporary waterfront design remains adaptive, reflective, and responsive to the evolving needs of both the environment and the communities it serves.

4. Conclusion and Suggestions

Through the exploration of contemporary waterfront design theories and their manifestation in thrilling coastal spaces through a series of case studies, it is evident that well-planned waterfronts have the potential to become vibrant, sustainable, and culturally enriched environments that benefit both residents and visitors. The case studies of the Victoria & Alfred Waterfront in South Africa, the Udaipur Waterfront in India, the Belgrade Waterfront in Serbia, and the Albarrada Waterfront in Mompox, Colombia, along with the theoretical framework, provide valuable insights into the foundational principles and features that underlie thriving coastal developments.

The synthesis of case studies and literature findings reveals a convergence of contemporary waterfront design principles and thrilling coast features in successful waterfront projects. Sustainability, community engagement, mixed-use development, cultural preservation, innovation in design, and environmental stewardship emerge as common themes in case studies and theoretical frameworks. These principles create vibrant, sustainable, and culturally enriched waterfront spaces. Scenic beauty,

recreational opportunities, community engagement, mixed-use development, entertainment, and cultural activities, environmental stewardship, and public health and well-being are critical components that collectively shape thrilling coastal destinations.

Suggestions and Practical Recommendations based on the case-based and theoretical-based findings:

1. Sustainability:

Recommendation: Integrate sustainable practices in the design and construction of waterfronts. Use eco-friendly materials, implement green infrastructure, and incorporate renewable energy sources.

2. Community Engagement:

Recommendation: Foster ongoing community involvement in the planning, design, and management of waterfront spaces. Establish forums for public input and participation, ensuring the community's voice is heard.

3. Mixed-Use Development – Diversity of Activities:

Recommendation: Encourage a mix of residential, commercial, cultural, and recreational spaces. Create a dynamic environment with diverse activities to attract a broad audience.

4. Respect for and Promotion of Cultural Heritage:

Recommendation: Preserve and showcase the cultural heritage of the area through thoughtful design. Incorporate historical landmarks, cultural events, and public art installations that celebrate local traditions.

5. Creative/Innovative Approach to Urban Design:

Recommendation: Embrace innovative design concepts that blend modern architecture with the natural environment. Encourage creativity in landscaping, public art installations, and the adaptive reuse of existing structures.

6. Promotion and Protection of Scenic Beauty:

Recommendation: Design waterfront spaces to maximize scenic views and preserve natural beauty. Implement landscaping strategies that enhance the visual appeal and protect the surrounding environment.

7. Public Health and Well-being:

Recommendation: Prioritize public health by creating spaces for relaxation, exercise, and social interaction. Design walking paths, green spaces, and recreational facilities that promote a healthy lifestyle.

8. Accessibility:

Recommendation: Ensure universal accessibility to waterfront spaces. Implement infrastructure that accommodates people of all abilities, including ramps, elevators, and accessible pathways.

9. Economic Contribution:

Recommendation: Design waterfront spaces to contribute to the local economy. Encourage the development of shops, restaurants, and entertainment venues that generate economic activity and employment opportunities.

In conclusion, the case study findings corroborate the theoretical foundations of contemporary waterfront design, demonstrating the real-world applicability of these principles. The synthesis underscores the importance of considering these principles. It features holistically in waterfront development, offering a comprehensive approach to creating thriving coastal spaces that enrich the lives of communities and visitors.

These recommendations aim to align waterfront design with the principles of sustainability, community engagement, cultural preservation, innovation, scenic beauty, public health, accessibility,

and economic contribution. Implementing these suggestions can create vibrant, inclusive, and economically sustainable waterfronts that cater to the diverse needs of the community.

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Author Contribution and Conflict of Interest Declaration Information

All authors contributed equally to the article. There is no conflict of interest.

