



# STREETSCAPE DESIGN PROPOSALS FOR URBAN ECOLOGICAL GREENWAY PLANNING IN BARTIN, TURKEY

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## ABSTRACT

River corridors constitute the backbone of ecological greenway planning. Selected as the case study of this study, Tersane Street and Kanlırmak Street along the Bartın River are important public green areas where the inhabitants can access the riverside. This article presents some streetscape design proposals in the context of ecological greenway planning for the revitalization of the public green areas along the Bartın River. To do so, five areas were selected and landscape analyses were conducted within the traditional urban fabric of Bartın. Strengths, weaknesses, opportunities, and threats (SWOT) analyses were conducted for each of these five areas to determine their current conditions. In line with these analyses, streetscape design principles were developed and alternative streetscape designs were proposed for the five pilot areas suitable for the traditional urban fabric of Bartın.

**Keywords:** Bartın, streetscape design, urban greenway, traditional urban fabric

## KENTSEL EKOLOJİK YEŞİLYOL PLANLAMASI KAPSAMINDA CADDE/SOKAK PEYZAJI TASARIMI ÖNERİLERİ: BARTIN, TÜRKİYE

### ÖZET

Bu makalenin ana konusu olarak seçilen Bartın Çayı kıyısındaki Tersane ve Kanlırmak Caddeleri halkın akarsu kıyısına erişebildiği önemli kamusal yeşil alandır. Bu makalede, Bartın Çayı kıyısındaki kamusal yeşil alanların ekolojik yeşil yol planlaması kapsamında yeniden canlandırılmasına yönelik cadde/sokak peyzajı tasarım önerileri geliştirilmiştir. Bu çerçevede Bartın geleneksel kent dokusu bütününde peyzaj analizleri yapılmıştır. Araştırma alanında özellikli 5 nokta seçilmiştir. Seçilen 5 nokta için ayrı ayrı mevcut durumu saptamaya yönelik güçlü, zayıf, fırsat, tehdit (SWOT) analizleri yapılmıştır. Buna paralel cadde/sokak peyzajı tasarım ilkeleri önerilmiştir. Bu ilkeler doğrultusunda alternatif cadde/sokak peyzajı tasarımları geliştirilmiştir.

**Anahtar Kelimeler:** Bartın, cadde/sokak peyzajı, kentsel yeşilyol, geleneksel kent dokusu

### 1. INTRODUCTION

Greenways are linear corridors connecting natural corridors, such as rivers, ridges or valleys, canals along the railways transformed into recreational areas, scenic paths or parks, natural reserves, and historical settlements to each other and to residential areas. Greenways constitute linear open areas that are planned for ecological, recreational and cultural uses and are preserved in line with these objectives. Although greenways are often planned for either recreation or nature conservation, some of them cover both functions.

Greenways could as well be defined as an interconnected green system that includes the natural system. In this respect, greenways are systems that contain recreational areas such as wildlife corridors, cultural assets, historic routes, scenic roads, riverbeds and valleys, parks, green zones, coasts, park roads, trails, natural ecological corridors, and existing green fabric.

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Makale metni 29.02.2012 tarihinde dergiye ulaşılmış, 23.03.2012 tarihinde basım kararı alınmıştır.

It is possible to classify greenways according to their functions as follows:

- conservation and development of biodiversity,
- conservation, restoration and management of water resources (river corridors, wet areas, etc.),
- development of recreation facilities in linear corridors along urban and rural landscape based on natural resources,
- protection and integration of historical and cultural resources,
- control of urban development, and
- provision of an environment for plants and animals, protection of natural areas and ensuring the sustainability of ecosystems, as their most important ecological function (Arslan et al., 2007).

Streetscape design in river shores, in this respect, is particularly important. Streets are public areas crucial for social life of cities (Moughtin, 1992). Moreover, they are functional elements for connecting different parts of the built environment and organizing urban transport and drainage systems. Thus, street design determines the extent to which these functions contribute to urban life. In addition, it shapes the character of an urban area and the everyday life of inhabitants who use streets, such as choosing transport modes, feeling safe, public behavior like mingling in the crowd or keeping their curtains open (Anonymous, 2010).

Designing a streetscape, with all of its components such as furnishings, should consider both the built environment of the city and the particular location to be designed. Streetscape design should include the type, size, location, and materials of furnishings such as “paving, lighting, sculptures, fountains, bollards, seats, planters, telephones, kiosks, shelters, canopies, trash containers and drinking fountains” (Rubenstein, 1992). Figure 1 present some examples of European and American streetscape designs in river shores.



