

Integrating Justinian's Bridge into Tourism-Landscape Identity within the Context of Cultural Landscape

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Abstract

Cultural landscapes are dynamic spatial systems formed by the long-term interaction of natural and cultural elements, shaping urban identity and collective memory. In this context, historical bridges are not only engineering structures but also important components of cultural heritage and spatial continuity. The Justinian Bridge in Sakarya, built in 562 AD, stands out as one of the significant Late Antique infrastructures of Anatolia. However, the bridge's landscape identity and tourism potential have not been adequately assessed, and it has been integrated into contemporary tourism strategies to a limited extent. This study examines the Justinian Bridge within the framework of the relationship between cultural landscape and tourism, evaluating its potential contribution to sustainable tourism development. The research employs a qualitative case study method based on literature review, field observations, spatial analyses, and examination of existing planning documents. The findings show that despite the bridge's high historical, visual, and symbolic value, it is weakly integrated into the tourism system due to insufficient promotion, limited interpretive infrastructure, and deficiencies in landscape-focused planning. The study reveals that interpretive design, digital wayfinding systems, and holistic landscape planning strategies can increase the bridge's visibility and contribute to the integrity of Sakarya's cultural landscape. This study provides a framework for integrating historical infrastructure into sustainable tourism development by linking cultural landscape assessment with tourism-oriented spatial planning, and offers a landscape-based perspective for the preservation and management of historical bridges.

Keywords: Cultural Landscape; Landscape Planning; Sustainable Tourism; Urban Identity; Spatial Sustainability

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1. INTRODUCTION

Cultural landscapes are unique spaces that emerge as a result of the long-term interaction between humans and nature, encompassing historical, aesthetic, and functional qualities. The concept of cultural landscape, included in the World Heritage List in 1992 by UNESCO, refers to multi-layered and multifunctional living environments formed throughout history, where the natural environment and human-made areas coexist (UNESCO, 2008). These areas represent not only physical entities but also social systems intertwined with collective memory, spatial continuity, identity formation processes, and aesthetic perceptions of societies. Furthermore, cultural landscapes are significant not only for the interaction between historical structures and their surroundings but also for the traces they leave in local memory, their role in everyday life practices, and their contributions to urban identity.

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According to UNESCO's definition, cultural landscapes occupy a critical position both in the protection of cultural heritage and in the development of sustainable development strategies (UNESCO, 2008). Moreover, the evaluation of cultural landscapes should not be confined to physical conservation measures alone. It must be integrated with contemporary planning paradigms, community participation, and spatial integration in line with the principles of sustainability (Rössler, 2006). Within the discipline of landscape architecture, the treatment of these areas is shaped not merely by an aesthetic perspective but by a holistic approach that encompasses multi-layered analyses of historical and socio-cultural contexts. Different classification approaches have been developed to understand the multi-layered structure of cultural landscapes (Fowler, 2003; Erdem Kaya, 2013; Cengiz Gökçe & Açiksöz, 2014; Cengiz Gökçe & Açiksöz. 2015). Cultural landscape components are categorized into five main groups: (i) residential areas, (ii) agricultural areas, (iii) historical and archaeological elements, (iv) traditional cultural elements, and (v) transportation (Cengiz Gökçe, 2018; 2023). According to this classification (Table 1), the material of this study, the Justinian Bridge, is an important cultural landscape element that can be considered as a historical and archaeological element.

Table 1. Cultural landscape components

Residential Areas	•	Traditional Housing Texture
	•	Village Square
	•	Cemetery
Agricultural Areas	•	Plant Production
		○ Field Farming
		○ Horticulture
		○ Small Ruminant Farming
	•	Animal Production
		○ Cattle Farming
		○ Poultry Farming
		○ Beekeeping
Historical and Archaeological Elements	•	Historical Structures (Examples of traditional civil architecture, fountains, tumuli, monumental trees, schools, mosques, mills, inns, baths, bridges, tombs, etc.)
	•	Archaeological Remains
Traditional Cultural Elements	•	Handicrafts Workshop
	•	Oven
	•	Laundry
	•	Hayloft/Storage
	•	Festival Area
Transport	•	Main Connection Road
	•	Village Internal Connecting Road

Source: Cengiz Gökçe (2018, s. 36).

The relationship between tourism and landscape is based on the reciprocal interaction of natural and cultural components. While natural and cultural values constitute the fundamental resources of tourism, tourism is also considered an important tool in the preservation and development of these values (Uslu & Kiper, 2006). The desire to see diverse natural and cultural environments underlies tourist movements; therefore, well-preserved natural and cultural areas are considered the most important capital of tourism (Kalem, 2001). Furthermore, tourism can contribute to making local identity visible and preserving cultural diversity; cultural tourism, in particular, relies on elements of local identity and authenticity (Mellinger, 1994; Billington et al., 2013). In this context, historical structures, which are important components of the cultural landscape, strengthen the urban landscape identity with their unique qualities and create important attractions for tourism. The Justinian Bridge, with its historical and cultural values, can also be considered a cultural landscape component with tourism potential, reflecting the identity of the landscape in which it is located. In the Late Antiquity and Roman/Byzantine perspective, the Justinian Bridge was viewed not merely as a transportation

structure, but as a monumental imperial achievement that symbolized the domination of nature, imperial authority, military control, and economic integration (Şahin, 2013).