References

- Abd El-Tawab, A., Mehanna, W., & Alashwah, F. (2020). Sustainable Conservation of The Submerged Historic City of Heracleion, Alexandria, Egypt. *Journal of Engineering Research*, 4(1), 17-28. <https://doi.org/10.21608/ERJENG.2020.125453>
- Abdel, H. (2022, August 29). *ArchDaily*. Retrieved January 7, 2024, from Waterfront Tavern / H&E Architects: <https://www.archdaily.com/987967/waterfront-tavern-h-and-e-architects>
- Aerts, J. C., & Wouter Botzen, W. (2011). Flood-resilient waterfront development in New York City: Bridging flood insurance, building codes, and flood zoning. *Annals of the New York Academy of Sciences*, 1227(1), 1-82. <https://doi.org/https://doi.org/10.1111/j.1749-6632.2011.06074.x>
- Avni, N., & Fischler, R. (2019). Social and Environmental Justice in Waterfront Redevelopment: The Anacostia River, Washington, D.C. *Urban Affairs Review*, 56(6), 1779-1810.
- Badach, J., & Raszeja, E. (2019). eveloping a Framework for the Implementation of Landscape and Greenspace Indicators in Sustainable Urban Planning. Waterfront Landscape Management: Case Studies in Gdańsk, Poznań and Bristol. *Sustainability*, 11(8), 2291. <https://doi.org/10.3390/su11082291>
- Bonney, P., Reeves, J., & Yarnda, T. C. (2023). Navigating Local Pathways to Sustainability Through Environmental Stewardship: A Case Study in East Gippsland, Australia. In B. Edmondson, *Sustainability Transformations, Social Transitions and Environmental Accountabilities. Palgrave Studies in Environmental Transformation, Transition and Accountability* (pp. 231–263). Palgrave Macmillan, Cham. https://doi.org/https://doi.org/10.1007/978-3-031-18268-6_9
- Brückner, A., Falkenberg, T., Heinzl, C., & Kistemann, T. (2022). The Regeneration of Urban Blue Spaces: A Public Health Intervention? Reviewing the Evidence. *Frontiers in Public Health*, 9(782101).
- Chen, L., & Ma, Y. (2023). How Do Ecological and Recreational Features of Waterfront Space Affect Its Vitality? Developing Coupling Coordination and Enhancing Waterfront Vitality. *International Journal of Environmental Research and Public Health*, 20(2), 1196. <https://doi.org/10.3390/ijerph20021196>
- Chon, J., Eui Choi, Y., Jin You, S., Ji Lee, H., & Sun Seok, Y. (2014). Exploring low-carbon landscape design: focus on an urban waterfront area . *WIT Transactions on Ecology and the Environment*, 181(13), 395 - 407. <https://doi.org/10.2495/EID140341>
- Cialdea, D., & Pompei, C. (2022). The Waterfront Development in Europe: Between Planning and Urban Design Sustainability. In C. Piselli, H. Altan, O. Balaban, & P. Kremer, *Innovating Strategies and Solutions for Urban Performance and Regeneration. Advances in Science, Technology & Innovation* (pp. 49–60). Cham: Springer.
- Cihan Yavuzcan, M. M., & Gür, E. A. (2023). Reshaping water-related urban places with collaborative participation: a critical examination of the Kabataş waterfront. *Archnet-IJAR*. <https://doi.org/https://doi.org/10.1108/ARCH-11-2022-0247>
- City of Vancouver, Parks Department. (n.d.). *The Waterfront Vancouver USA*. Retrieved January 7, 2024, from Waterfront Park, Pier and Water Feature Inquiries: <https://thewaterfrontvancouverusa.com/parks/waterfront-park/>
- Constantin, C. P., Ispas, A., & Candrea, A. N. (2022). Examining the Relationships between Visitors Profile, Satisfaction and Revisit Intentions: Evidence from Romanian Ecotourism Destinations. *Land*, 11(2), 186. <https://doi.org/10.3390/land11020186>
- Cvetinović, M., Maričić, T., & Bolay, J. C. (2016). Participatory urban transformations in Savamala. Belgrade – Capacities and Limitations. *Spatium*(36), 15–23. <https://doi.org/10.2298/SPAT1636015C>