The Rhine River, Frankfurt-Gernany



The Rhine River, Strasbourg-France



The Salzach River, Salzburg-Austria



The Trinity River, Forth Worth, Dallas-Texas

Figure 1. Some examples of European and American streetscape designs in river shores (Original, 2008)

Urban river corridors constitute the backbone of ecological greenway planning. One of the urban landscape elements that host important streetscape spots for the city of Bartın is the Bartın River. This study proposes alternative streetscape designs suitable for the traditional urban fabric of Bartın in five spots selected as pilot areas. It is important that these spots are integrated to the whole of the Bartın River for the future of the city. In this way, it is aimed to present objectives and strategies related to the transformation of the traditional fabric into an urban prestige area and to contribute to the economy of the region and the country.

## 2. MATERIALS AND METHOD

### 2.1 Study Area

The city of Bartın is located 12 km inland from the sea in the Western Black Sea region. It is surrounded by Zonguldak in the west, Kastamonu in the east, Karabük in the south and the 59-km coastal strip of the Black Sea in the north (Figure 2). Bartın became a province in 1991 and has a surface area of 214.300 ha. The Province of Bartın has 187.291 inhabitants, and the population of the city center is 54.555.

Bartın is one of the few Turkish cities with a river running in the city. The average elevation in the city center of Bartın is 25 m Halatçıyaması Hill (109.71 m) and Kırtepe (61.6 m) constitute a ridge at an elevation of 20 m in the traditional urban fabric that is located in the peninsula (Cengiz, 2007). Having enlivened the city of Bartın located in a peninsula, The Bartın River is a natural watercourse that can be used for transport. With this characteristic, Bartın has been able to preserve its natural and cultural values at the local scale up to now. It is possible to see the basic components of the traditional urban fabric in Bartın, such as the organic street pattern, examples of civil architecture, and gardens and parks in the river corridor. Selected as the case of this study, Tersane and Kanlırmak Streets along the Bartın River are easily accessible important public green areas.

Five particular spots were selected on Tersane and Kanlırmak Streets (Figure 2):

- Old Terminal and The Historic Dock Area
- Tersane Street
- Orduyeri Bridge Area
- Kanlırmak Street
- Ulus Minibus Stop Area

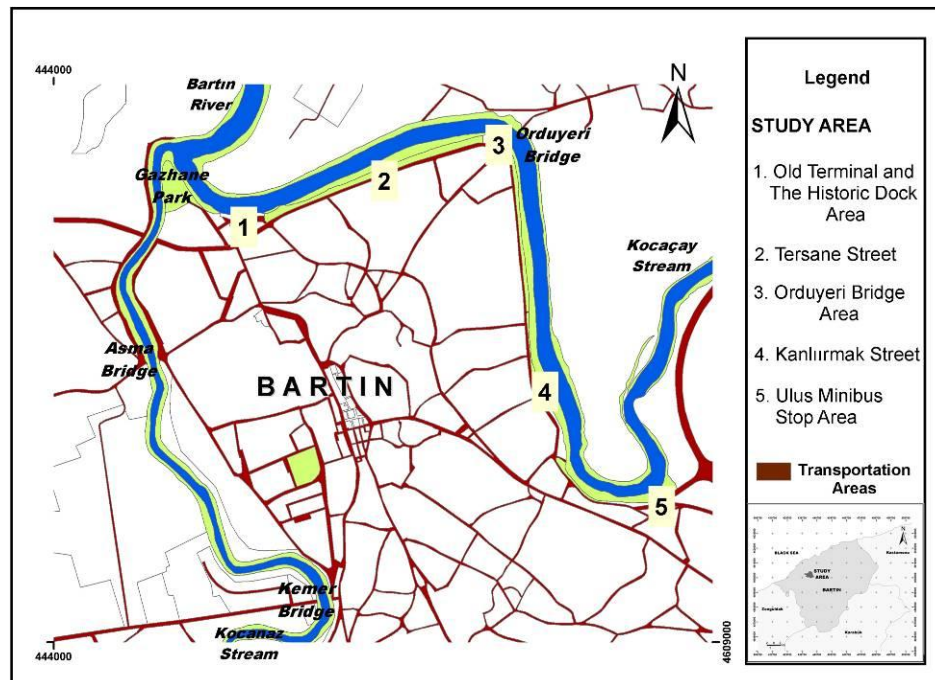


Figure 2. Geographical location of the study area (derived from Cengiz, 2007)

This study made use of the maps and reports of Bartın Development and Conservation Plan (1/1000), the archive of the Cultural and Natural Heritage Protection Board (maps of Bartın on natural conservation area, urban conservation area, transition area affecting urban conservation area, etc.), registry decisions and regulations, fieldwork and archive photographs, various national and international books, articles, and the Internet. ArcGIS 9.3.2 and Adobe Photoshop CS5 were used in the presentation of the data obtained.