The research gap of this study is to make a multidimensional and interdisciplinary evaluation of Justinian Bridge from a cultural landscape perspective as the existing literature has not dealt with it in this point of view and in an interdisciplinary way. This study aims to evaluate and reveal both the physical characteristics of the historical structure and its relationship with the city, its perception within society, and to analyze its functionality within spatial continuity. In addition, the study aims to assess the relationship between tourism and landscape identity.

2. CONCEPTUAL FRAMEWORK

Historical bridges hold a significant place within cultural landscapes. Extending beyond their engineering and transportation functions, they are important structures that enhance the landscape identity (Cengiz Gökçe & Açiksöz, 2022) of their respective regions through their historical, artistic, and cultural values, while also contributing to the regional economy by increasing their touristic appeal (Ural, 2005). Among the strategies developed by cities to enhance their tourism potential, the preservation and effective promotion of cultural heritage sites hold a particularly important place (Ulama, 2015). In this context, landscape architecture practices and the principles of sustainable urban development play a crucial role in revealing and strengthening the touristic potential of cities (Atıl et al., 2005; Emekli, 2011*).

Landscape identity is a concept formed through the integration of natural, cultural, visual, and semantic qualities, evolving over time. Landscapes that transform throughout history reflect the characteristic features of a region as a result of the interaction between humans and nature. These areas represent significant cultural heritage sites that express the identities of societies (Koçan, 2012). Approaching cultural landscapes within the framework of sustainable tourism is crucial both for the preservation of place and for promoting regional development (Atıl et al., 2005; Koçan, 2012; Mrđa & Šćitaroci, 2016). In this context, the Justinian Bridge which is located within the boundaries of Sakarya Province and commissioned by Byzantine Emperor Justinian I in the 6th century AD should be regarded not only as an engineering and architectural marvel of the ancient period but also as a significant component within the cultural landscape integrity of Sakarya. Although the Justinian Bridge is currently protected under first-degree archaeological site status, it has not been effectively integrated into urban life, landscape identity, or sustainable tourism policies beyond its mere physical presence (Figure 1).



Figure 1. Justinian Bridge (Sakarya Provincial Directorate of Culture and Tourism, 2025).

Cultural landscape elements should be regarded not merely as remnants of the past but as dynamic values that strengthen spatial sustainability and collective identity (Koçan, 2012). However, historical structures are often treated primarily as aesthetic or archaeological objects, and insufficient efforts are made to integrate them into the urban fabric and contemporary life (Ulama, 2015).

The Justinian Bridge is a structure well known by many residents of Sakarya, holding a significant place in local collective memory and playing an influential role in shaping the city's image. However, despite its historical and cultural potential, it remains underutilized in terms of tourism policies, urban planning, and cultural heritage management. Although its designation as a first-degree archaeological site ensures its physical preservation, the weak interaction between the bridge and urban life has rendered it an inactive cultural heritage object.

In this context, the Justinian Bridge must be both preserved and reconnected with the city in historical, spatial, and social terms as a component of the cultural landscape. The main objective of this study is to analyze the Justinian Bridge within the framework of its cultural landscape value, focusing on aspects such as urban landscape identity, aesthetic significance, and tourism potential, while developing proposals for its integration into urban life in line with the principles of spatial continuity, sustainability, and cultural awareness. Within the scope of this study, national and international best practice examples are presented, and evaluations are made not only regarding the physical presence of the bridge but also its place in collective memory and potential functionality in the future.

3. MATERIALS AND METHODS

3.1. Materials

The primary material of this study is the Justinian Bridge. It is located in the city of Sakarya within the Marmara Region of Türkiye. It is bordered by the Black Sea to the north, Kocaeli to the west, Bilecik to the south, and Düzce to the east. Sakarya has an intertwined structure of urban and rural textures. The Justinian Bridge is situated over the Çark Stream (Demir & Alpargu, 2005), at the coordinates of 40°44'14"N and 30°22'22"E. Today, the bridge is located between the districts of Adapazarı and Serdivan, positioned near the city's main east–west transportation axis (Figure 2 and Figure 3).



Figure 2. Satellite image of the study area

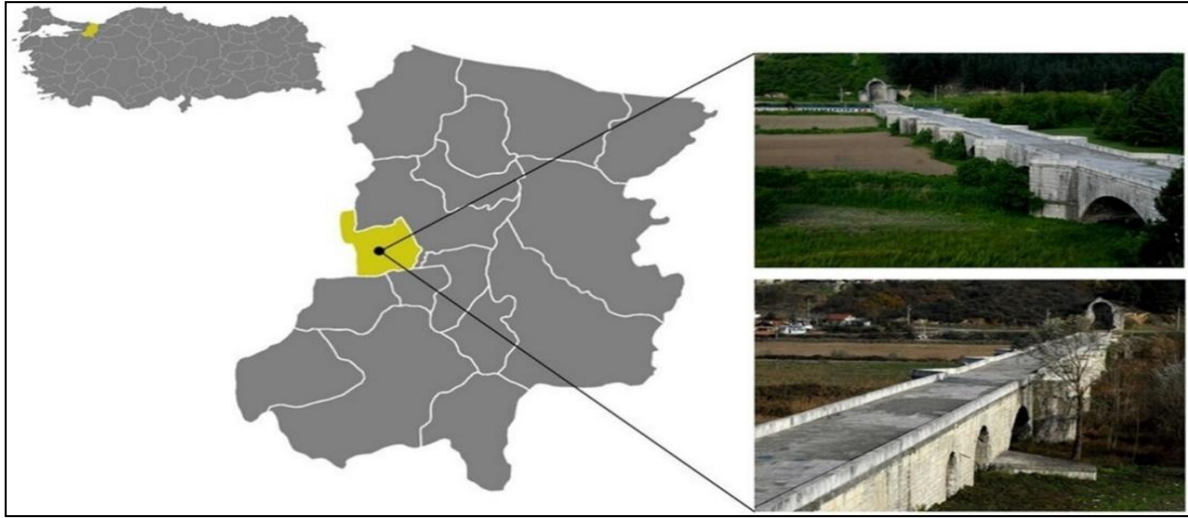


Figure 3. Location of the study area within the country, province, and districts, and views of the bridge.