- Doka, S. E., Minns, C. K., Valere, B. G., Cooke, S. J., Portiss, R. J., Sciscione, T. F., & Rose, A. (2022). An Ecological Accounting System for Integrated Aquatic Planning and Habitat Banking with Case Study on the Toronto Waterfront, Ontario, Canada. *Environmental Management*, 69, 952–971.
- Dova, E., Sivitanidou, A., Anastasi, N. R., & Tzortzi, J. G. (2022). A mega-event in a small city: community participation, heritage and scale in the case of Pafos 2017 European Capital of Culture. *European Planning Studies*, 30, 457-477.
- Fernandes, A., de Sousa, J. F., & Salvador, R. (2017). The Cultural Heritage in the Postindustrial Waterfront: A Case Study of the South Bank of the Tagus Estuary, Portugal. *Space and Culture*, 21(2), 170-191.
- Ferreira, S., & Visser, G. (2007). Creating an African Riviera: Revisiting the Impact of the Victoria and Alfred Waterfront Development in Cape Town. *Urban Forum*, 18, 227–246. <https://doi.org/10.1007/s12132-007-9008-3>
- Garcia, P. R. (2021). The Lisbon Waterfront: Perspectives on Resilience in the Transition from the Twentieth to the Twenty-First Century. *Journal of Urban History*, 47(2), 373–388. <https://doi.org/https://doi.org/10.1177/0096144219879915>
- Giovinazzi, O., & Giovinazzi, S. (2008). Waterfront planning: a window of opportunities for post-disaster reconstruction. *4th International I-Rec Conference Building. Resilience: achieving effective post-disaster reconstruction*. Christchurch, New Zealand: University of Canterbury. Civil and Natural Resources Engineering. Retrieved from <http://hdl.handle.net/10092/3987>
- Girard, L. F. (2013). Toward a Smart Sustainable Development of Port Cities/Areas: The Role of the “Historic Urban Landscape” Approach. *Sustainability*, 5(10), 4329-4348.
- Green, S. (2023). *Reconnecting Communities to the River: Exploring Barriers to Benefits of a Restored Waterfront in a Post-Industrial Community*. University of Minnesota ProQuest Dissertations Publishing.
- Guerreiro, M. M., Henriques, C., & Mendes, J. (2019). Cultural and Creative Tourism: The Case of ‘Celebrations’ in the Algarve Region. *Journal of Tourism, Sustainability and Well-Being*, 7(4), 320-338. Retrieved September 24, 2023, from <https://www.jsod-cieo.net/journal-tsw/index.php/jtsw/article/view/212>
- Gunay, Z., & Dokmeci, V. (2012). Culture-led regeneration of Istanbul waterfront: Golden Horn Cultural Valley Project. *Cities*, 29(4), 213-222.
- Guo, Y. (2023). The importance of multi-sensory interactive waterfront landscape design. *Academic Journal of Humanities & Social Sciences*, 6(13), 101-104. <https://doi.org/10.25236/AJHSS.2023.061316>
- Hall, P. V., & Stern, P. R. (2014). Implicating waterfronts in regional sustainability. *Local Environment*, 19(6), 591-604. <https://doi.org/10.1080/13549839.2013.832182>
- Harvey, D. (2015). The Right to the City. In R. T. LeGates, & F. Stout, *The City Reader* (pp. 314-322). Routledge.
- Hein, C. (2016). Port cities and urban waterfronts: how localized planning ignores water as a connector. *WIREs Water*, 3(3), 419-438. <https://doi.org/https://doi.org/10.1002/wat2.1141>
- Hoyle, B. (1999). Scale and sustainability: The role of community groups in Canadian port-city waterfront change. *Journal of Transport Geography*, 7, 65-78.
- Hristić, D., N, S., & Milijić, S. (2021). Aspects Of The Public Domain In Regenerating Waterfronts: A Case Study of Belgrade Waterfront, Serbia. *The Sustainable City XV*, 253, 173-181. <https://doi.org/10.2495/SC210151>