## 2.2 Method

The study consisted of the following two main stages:

### Stage I: Landscape analyses of traditional urban fabric of Bartın

- Analysis of existing land uses
- Flood and flood risk analysis
- Analysis of conservation areas

### Stage II: Steps of ecological greenway planning in the area, respectively

- SWOT analysis of the selected five spots to determine the current situation
- Streetscape design principles
- Alternative streetscape designs

## 3. RESULTS

### 3.1 Landscape analysis of traditional urban fabric of Bartın

#### 3.1.1 Analysis of existing land uses

Forming the Bartın River, the Kocanaz Stream and Kocaçay Stream meet at the Gazhane Cape and surround the city center of Bartın (Demirciler, Kemerköprü, Kırtepe, Köyortası, Okulak neighborhoods). A part of the city center has the status of Urban Conservation Area and Transition Area Affecting Urban Conservation Area. In addition, there are examples of civil architecture located around the Bartın River. The connection between the historical city center and its environs (Gölbucağı and Orduyeri neighborhoods) is through the bridges (Asma, Kemer, and Orduyeri Bridge). The residential neighborhoods with the highest density in the city are Kırtepe, Köyortası and Orta neighborhoods, respectively (Cengiz, 2007).

There are areas that provide bi-directional and one-way scenery impact along the Bartın River. For example, building density in the historic urban fabric between Kırtepe and Halatçıyaması Hill, where the Bartın River passes by, is higher than other parts of the river. Whereas the open spaces along the river in the direction of Kanlırmak Street - Orduyeri Bridge - Tersane Street - Asma Bridge - Kemer Bridge, on opposite side of the river (north and west directions), the residential areas are located after a large open space. Thus, the abovementioned open spaces should be protected within the green space system and limits to construction should be established due to the flood risk in these areas (Cengiz, 2007).

There are dense vegetation corridors in the natural conservation areas along the Bartın River. These corridors hinder visual and physical accessibility to the river and the lack of maintenance in these areas causes limited interaction between the users and the river. In addition, accessibility is limited due to ownership.

Tersane Street and Kanlırmak Street are two-way streets and among the main roads of the city. Secondary roads are perpendicular to these streets. In almost all of the streets connecting to these two streets, there are several registered buildings (Figure 3).

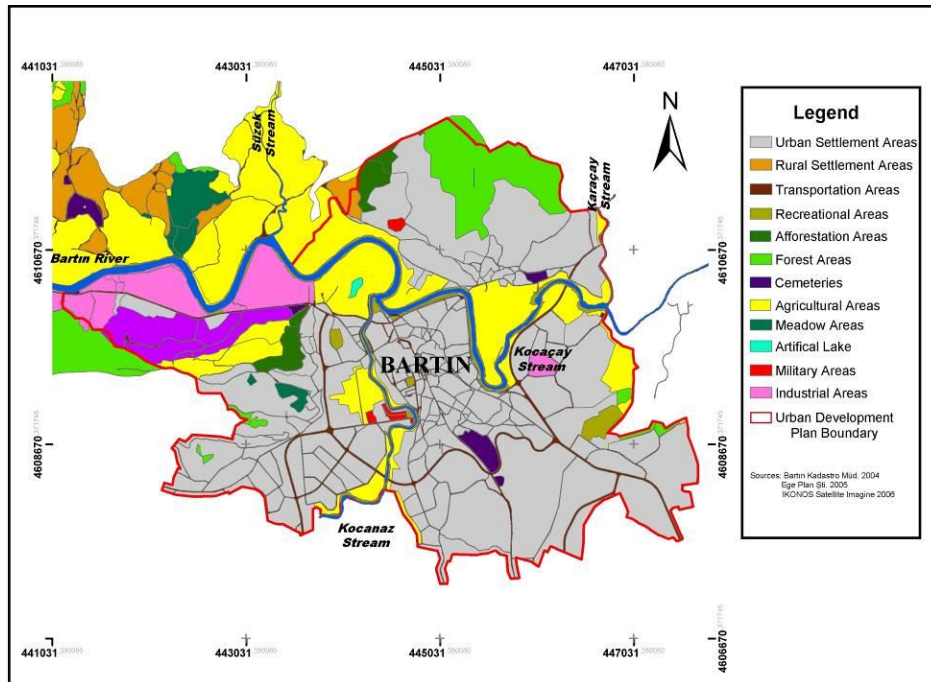


Figure 3. Existing land uses (derived from Cengiz, 2007)