The bridge is approximately 365 meters in length and 9.85 meters in width, supported by 7 central arches, each with a span of about 23 meters. It reflects the advanced technical characteristics of Roman engineering as well as the aesthetic understanding of its era (Sakarya Provincial Directorate of Culture and Tourism, 2025). General view of the Justinian Bridge is presented in Figure 4.



Figure 4. General view of the Justinian Bridge (Sakarya Provincial Directorate of Culture and Tourism, 2025).

3.2. Method

This study is structured by using qualitative research methods like observation and document analysis. The approach to the study is formed within an interdisciplinary framework. The research process follows a structure grounded in the conceptual framework of the cultural landscape. It aims to reveal not only the physical characteristics of the historical structure but also its relationship with the city, its perception within society, and its functionality within spatial sustainability.

In this context, the study is structured upon a multilayered framework in which historical data analysis, spatial location assessment, landscape relationships, and cultural heritage planning approaches are jointly evaluated. The Justinian Bridge is examined in terms of its historical structure as well as its environmental/physical, socio-cultural, and aesthetic dimensions. During the data collection process, a comprehensive national and international literature review was made, focusing on academic publications, theses, reports, and institutional documents such as those of UNESCO's related to cultural landscapes, the conservation of historical structures, sustainable tourism, urban identity, and aesthetic values. Within the scope of the fieldwork, the physical condition of the bridge, its spatial relationships with the surrounding environment, its landscape context, and user interactions were directly observed. The integrity between the natural/physical environment and the historical structure was evaluated. Tourism reports prepared for the province of Sakarya were analyzed, and the existing SWOT analyses were used as guiding data to assess the strengths, weaknesses, opportunities, and threats related to the bridge. The collected data were examined, analyzed, and diversified under thematic categories. Field observations were compared with findings from the literature. Evaluations were conducted from the perspectives of spatial location, perceptibility, interaction with the urban fabric, and symbolic values, leading to the development of proposals. Among the primary limitations of the research are the restrictions on physical intervention due to the bridge's status as a first-degree archaeological site, the unavailability of up-to-date documentation regarding its restoration history and conservation policies, and limited access to information from relevant institutions. However, these limitations have been tried to be mitigated through an extensive literature review, visual document analysis, and on-site observations, thereby ensuring the scientific integrity of the study. Ethical committee approval was not required for this study because the research is based on literature review, field observations, and spatial analysis, and does not involve human participants, personal data, or experimental procedures.

4. FINDINGS

4.1. Historical and Architectural Characteristics of the Bridge

Constructed in the 6th century AD under the reign of Eastern Roman Emperor Justinian I, the bridge is considered one of the longest stone bridges from the Roman period in Anatolia (Balaban & Kösten, 2023). From an architectural perspective, it is an outstanding example of stone construction techniques, employing an arched system, and is made entirely of limestone. It also served as a crucial crossing point along historical transportation routes (Menteşe et al., 2016; Iriz, 2022). Registered as a first-degree archaeological site in 2004, the bridge largely preserves its physical integrity today (Üste, 2011). However, its limited integration with the urban fabric, weakened functionality, and lack of effective promotion have restricted its social and touristic visibility. Although the surrounding area possesses high recreational potential, it has not yet been addressed within the scope of landscape planning and design studies.

From the Roman and Byzantine administrative viewpoint, the bridge was also part of a broader hydraulic and logistical system. According to the article, Justinian's project aimed to regulate floods,

secure military roads, improve commercial transport, and connect inland Anatolia with Constantinople through waterways linked to the Sapanca basin. The bridge and canal network were therefore understood as strategic state infrastructure serving imperial communication, taxation, trade, and defense (Şahin, 2013).

Research conducted on the area where the bridge was built indicates that the structure was constructed in a shallow water-marsh environment and that the surrounding alluvial deposits consist of five distinct sedimentary units. This finding demonstrates that the bridge was planned with careful attention not only to engineering concerns but also to environmental and geographical conditions (Vardar et al., 2019). Archaeological excavations and restoration works carried out in the 1980s revealed that the bridge has largely preserved its original structure (İrız, 2022). In 2018, the bridge was inscribed on UNESCO's Tentative List of World Heritage (Türkiye Kültür Portalı, 2025), a development that increased the region's international visibility. Nevertheless, its evaluation in terms of tourism and its integration into cultural identity remain insufficient. Although the bridge is significant for Sakarya's tourism potential, its surroundings cannot fully convey its historical character due to unplanned urbanization and infrastructure deficiencies. The historical context of the region further enhances the bridge's value. According to Demir & Alpargu (2005), the Sakarya basin has come under the influence of major civilizations such as Phrygia, Bithynia, Rome, and Byzantium throughout history. The trade routes established along the river transformed this geography into a strategic crossroads. In this context, the Justinian Bridge is regarded not only as a crossing point but also as a spatial representative of the multilayered cultural accumulation within the historical process.