- Hu, X., Zou, X., & Fan, H. (2023). Analysis of landscape influencing factors of urban waterfront greenways based on the scenic beauty estimation method, taking Tongjian Lake in Hangzhou as an example. *Front. Earth Sci.*, 11(1211775). <https://doi.org/10.3389/feart.2023.1211775>
- Jeon, J. Y., & Jo, H. I. (2023). Psycho-physiological restoration with audio-visual interactions through virtual reality simulations of soundscape and landscape experiences in urban, waterfront, and green environments. *Sustainable Cities and Society*, 99(104929). <https://doi.org/https://doi.org/10.1016/j.scs.2023.104929>
- Jun, J. (2023). Towards Sustainable Urban Riverfront Redevelopment: Adaptability as a Design Strategy for the Hangang Riverfront in Seoul. *Sustainability*, 15(12), 9207.
- Karmanov, D., & Hamel, R. (2008). Assessing the restorative potential of contemporary urban environment(s): Beyond the nature versus urban dichotomy. *Landscape and Urban Planning*, 86(2), 115-125. <https://doi.org/https://doi.org/10.1016/j.landurbplan.2008.01.004>
- Knöll, M. (2023). Healthy Blue Spaces: The Frankfurt Riverfront from a Perspective of Urban Design and Health. In K. Vöckler, P. Eckart, M. Knöll, & M. Lanzendorf, *Mobility Design; Shaping Future Mobility* (pp. 130-149). jovis Verlag GmbH, Berlin.
- Kostopoulou, S. (2013). On the Revitalized Waterfront: Creative Milieu for Creative Tourism. *Sustainability*, 5, 4578–4593.
- Landezine. (2021, February 2). *Landezine*. Retrieved January 7, 2024, from Vancouver Waterfront Park: <https://landezine.com/vancouver-waterfront-park/>
- Landezine Media LLC. (n. d.). *Landezine Media LLC*. Retrieved January 7, 2024, from landezine-award.com: <https://landezine-award.com/revitalization-of-the-albarrada-waterfront-in-mompox/>
- Latip, N. S., Shamsudin, S., & Liew, M. S. (2012). Functional Dimension at 'Kuala Lumpur Waterfront'. *Procedia - Social and Behavioral Sciences*, 49, 147–155.
- Lee, T. J., & Han, J.-S. K.-G. (2020). Health-Oriented Tourists and Sustainable Domestic Tourism. *Sustainability*, 12(12), 4988. <https://doi.org/https://doi.org/10.3390/su12124988>
- Liu, F. L., & Meng, K. (2023). Green space settlement landscape optimization strategy under the concept of ecological environment restoration. *Journal of King Saud University - Science*, 35(3), 102539. <https://doi.org/https://doi.org/10.1016/j.jksus.2023.102539>
- Long, H., & Cui, K. (2020). Coastal Landscape Architecture Design Based on Nonlinear Thinking. *Journal of Coastal Research*, 107(SI), 218-221.
- Naik, U. (1997). *Visual Order in Cities: A Case Study of Udaipur*. Ahmedabad: CEPT, India.
- Niedziółka, K. R., Grochulska-Salak, M., & Maciejewska, E. (2021). Resilience of riverside areas as an element of the green deal strategy – Evaluation of waterfront models in relation to re-urbanization and the city landscape of Warsaw. *Desalination and Water Treatment*, 232, 357–371. <https://doi.org/doi:10.5004/dwt.2021.27588>
- Nielsen, V. (2023). Ambivalent art at the tip of a continent: The Zeitz MOCAA and its quest for global recognition. In O. Salemink, A. S. Corrêa, J. Sejrup, & V. Nielsen, *Global Art in Local Art Worlds: Changing Hierarchies of Value*. Routledge.
- Opus Studio. (n.d.). *opusstudio.com*. Retrieved January 07, 2024, from opusstudio.com: <https://www.opusstudio.com/mompox-1>
- Osman, K. A., & Farahat, B. I. (2018). The conservation of the waterfront of Saida: A model for tourism and culture-led revitalization in valuable areas. *HBRC Journal*, 321–333.
- Pizzichini, L., Andersson, T. D., & Gregori, G. L. (2022). Seafood festivals for local development in Italy and Sweden. *British Food Journal*, 124(2), 613-633. <https://doi.org/10.1108/BFJ-04-2021-0397>