### 3.1.2 Flood and flood risk analysis

Due to excessive rainfall, improper use of land, depth of riverbeds insufficient for the flow rate, and constructions that narrowed the riverbeds, the Bartın River flooded several times. The most disastrous of these floods was the flood of May 1998 which influenced most of the city and caused considerable losses (Figure 4). The flood of May 1998 coincides with the 100-year flood boundary (Cengiz, 2007), shown in Figure 5, together with the flood boundary determined by the General Directorate of State Hydraulic Works in the development plan.



Figure 4. Flood area in Bartın Old Terminal Area (Güleç and Cengiz 2000)

Due to the flood of 1998, several registered buildings were damaged, especially in Kanlırmak Street, Tersane, Asma Street, and Orduyeri area. The flood particularly affected the urban conservation area and the registered buildings. As a result, some of the historical wooden houses were abandoned, and thus, it caused decline in the historical and cultural landscape of the city.

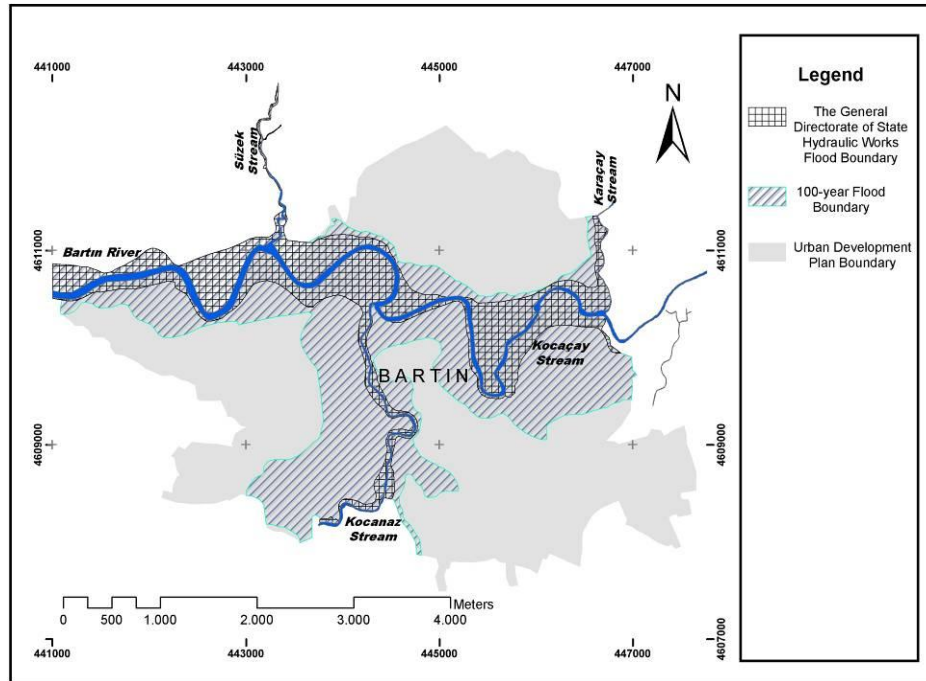


Figure 5. Flood risk analysis (derived from Cengiz, 2007)

### 3.1.3 Analysis of conservation areas

Natural conservation areas, urban conservation area, registered buildings and monumental trees were analyzed.

**Natural conservation areas:** Whereas the natural conservation area boundary along the Bartın River is a few meters in the city centre and around industrial areas along the river, it is approximately 50 m in agricultural areas. In some areas, transportation routes occupy and narrow down the natural conservation area boundary. In addition, the natural conservation area between the Bartın River and the road is under environmental pressure. The natural conservation area boundary, which is large where the natural characteristic of the land is preserved depending on the land cover, is narrow and closer to the edge of the Bartın River, especially in the residential areas and deteriorated natural fabric. The boundaries of the natural conservation area and its degree have been changed according to the relationship between land, ownership, settlement and natural vegetation (Anonim, 2002). Today, there are natural conservation areas of first, second and third degree along the Bartın River (Figure 6).