During a restoration project carried out between 1990 and 1995 on the Justinian Bridge, the use of cement mortar caused discoloration, damage, and various deteriorations in the structure's original texture. In addition, vehicular traffic on the bridge prior to 1995 increased the load on the arches, foundations, and piers, exerting significant pressure and causing structural harm. The heavy impact of vehicles on the bridge deck necessitated the replacement of most of the deck during the 1990–1995 repair works. Furthermore, the harmful gases emitted by vehicles passing between the apsidal structure and the bridge led to carbon contamination, while excessive stress caused visible damage to the easternmost arch (İrız, 2022). During the restoration process, the bridge deck was renewed, parapets were added, and the bridge was permanently closed to vehicular traffic. However, for many years no comprehensive maintenance efforts were carried out, and the bridge continued to be used solely for pedestrian passage by the local population (Üste, 2011). In the restoration campaign initiated in 2018, the bridge was completely closed to pedestrians as well, due to restoration works on its ancillary structures such as the triumphal arch, apsidal structure, vaulted section, and cistern (İrız, 2022). A view of the bridge's vaulted structure, bathhouse, and cistern sections is presented in Figure 5.



Figure 5. A view of the bridge's vaulted structure, bathhouse, and cistern sections (ANB, 2025).

4.2. Current Condition of the Bridge

Although partial restoration works have been carried out on the bridge during various periods, it is evident that a comprehensive and scientifically grounded conservation plan is lacking. Moisture, vegetative intrusions, and environmental factors in particular threaten the material integrity of the structure. While the bridge's status as a first-degree archaeological site restricts the extent of physical interventions, the absence of conservation–use plans to be developed by local authorities makes the sustainable preservation of the structure difficult. To assess the current condition of the bridge, a SWOT analysis was conducted (Table 2).

Table 2. SWOT analysis

STRENGTHS	WEAKNESSES
• Its status as one of the longest stone bridges in Anatolia dating back to the Byzantine period • Its protection under first-degree archaeological site status • Its largely preserved historical architectural and engineering features • Its recognition as “Beşköprü” by the people of Sakarya, indicating its established place in the city's collective memory • Its visual landscape value as a representative element of Sakarya's historical identity • Its location within a natural landscape that holds strong potential for enhancing visitor experience	• Its weak physical connection with urban planning and the transportation network • The lack of directional signage, informational panels, and promotional materials • The inability to achieve visual/aesthetic continuity in the physical environment • The absence of digital promotion tools and interactive user-experience components • The exclusion of local residents and civil society organizations from decision-making processes
OPPORTUNITIES	THREATS
• Its strong potential for nomination to the UNESCO Tentative World Heritage List • The growing awareness of cultural tourism in Sakarya and the increasing investments made by the municipality • Promotion opportunities offered by digitalization tools (AR/VR, QR codes, mobile guides) • Its location, which allows integration into cultural routes and historical walking trails • A potential project site suitable for establishing partnerships with universities and civil society organizations • Its capacity to serve as a venue for open-air cultural events and thematic festivals.	• The risk of the structure becoming functionally obsolete if the conservation–use balance is not achieved • The pressure caused by excessive urbanization and unplanned development, which may disrupt the environmental integrity of the bridge • The postponement of repair, maintenance, and signage/wayfinding systems due to insufficient resources • The preservation of the structure merely as a physical object, preventing it from functioning as a living heritage site • Loss of visibility due to its absence among leading tourism destinations • Its location, which makes the structure vulnerable to physical damage in the event of natural hazards such as floods or earthquakes

4.3. Its Place in Societal Perception and Local Memory

The Justinian Bridge is known among local residents as Beşköprü and it holds a significant position within the urban identity. The sense of attachment to the structure has developed through a perceived connection with the past in the collective memory of the community. However, this value has not been sufficiently reflected in urban development strategies.

This situation may be associated with Tunbridge and Ashworth's (1996) concept of the marketability of memory. Accordingly, the relationship established between a structure's position in public memory and tourism policies forms the basis of sustainable promotion. In the case of Sakarya, it is evident

that such a connection has not been successfully established. An example of how the Justinian Bridge is reflected in district identity is presented in Figure 6.



Figure 6. Reflection of the Justinian's Bridge on District Identity

4.4. Tourism Potential and Gaps in Promotion

With its historical identity, unique arch system, and structural features reflecting the engineering understanding of the period, the Justinian Bridge is more than just a transportation infrastructure element; it is an important cultural heritage element that makes the historical continuity of its landscape visible. These qualities create an attractiveness for tourism by strengthening the spatial perception of the bridge, increasing the legibility of the landscape, and offering a unique experience for visitors. In this context, the structure stands out as an important cultural landscape element supporting the tourism potential in Sakarya, evaluated through the holistic impact of its historical, architectural, and aesthetic values. However, this potential is not sufficiently utilized within the scope of current promotion strategies.

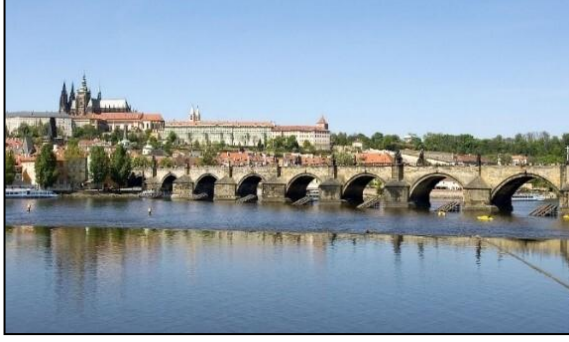
Tourism reports prepared for the province of Sakarya identify the lack of visibility of historical structures and the insufficiency of wayfinding elements as key weaknesses (Bilgiçli, 2023). The absence of informational panels, digital guide systems, and accessibility infrastructure related to the bridge hinders its integration with its cultural tourism value.