- Pramesti, R. E. (2017). Sustainable Urban Waterfront Redevelopment : Challenge and Key Issues. *Media Matrasain*, 14(2), 41-54. Retrieved January 07, 2024, from <http://hdl.handle.net/123456789/3804>
- Riyanto, & Sari, M. N. (2023). Impact of Event Tourism Based on Local Wisdom on Coastal Communities. *Proceedings of the Fifth Annual International Conference on Business and Public Administration (AICoBPA 2022)*. Atlantis Press. https://doi.org/10.2991/978-2-38476-090-9_52
- Roe, J., Barnes, L., Napoli, N. J., & Thibodeaux, J. (2019). The Restorative Health Benefits of a Tactical Urban Intervention: An Urban Waterfront Study. *Front. Built Environ.*, 5(71). <https://doi.org/doi:10.3389/fbuil.2019.00071>
- Samant, S. (2010). Urban Regeneration: Significance of the Land–Water Interface and Its Manifestation in the Historic and Cultural Quarter along Lake Pichola in Udaipur. *Nakhara*, 6, 31-44.
- Sealey, K. S., Andiroglu, E., Lamere, J., Sobczak, J., & Suraneni, P. (2021). Multifunctional Performance of Coastal Structures Based on South Florida Coastal Environs. *Journal of Coastal Research*, 37(3), 656-669.
- Shah, S., & Roy, A. K. (2017). Social Sustainability of Urban Waterfront- The Case of Carter Road Waterfront in Mumbai, India. *Procedia Environmental Sciences*, 37, 195-204.
- Situmorang, I. F., Nasution, Z., & Rujiman. (2023). Waterfront Management in the Areas Around Lake Sidihoni to Support Sustainable Economic and Tourism Development. *Formosa Journal of Applied Sciences*, 2(1), 141–154. <https://doi.org/https://doi.org/10.55927/fjas.v2i1.2776>
- Smith, M. K. (2023). New Trends in Wellness Tourism. In A. M. Morrison, & D. Buhalis, *Routledge Handbook of Trends and Issues in Global Tourism Supply and Demand* (p. 17). London: Routledge. <https://doi.org/https://doi.org/10.4324/9781003260790>
- Sodiq, A., Baloch, A. A., Khan, S. A., Sezer, N., Mahmoud, S., Jama, M., & Abdelaal, A. (2019). Towards modern sustainable cities: Review of sustainability principles and trends. *Journal of Cleaner Production*, 227, 972-1001. <https://doi.org/10.1016/j.jclepro.2019.04.106>
- Sun, D., Li, Q., Gao, W., Huang, G., Tang, N., Lyu, M., & Yu, Y. (2021). On the relation between visual quality and landscape characteristics: a case study application to the waterfront linear parks in Shenyang, China. *Environmental Research Communications*, 3(11). <https://doi.org/10.1088/2515-7620/ac34c7>
- Tan, X., & Peng, Y. (2020). Scenic beauty evaluation of plant landscape in Yunlong Lake wetland park of Xuzhou City, China. *Geological Modeling and Geospatial Data Analysis*, 13(701). <https://doi.org/https://doi.org/10.1007/s12517-020-05626-x>
- The Waterfront Tavern. (2023). *The Waterfront Tavern*. Retrieved January 7, 2024, from The Waterfront Tavern: <https://waterfronttavern.com.au/>
- The Waterfront Vancouver, USA. (2023). *The waterfront: Mixed use property*. Retrieved January 07, 2024, from The Waterfront Vancouver, USA: <https://thewaterfrontvancouverusa.com/>
- The Waterfront Vancouver, USA. (n. d.). *The Waterfront Vancouver, USA*. Retrieved January 7, 2024, from <https://thewaterfrontvancouverusa.com/>: <https://thewaterfrontvancouverusa.com/TheWaterfront-Vancouver-USA-Book.pdf>
- Theodora, Y., & Spanogianni, E. (2022). Assessing coastal urban sprawl in the Athens' southern waterfront for reaching sustainability and resilience objectives. *Ocean & Coastal Management*, 222.
- Tian, Y., & Yang, L. (2020). Cultural and Artistic Design of Coastal Cities Based on Marine Landscape. *Journal of Coastal Research*, 106(SI), 431-434.