**Urban conservation area, transition area affecting urban conservation area, and registered Bartın houses:** Bartın has 224 registered buildings (Anonim, 2004) and 94 of them are located in the Urban Conservation Area and Transition Area Affecting Urban Conversation Area (Figure 6). Bartın houses are examples of the Ottoman civil architecture and exhibit characteristics of modern history. Having Art Nouveau and Baroque features, they are generally two-storey and located in the tree-fenced gardens called *daraba*. The floors are wood-frame, and the ground floors are made of stone. The entrance hall, called *gulluk*, and the walking paths in the gardens are covered with slate stones. Each garden has a stone pit. The traditional houses have as many windows as possible, which are unique sash windows, and those illuminating the staircases and bay windows are round in shape. The moldings located between the windows, called *kuşluk*, encompass the entire structure. The windows, stairs and ceilings are decorative elements (Anonim, 2001). Due to urban development, the historical integrity of the Urban Conservation Area was negatively affected and the area was not sufficiently preserved. In addition to the development incompatible with the historic fabric, it also caused a decrease in green space in the residential gardens. The original paving of the historic streets, which should have been preserved, was replaced by concrete paving stones. Despite the decision of conservation, the lack of conservation planning and implementation caused problems in the traditional fabric and the historic city centre, such as decay, lack of maintenance and preservation, abandonment by the property owners, and physical and social decline (Cengiz, 2007).

**Monumental trees:** In Bartın city center, Köyortası neighborhood, Tersane Street, there are two registered trees (*Platanus* sp. - Sycamore) (Anonim, 2004), that suffer from lack of protection and care.

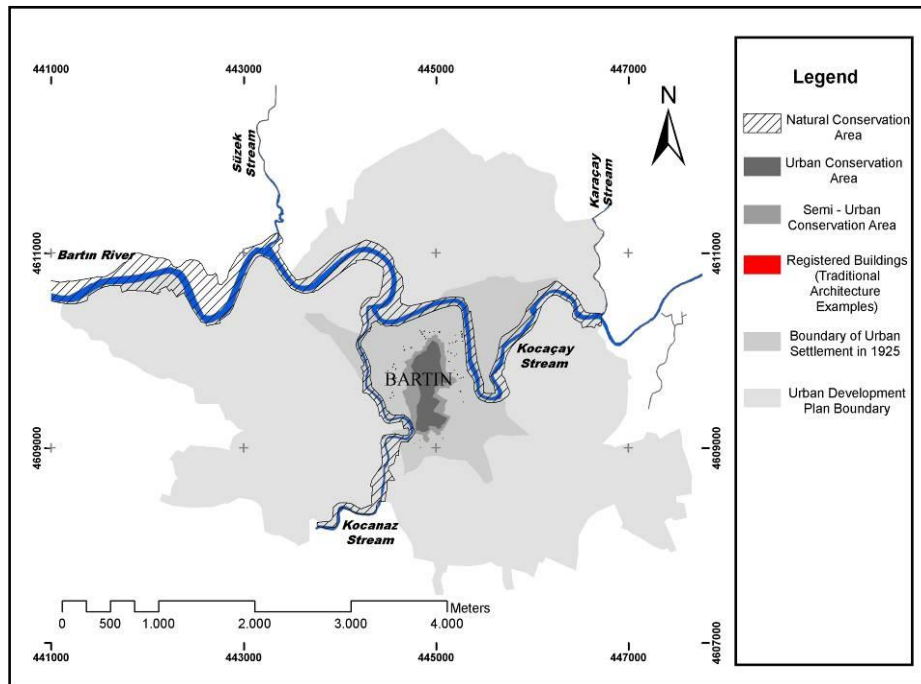


Figure 6. Conservation areas (derived from Cengiz, 2007)

### 3.2 Streetscape design within the scope of urban ecological greenway planning in the study area

Five spots were determined according to the results of the landscape analysis conducted in the traditional urban fabric in Bartın. Streetscape design principles were developed according to the SWOT analyses in these spots and an alternative design proposal was developed regarding the current situation.