Well-managed examples demonstrate how historical bridges can be transformed into effective tools of promotion and destination image-building. For instance, structures such as the Mostar Bridge, which holds UNESCO World Heritage status, have achieved worldwide recognition through strong promotional strategies while preserving cultural memory. Similarly, Pont Alexandre III in Paris has become not merely a transportation structure but a powerful cultural symbol that reinforces the city's romantic identity (Güçlü, 2024). These findings reveal that the cultural tourism potential of the Justinian Bridge depends not only on its structural and historical qualities but also on effective promotion, accessibility, and holistic destination management strategies. This case points to the need for a more comprehensive approach to cultural landscape values within sustainable tourism planning.

4.5. Similar Examples from Türkiye and the World

In this section national and international historical structures that may serve as references for the Justinian Bridge examined in this study are presented in Table 3.

Table 3. National and international examples.

Example Historical Structure	Description
	Stari Most (aka Mostar Bridge), Mostar, Bosnia and Herzegovina Old Bridge Area of the Old City of Mostar (including The Mostar Bridge) in Bosnia and Herzegovina was restored in accordance with its original structure after the war, inscribed in the UNESCO World Heritage List in 2005, and has since become one of the most significant symbols of international tourism (Güçlü, 2024).
	The Pontcysyllte Aqueduct, Froncysyllte, Wrexham, Wales The Pontcysyllte Aqueduct has been promoted both as an aesthetic landmark and as an engineering-architectural heritage asset, transforming it into a strong tourism destination (Iriz, 2022). The Pontcysyllte Aqueduct and Canal was inscribed by UNESCO on the World Heritage List in 2009.
	Karlův Most (aka Charles Bridge), Prague, Czech Republic The Charles Bridge, commissioned in the 14th century by King Charles IV and built over the Vltava River in Prague, is a significant example of Gothic architecture. With the sculptures that adorn it, the bridge functions not only as a means of passage but also as a powerful touristic element reflecting Prague's cultural identity (Fischer & Fischer, 1985). Its historic center has been recognized as one of the UNESCO World Heritage Sites in 1992.
	Taşköprü, Kastamonu, Türkiye The historical bridge located in the Taşköprü district of Kastamonu city is regarded as an important component of the district's cultural tourism potential and destination image (Sezer, 2017).
	Hacıboz Bridge (aka Zile Bridge), Tokat, Türkiye The Hacıboz Bridge is located in Zile district of Tokat over the Çekerek River. It dates back to the 17th century Ottoman period. It is an important stone bridge constructed using ashlar masonry. Serving as part of the historical transportation network, the bridge has largely preserved its original structure to the present day, becoming a significant element of regional cultural heritage (Gündoğdu et al., 2006; Zile Municipality Official Website, 2025a).

Compared to these examples, the Justinian Bridge is in relatively good condition in terms of conservation; however, it exhibits significant deficiencies in functional and perceptual integration.

This situation prevents the structure from becoming a *Living Cultural Landscape Element* and increases the risk of it turning into a heritage asset that is merely *Preserved but Forgotten*.

5. CONCLUSION

This study aimed to evaluate the Justinian Bridge which is located within the boundaries of Sakarya Province as a cultural landscape element through its historical, aesthetic, socio-cultural, and spatial dimensions. Based on literature reviews, field observations, and document analyses, it was concluded that the bridge is not only a historical heritage asset but also a significant element shaping the urban identity of Sakarya. However, this potential has not been rendered visible or functional within contemporary urban life. This study makes a unique contribution by considering the Justinian Bridge not only as a historical structure requiring preservation but also evaluating it holistically within the framework of cultural landscape, landscape identity, and tourism planning. It also offers an interdisciplinary evaluation model for the integration of historical heritage with contemporary urban systems.

Despite being one of the rare engineering works that has survived from the Byzantine period to the present, the bridge exists almost as an isolated heritage asset due to spatial disconnection, administrative insufficiencies, lack of promotion, and low levels of public awareness. Its inability to integrate with the landscape identity, its weak connection to urban circulation systems, and the absence of landscape planning and design efforts that ensure aesthetic continuity have prevented this historical structure from attaining the recognition it deserves within the city's collective memory. Spatial isolation and planning deficiencies have also resulted in the surrounding area remaining detached from public functions, thereby hindering the establishment of landscape integrity.

Although the bridge remains physically intact, the inadequacies in directional signage, informational systems, and aesthetic arrangements prevent it from establishing a strong presence in visual memory and urban identity. The limited participation of local residents and academic stakeholders in decision-making and conservation processes related to the Justinian Bridge reduces social ownership and leads to its perception merely as an object of viewing. Moreover, its promotion has remained confined to traditional methods, and no digital tools, mobile applications, or digital routes have been developed to meet contemporary user expectations. Consequently, the bridge fails to sufficiently attract younger visitor groups, whose engagement typically relies on interactive and technology-supported experiences.

The findings obtained within the scope of this research indicate that the bridge is not only structurally insufficient but also lacks integration at the urban, aesthetic, and social levels. Yet, the cultural landscape approach - exemplified in temple precincts in Kyoto- emphasizes transforming multilayered historical structures into living spaces that sustain spiritual and social integrity, going beyond mere physical preservation (UNESCO, 2008).