- Üzümcüoğlu, D., & Polay, M. (2022a). Urban Waterfront Development, through the Lens of the Kyrenia Waterfront Case Study. *Sustainability*, 14(15), 9469.
- Üzümcüoğlu, D., & Polay, M. (2022b). The Assessment of Creative Waterfronts: A Case Study of the Kyrenia Waterfront. *Sustainability*, 14(19), 11906.
- Üzümcüoğlu, D., & Polay, M. (2022c). The Role of the Creative Environment Concept in Waterfront Development: The Case of Limassol Promenade (Molos). *Journal of Urban Research and Development*, 3(1), 16-29.
- Üzümcüoğlu, D., & Polay, M. (2023). Enhancing urban waterfront development: a groundbreaking framework for fostering creativity. *GeoJournal*, 88, 6091–6104. <https://doi.org/10.1007/s10708-023-10958-8>
- Visit Vancouver WA. (2024). *Visit Vancouver WA*. Retrieved January 7, 2024, from Vancouver USA's New Waterfront: <https://www.visitvancouverwa.com/new-waterfront/>
- Wessells, A. T. (2014). Urban Blue Space and 'The Project of the Century': Doing Justice on the Seattle Waterfront and for Local Residents. *Buildings*, 4(4), 764-784.
- White, J. T. (2016). Pursuing design excellence: Urban design governance on Toronto's waterfront. *Progress in Planning*, 110, 1-41. <https://doi.org/https://doi.org/10.1016/j.progress.2015.06.001>
- Xie, C. (2023). The Symbiotic Development of Urban Waterfront Spaces and Regional Culture: Unleashing Potentials, Innovative Design, and Sustainable Development. *Journal of Innovation and Development*, 3(2), 26–30.
- Yang, X. (2014). Structural Quality in Waterfront Green Space of Shaoyang City by Scenic Beauty Evaluation. *Asian Journal of Chemistry*, 26(17), 5644-5648. <https://doi.org/https://doi.org/10.14233/ajchem.2014.18181>
- Yasin, Z., Hwai, A. T., Lee, A., Pinn, W. S., & Razali, N. (2023). *Protecting Penang's Marine Biodiversity: Establishing the Middle Bank Marine Sanctuary (MBMS)*. Penang Institute. Retrieved September 24, 2023, from https://penanginstitute.org/wp-content/uploads/2023/08/Monograph_MBMS.pdf
- Yocom, K. P., Andrews, L., Faghin, N., Dyson, K., Leschine, T., & Nam, J. (2016). Revitalizing urban waterfronts: identifying indicators for human well-being. *AIMS Environmental Science*, 3(3), 456-473. <https://doi.org/https://doi.org/10.3934/environsci.2016.3.456>
- Zaki, S. K., & Hegazy, I. R. (2023). Investigating the challenges and opportunities for sustainable waterfront development in Jeddah City. *International Journal of Low-Carbon Technologies*, 18, 809–819. <https://doi.org/https://doi.org/10.1093/ijlct/ctad062>
- Zakirzianova, Z. (2021). *New York City Waterfront Development in the Post-Sandy Era: The East Side Coastal Resiliency Project and Community Response*. Fordham University ProQuest Dissertations Publishing.
- Zhao, P. (2020). Study on the Representation of Traditional Graphic Elements in Coastal Landscape Planning and Design. *Journal of Coastal Research*, 115(SI), 253-255.