#### 3.2.1 Old Terminal and the Historic Dock Area

The Old Terminal Area acts like a transition corridor, or even a square, that enables the interaction between the old city center and the Historic Dock along the Bartın River thanks to its location. Its previous use proves this characteristic. In the past, as urban life took shape according to the Bartın River, it used to be an inner harbor, a marketplace and a festival area. Due to the development of highway network, the use of the Bartın River as a transport waterway has lost its prominence over time. The Old Terminal Area is currently used as a minibus stop and parking lot. In order to accomplish the objective of revitalization of the Historic Dock, it should be considered together with the old terminal area and organized as a town square.

Located between the Gazhane Cape and Orduyeri Bridge, Yalı Boyu Recreation Area is significant for not only its existing vegetation but also being an interaction point between the river and the city, as one of the few public green areas that provide direct access to the Bartın River.

Table 1 presents the SWOT analysis of the whole area covering the Old Terminal and the Historic Dock and Figure 7 below the streetscape design principles and alternative design proposal.

Table 1. SWOT analysis of the whole area covering the Old Terminal and the Historic Dock

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• One of the most important landmarks of Bartın</li> <li>• Acts as a transition corridor between the Historic Dock and the city center</li> <li>• Used to be used as a recreation area</li> <li>• Has a historical identity as the inner harbor</li> <li>• Ease of access</li> <li>• An access point to the Bartın River and an interaction point between inhabitants and the river</li> <li>• Being an open public space</li> <li>• Natural conservation area</li> <li>• The Historic Dock being the most important transport point between the city and the Bartın River, which used to be utilized for transport</li> </ul>	<ul style="list-style-type: none"> <li>• The current roadway splitting the old terminal area and the historic dock square</li> <li>• The recently-built building and its garden splitting the historic dock square and the old terminal area both visually and physically</li> <li>• The minibus stops and parking lots in the area</li> <li>• Excess of hard surfaces and surface drainage problems in the area</li> <li>• Lack of urban furnishings</li> <li>• Lack of projects to revitalize the area</li> <li>• The replacement of the original paving (cobblestones) with soil</li> </ul>	<ul style="list-style-type: none"> <li>• Location along the Bartın River</li> <li>• Potential to extend the green corridor thanks to its proximity to the natural conservation area along the Bartın River</li> <li>• Connecting the two major recreation areas of the city (Gazhane Park and Yalı Boyu Recreation Area)</li> <li>• The intense effect of the natural vegetation of the river</li> <li>• The Bartın River being a convenient natural waterway for transport</li> <li>• Natural 'opposite coast' effect</li> </ul>	<ul style="list-style-type: none"> <li>• Flood risk arising from the Bartın River</li> <li>• Location in the flood zone</li> <li>• Environmental pressures due to the pollution in the Bartın River (threats to the flora and fauna)</li> </ul>

#### Streetscape design principles:

- Establishing a direct connection between the Historic Dock and the Bartın River to revitalize the historic identity of the area covering the Historic Dock and the Old Terminal Area as a whole and to transform it into the focal point of the city
- Designing a contemporary urban square that meets the needs of users
- Establishing a connection between Gazhane Park and Yalı Boyu Recreation Area located along the Bartın River
- Developing designs that take into account the Natural Conservation Area boundaries
- Providing the possibility of recreational transport on the Bartın River
- Transforming the area into a 24-hour living space
- Enlivening the Bartın River through re-establishing the relationship between humans and the river