In conclusion, the Justinian Bridge should be regarded not merely as an archaeological structure requiring preservation but as a dynamic cultural landscape element that can strengthen urban identity, enhance social belonging, and be integrated into sustainable tourism policies. Planning objectives and recommendations related to the Justinian Bridge are presented in Table 4.

Table 4 presents a set of integrated planning objectives and strategic recommendations developed for the sustainable conservation and tourism-oriented use of the Justinian Bridge within the cultural landscape framework. The proposed strategies address multiple dimensions, including spatial accessibility, physical conservation, landscape design, digital information systems, cultural

programming, tourism promotion, and institutional management. In particular, the recommendations emphasize strengthening the bridge's spatial integration with the urban structure, improving visitor accessibility, enhancing landscape identity through sensitive design interventions, and supporting cultural tourism through digital technologies and educational activities. Together, these planning objectives aim to transform the Justinian Bridge from a largely underutilized heritage asset into an actively interpreted cultural landscape element that contributes to Sakarya's urban identity, cultural continuity, and sustainable tourism development.

Table 4. Planning objectives and recommendations

Planning Objective	Description / Recommendations
Spatial Integration and Accessibility	The bridge should be integrated into the urban transportation network through the establishment of pedestrian corridors, bicycle paths, and connections to historical walking routes. Its relationship with the Adapazarı city center and surrounding neighborhoods should be strengthened, ensuring its inclusion within cultural circulation routes. A dedicated public transport route, such as a special "Justinian Line," should be designed and integrated into the existing public transportation system. Directional signage, wayfinding elements, and information points distributed throughout the city should be created to enable visitors to navigate the area with ease.
Physical Conservation, Restoration, and Structural Reinforcement Works	Restoration works, when deemed necessary, should prioritize the use of original materials and traditional construction techniques. A comprehensive structural health monitoring system should be established to track surface erosion, stone deformation, and environmental impacts. The boundaries of the registered site and its buffer zones should be clearly defined, and conservation principles regulating construction and interventions within these areas should be established. All restoration practices should fully comply with international conservation principles.
Landscape Planning, Design, and Visual Integrity	The vacant and low-quality spaces surrounding the bridge should be re-evaluated and transformed into thematic parks, open-air exhibition areas, and recreational zones. Plant species should be selected in harmony with the historical fabric, prioritizing native species in order to ensure visual continuity. The area around the bridge should be endowed with a distinct identity through landscape elements such as mosaic panels reflecting the historical period, information stones, and natural stone walking paths. To enhance nighttime visibility, low-intensity environmental lighting systems that do not harm the historical fabric should be installed. Seating areas, wayfinding panels, and urban furniture should be designed in accordance with the historical-aesthetic context and placed within the site accordingly.
Digitalization and Information Systems	Digital access should be enhanced through multilingual information panels, QR-code-based information systems, and mobile applications related to the bridge. Augmented reality (AR) and virtual reality (VR) applications should be developed to increase the experiential accessibility of historical information for visitors. Dedicated pages for the Justinian Bridge should be created on the websites of local authorities and the Ministry of Culture and Tourism, featuring 3D models, videos, and interactive narratives. Collaboration with universities should be established to develop digital storytelling projects and virtual archive applications.
Cultural and Educational Activities	Experiential educational programs—such as "History Narratives on the Bridge" and "Living History Lessons"—should be organized for primary, secondary, and university students. Open-air concerts, historical costume shows, and traditional handicraft workshops should be held to transform the bridge's surroundings into an active cultural venue. An annual "Justinian Culture and Landscape Week" should be organized to bring together local residents, academics, artists, and students. In collaboration with museums, civil society organizations, and municipalities, periodic exhibitions themed "Memory of the Bridge" should be prepared to increase the diversity of cultural activities.
Tourism-Oriented Planning Integration and Promotion	The Justinian Bridge should be officially included in Sakarya's cultural routes and tourism maps. Site-specific narratives about the bridge should be developed within guided cultural heritage walking tours led by professional guides. Promotional brochures should be distributed free of charge at locations such as bus stops, tourism information offices, and airports, and a dedicated promotional film about the bridge should be produced.

	In collaboration with the Ministry and local authorities, the representation of the bridge should be incorporated into national and international festival participations in order to enhance its visibility
Management, Planning, and Institutional Collaborations	A dedicated Cultural Landscape Site Management Plan should be prepared for the Justinian Bridge. A multi-stakeholder executive board should be established, consisting of representatives from the Ministry, local authorities, universities, and relevant civil society organizations. Within the scope of site management, professionals specialized in technical and social fields should be employed to ensure continuous monitoring and reporting processes. Applications should be submitted to national and international grant programs (e.g., UNESCO, European Union Cultural Heritage Fund) to secure resources for the preservation and enhancement of the site.
Integration into National and International Networks	The Justinian Bridge should be included in national thematic cultural routes such as the “Anatolian Cultural Routes” and the “Byzantine Heritage Network” to increase its visibility. At the international level, information exchange, consultancy, and/or joint promotional campaigns should be carried out with organizations such as Europa Nostra and ICOMOS.
Site Monitoring and Visitor Management	A visitor management system should be established to continuously monitor the site and collect feedback. Visitor numbers, density, and experience levels should be digitally reported through data gathered from mobile applications or kiosks. Physical load should be regulated and user satisfaction monitored through entrance–exit control systems. The quality of visitor guidance should be enhanced through volunteer guiding programs, on-site personnel, and information booths.
Climate- and Disaster-Sensitive Planning	The bridge and its surroundings should be supported with structural analyses addressing natural disaster risks such as flooding, earthquakes, and erosion, and climate- and disaster-sensitive planning principles should be applied. In landscape planning and design interventions within the site, drainage systems should be redesigned to withstand the impacts of climate change, and planting schemes should be supported with water-retentive species. Environmentally friendly practices should be promoted by using solar-powered lighting, informational panels, and recyclable materials, thereby ensuring a sustainable site management approach.