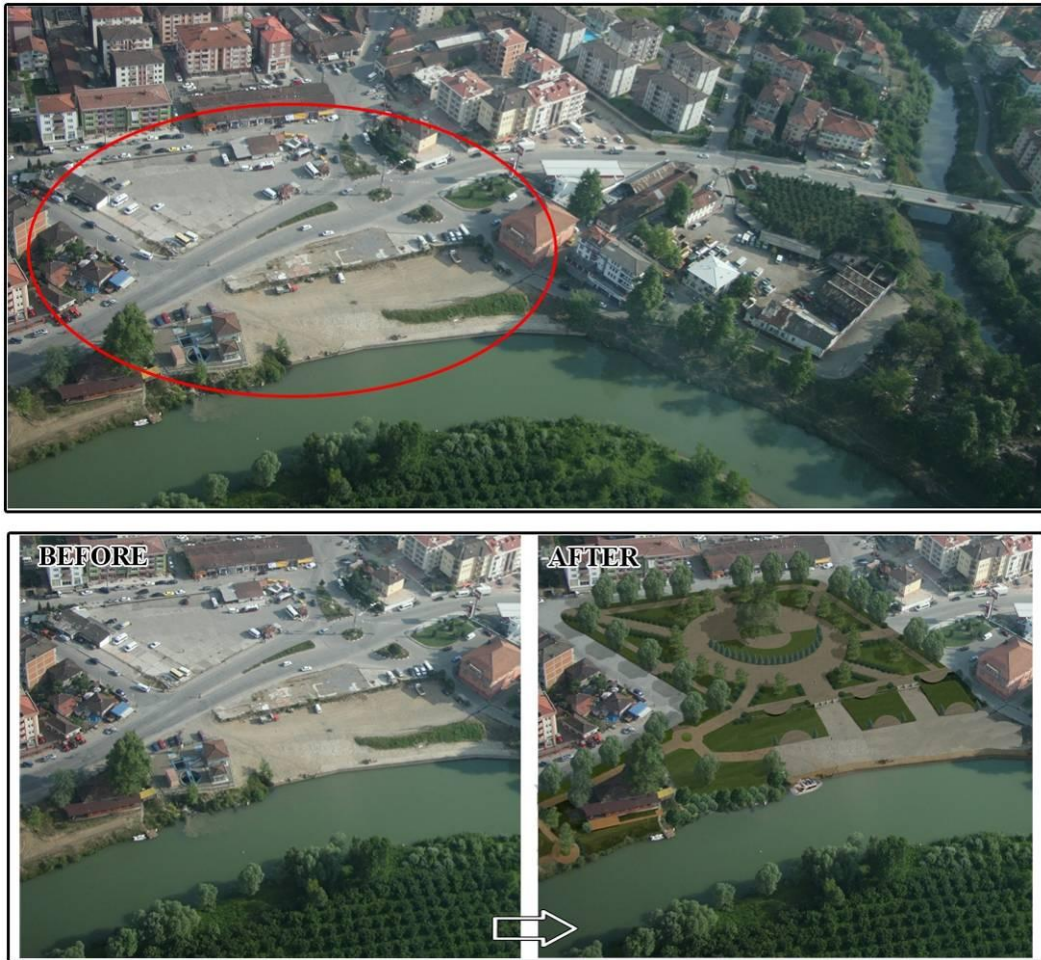


Figure 7. Existing and proposed Old Terminal and the Historic Dock Area (derived from Anonim 2011)

### 3.2.2 Tersane Street

Tersane Street is a 667 m-long and 30 m-wide street parallel to the Bartın River, located between the residential area in the traditional urban fabric and the Yalı Boyu Recreational Area, one of the most important recreational areas of the city. This street is also one of the main arteries of the city with intense vehicle traffic. There are two monumental trees in this street.

Table 2 presents the SWOT analysis of Tersane Street and Figure 8 the streetscape design principles and the alternative design proposal.

Table 2. SWOT analysis of Tersane Street

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• Located in the natural conservation area</li> <li>• Monumental trees with conservation status</li> <li>• An active recreation area along the Bartın River be open to public use</li> <li>• Close to the registered buildings with conservation status</li> <li>• Using an area within the flood area as an active green space</li> </ul>	<ul style="list-style-type: none"> <li>• Neglect of the periodic maintenance of the vegetation</li> <li>• No possibility of crossing the river for the pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>• Improvements made by the local administration in the area</li> <li>• Being an important recreation area preferred by the inhabitants</li> <li>• The Bartın River being a convenient natural waterway for transport</li> <li>• Natural ‘opposite shore’ effect</li> </ul>	<ul style="list-style-type: none"> <li>• Flood risk arising from the Bartın River</li> <li>• Location in the flood boundary</li> <li>• Lack of/insufficient measures to reduce the risk of flood in the Bartın River</li> <li>• Water pollution and smell in the Bartın River (discharge points polluting the river)</li> <li>• The road extending along the area causing noise pollution</li> <li>• Vehicle traffic threatening pedestrian safety</li> </ul>

#### Streetscape design principles:

- Re-organizing the road following contemporary standards to resolve the problems resulting from vehicle traffic. In this respect, a green strip in the middle of the road and on both sides is proposed to split the pedestrian and the vehicle traffic. In addition, forestation for functional and aesthetic use is recommended using especially natural vegetation native to the western Black Sea Region.
- Protecting the natural vegetation along the river in the natural conservation area
- Starting off ecological restoration projects in the riverside
- Organizing the traditional houses and their gardens as a whole
- Protecting the monumental trees



Figure 8. Existing and proposed Tersane Street (derived from Anonim 2011)

### 3.2.3 Orduyeri Bridge Area

Orduyeri Bridge is the main artery connecting the city center (Kavaklı Street) to Orduyeri neighborhood (Orduyeri Street). At the same time, it connects Tersane Street with Kanlırmak Street underneath the bridge, where a difference in elevation occurs. Orduyeri Bridge is the highest bridge of the city in terms of its distance from the river.