Despite the comprehensive evaluation presented in this study, several limitations should be acknowledged. First, the research primarily focuses on landscape planning perspectives and spatial evaluation; therefore, detailed archaeological, historical, or engineering analyses of the bridge were beyond the scope of the study. Second, the proposed planning objectives are conceptual and strategic in nature and have not yet been tested through empirical visitor surveys or implementation-based case studies. Finally, the study relies on available literature, field observations, and secondary sources, which may limit the depth of historical or socio-economic analysis. Future studies could expand this framework by incorporating interdisciplinary data, including archaeological findings, visitor perception studies, and participatory planning processes involving local communities.

Future research could expand the analytical framework of this study by incorporating interdisciplinary approaches that combine landscape architecture with archaeology, history, tourism studies, and digital heritage technologies. In particular, empirical studies focusing on visitor perceptions, user experience, and participatory planning processes involving local communities could provide deeper insights into how cultural heritage sites such as the Justinian Bridge are perceived, used, and valued in everyday urban life. In addition, comparative studies examining similar historical bridges within different cultural landscape contexts could contribute to the development of broader conservation and tourism integration models. The integration of digital heritage tools, such as spatial simulations, visitor flow analyses, and immersive technologies, may also offer new methodological perspectives for future cultural landscape research. It should not be forgotten that Late Antique and Roman/Byzantine perspectives treated the Justinian Bridge as a symbol of imperial power, a conquest of a dangerous natural landscape, and a monumental engineering achievement (Şahin, 2013).

For planners, local authorities, and heritage management institutions, the findings of this study highlight the importance of adopting an integrated cultural landscape approach that goes beyond the physical conservation of historical structures. Sustainable management of the Justinian Bridge requires coordinated planning strategies that combine landscape design, visitor management, cultural programming, and digital interpretation tools. Strengthening institutional collaboration between municipalities, universities, cultural heritage authorities, and civil society organizations would facilitate more effective conservation and promotion processes. Furthermore, incorporating the bridge into regional cultural routes and tourism strategies could enhance its visibility and contribute to local economic development while ensuring the long-term protection of its historical and landscape values.

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REFERENCES

- ANB (2025). *Justinianus Bridge*. <https://anbmimarlik.com/en/project/justinians-bridge/> Retrieved on 09.12.2025.
- Atıl, A., Gülgün, B., & Yörük, İ. (2005). Sürdürülebilir kentler ve peyzaj mimarlığı. *Journal of Agriculture Faculty of Ege University*, 42(2), 215-226.
- Balaban, A. T., & Kösten, E. Y. (2023). An analytical approach to the traces of settlement of the city of Sakarya from antiquity to the present. *DEPARCH Journal of Design Planning and Aesthetics Research*, 2(2), 172-199. <https://doi.org/10.55755/DepArch.2023.22>
- Bilgiçli, İ. (2023). Sakarya ili turizm değerlerinin SWOT analizi. In O. Çelen & A. Ünal (Eds.), *Turizm ve Destinasyon Araştırmaları III* (pp. 59–76). Paradigma Akademi.
- Billington, R., Strawbridge, S., Greensides, L., & Fitzsimons, A. (2013). “Kültür”ü tanımlamak (Translate: Günseli Altaylar). In Giddens, A. (Ed.) *Sosyoloji başlangıç okumaları* (pp. 33-39). Say Yayınları.
- Cengiz Gökçe, G. (2018). *Kültürel peyzaj-turizm ilişkisine yönelik kırsal kimlik koruma modeli: Nallıhan-Beydili örneği* (Thesis No: 516167) [Doctoral dissertation, Bartın University]. Council of Higher Education Thesis Center.
- Cengiz Gökçe, G. (2023). *Rural identity protection model in cultural landscape-tourism relations*. Özgür Publications. <https://doi.org/10.58830/ozgur.pub405>
- Cengiz Gökçe, G., & Açiksöz, S. (2014). Turizmin kültürel peyzaj bileşenleri ve kırsal kimlik üzerine etkisi: Nallıhan Beydili köyü örneği. In *II. International Symposium on Environment and Morality Proceedings Book Volume 2*, (pp. 1059-1068), 24-26 October, Adıyaman.
- Cengiz Gökçe, G., & Açiksöz, S. (2015). Kültürel peyzaj bileşenleri ve turizm ilişkisinde görsel peyzaj analizi: Nallıhan-Beydili köyü örneği. In *I. Eurasia International Tourism Congress: Current Issues, Trends and Indicators (EITOC)-(I. Avrasya Uluslararası Turizm Kongresi: Güncel Konular, Eğilimler ve Göstergeler) Proceedings Book Volume 1*, (pp. 409-419), 28-30 May, Konya.
- Cengiz Gökçe, G., & Açiksöz, S. (2022). Evaluation of the relationship between cultural landscape and identity of rural landscape with mind map method. *Fresenius Environmental Bulletin*, 31(7), 6962-6972.
- Demir, M., & Alpargu, M. (2005). *Sakarya ili tarihi 2. cilt*. T.C. Sakarya University Rectorate Publishing.
- Emekli, G. (2011*). Öğrenen turizm bölgeleri, kentler ve kent turizmine kuramsal yaklaşım. *Aegean*

- Geographical Journal*, 20/2 (2011), 27–39. (*Published in 2014)
- Erdem Kaya, M. (2013). Landscape change and rural policy: An identity based approach to rural settlement. *ITU A|Z*, 10(2), 94-110.
- Fischer, J. & Fischer, O. (1985). *Prague bridges*. Prague Academia.
- Fowler, P. J. (2003). *World heritage cultural landscapes 1992-2002*. UNESCO World Heritage Center.
- Güçlü, D. (2024). Tarih ve turizm arasındaki bağlantı: Köprüler. *The Journal of International Language, Literature, Culture, History, Art and Education Research*, 15, 1541-1561. <https://doi.org/10.51531/korkutataturkiyat.1454641>
- Gündoğdu, H., Bayhan, A. A., Aktemur, A. M., Kukaracı, İ. U., Çelik, A., & Güneş, B. (2006). *Tarihi yaşatan il Tokat*. PYS Vakıfsistem Publishing.
- Iriz, İ. C. (2022). *Arkeolojik alanların kente entegrasyonu: Justinianus Köprüsü* (Thesis No: 751299) [Master Thesis, Dokuz Eylül University]. Council of Higher Education Thesis Center.
- Kalem, S. (2001). *Doğal ve kültürel değerlerin korunabilmesi için turizm potansiyelinin belirlenmesinde bir yöntem yaklaşımı ve Kastamonu ili kıyı bölgesi ve yakın çevresinde uygulanması* (Thesis No:104582) [Doctoral Dissertation, Ankara Üniversitesi]. Council of Higher Education Thesis Center.
- Koçan, N. (2012). Kütahya-Eskigediz tarihi kent dokusunun peyzaj mimarlığı açısından değerlendirilmesi. *Ordu University Journal of Science and Techonology*, 2(1), 81–96.
- Mellinger, W. (1994). Toward a critical analysis of tourism representations. *Annals of Tourism Research*, 21(4), 756-779.
- Mentese, V. G., Gedik, Y. H., Gunes, O., & Korkmaz, K. A. (2016). Structural investigation on Justinianus Bridge in Sakarya city of Turkey. In *The First Istanbul Bridge Conference Proceedings* (pp. 1-10). İstanbul, Türkiye
- Mrđa, A. & Šćitaroci, B. B. O. (2016). Relationship between tourism and cultural landscape—a new sustainable development model. In *Proceedings of Tcl 2016 Conference Infota* (Vol. 2016, pp. 376-384). Budapest, Hungary.
- Rössler, M. (2006). World Heritage cultural landscapes: A UNESCO flagship programme 1992 – 2006. *Landscape Research*, 31(4), 333–353.
- Şahin, S. (2013). Iustinianus'un Bithynia'da Sakarya Nehri üzerinde inşa ettirdiği köprü ve kanal tesisleri. *Eskiçağ Yazıları*, 4, 1-30.
- Sakarya Provincial Directorate of Culture and Tourism. (2025). Historic Justinianus Bridge. <https://sakarya.ktb.gov.tr/TR-340117/tarihi-justinianus-koprusu.html>, Retrieved date: 22.12.2025.
- Sezer, İ. (2017). Kültürel mirasın turizm açısından değerlendirilmesi: Taşköprü ilçesi örneği. *International Journal of Turkic World Tourism Studies*, 2(2), 175-198.
- Tunbridge, J. E., & Ashworth, G. J. (1996). *Dissonant heritage: The management of the past as a resource in conflict*. John Wiley & Sons.
- Türkiye Kültür Portalı. (2025). *Justinianus Köprüsü*. <https://www.kulturportali.gov.tr/turkiye/sakarya/gezilecekyer/justinianus-koprusu> Retrieved date: 29.11.2025.
- Ulama, Ş. (2015). Turizm tanıtım broşürlerinde destinasyon imajı analizi: Türkiye örneği. *Bartın University Journal of Faculty of Economics and Administrative Sciences*, 6(11), 231-246.
- UNESCO. (2008). *Operational guidelines for the implementation of the World Heritage Convention*. World Heritage Centre.
- Ural, A. (2005). Tarihi kemer köprülerin sonlu eleman metoduyla analizi. In *Deprem Sempozyumu*

- Kocaeli 2005 (pp. 408-413). Kocaeli, Türkiye
- Uslu, A. & Kiper, T. (2006). Turizmin kültürel miras üzerine etkileri: Beypazarı/Ankara örneğinde yerel halkın farkındalığı. *Tekirdağ Ziraat Fakültesi Dergisi*, 3(3), 305-314.
- Üste, C. (2011). *Sakarya İli Beşköprü (Sangarios, Justinianus Köprüsü) 'nün koruma ve restorasyon önerisi* (Thesis No: 293038) [Master Thesis, Gazi University]. Council of Higher Education Thesis Center.
- Vardar, S., İlhan, R., Öner, E., & Kenar, F. (2019). Justinianus Köprüsü çevresinde delgi sondaj yöntemli paleocoğrafya-jeoarkeoloji araştırmalarının ön sonuçları. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (33), 756–796. <https://doi.org/10.14520/adyusbd.643558>
- Zile Municipality Official Website (2025a). *Hacıboz Köprüsü*. <https://site.zile.bel.tr/index.php/2021/02/01/hanboz-koprusu/attachment/18216670/> Retrieved date 28.04.2025.

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