Table 3 presents the SWOT analysis of Orduyeri Bridge area and Figure 9 the streetscape design principles and alternative design proposal.

Table 3. SWOT analysis of Orduyeri Bridge Area

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Located in the natural conservation area</li> <li>• Historical monumental structure with conservation status</li> <li>• Important bridge connecting the two sides of the city</li> <li>• Node connecting Tersane - Kanlırmak - Kavaklı - Orduyeri Streets</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient width of pavement for pedestrians</li> <li>• Bridge and the surrounding area not being designed as the landmark of the city</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to be one of the major spots if revival of tourism around the Bartın River takes place</li> <li>• The Bartın River being a convenient natural waterway for transport</li> </ul>	<ul style="list-style-type: none"> <li>• Flood risk arising from the Bartın River</li> <li>• Location in the flood zone</li> <li>• Node connecting Tersane - Kanlırmak - Kavaklı - Orduyeri Streets; threat due to the difference in elevation, narrowing of the road, etc.</li> <li>• Pressures caused by traffic</li> </ul>

#### Streetscape design principles:

- The transformer building adjacent to Orduyeri Bridge is located along the Bartın River. Although it does not provide visual integrity with the bridge, it has a mark showing the limit of the historic 1998 flood. Re-arranging the transformer building as an important element of the green space design, as it evidences the disastrous flood of 1998.
- Establishing an uninterrupted pedestrian connection between Yalı Boyu Recreation Area and Kanlırmak Street under Orduyeri Bridge, and at the same time designing small terraces along the river where pedestrians can have a view of the Bartın River
- Protecting the natural vegetation along the Bartın River
- Starting off ecological restoration projects along the river
- Transforming the current hard surfaces into a green area
- Establishing a green strip between the pedestrian paths and vehicle roads for pedestrian safety
- Improving the visual quality of Orduyeri Bridge in line with its historic identity



Figure 9. Existing and proposed Orduyeri Bridge Area (derived from Anonim 2011)

### 3.2.4 Kanlırmak Street

Kanlırmak Street is parallel to the Bartın River. There are also several traditional houses of Bartın on Kanlırmak Street. It is one of the distinctive streets of the city where the relationship between traditional houses and gardens is present, which is a feature that endows the street with the characteristic of mansions.

Table 4 presents the SWOT analysis of Street Kanlırmak and Figure 10 the streetscape design principles and the alternative design proposal.

Table 4. SWOT analysis of Kanlırmak Street

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Located in the natural conservation area</li> <li>• Historic houses along the Bartın River</li> <li>• Providing a considerable scenery of the traditional urban fabric</li> <li>• The partially- preserved natural landscape on the other side of the Bartın River</li> <li>• Connectin to Kemal Samancıoğlu City Museum and Street</li> <li>• Dominated by the traditional house-garden relationship</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient pavement width for pedestrian crossing</li> <li>• Deterioration of the traditional fabric due to new development</li> <li>• Historic houses being abandoned and neglected</li> <li>• Private property in the areas between the street and the river</li> <li>• Façades incompatible with the characteristics of the urban fabric</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to be one of the major spots if revival of tourism around the Bartın River takes place</li> <li>• Transition area between the natural vegetation and the urban fabric</li> <li>• Potential of the traditional urban fabric to be revitalized</li> <li>• The Bartın River being a convenient natural waterway for transport</li> <li>• Natural ‘opposite shore’ effect</li> </ul>	<ul style="list-style-type: none"> <li>• Flood risk arising from the Bartın River</li> <li>• Location in the flood zone</li> <li>• Pressures due to vehicle traffic (traffic load and density)</li> <li>• Discharge points</li> </ul>

**Streetscape design principles:**

- Connecting the area along Kanlırmak Street on the shore of the Bartın River with Yalı Boyu Recreation Area and arranging it within the green space system for public recreational use
- Integrating Kanlırmak Street into the pedestrian circulation effectively in the study area
- Making Kanlırmak Street a center of attraction
- Preserving and using Kanlırmak Street as an exemplary cultural heritage area that reflects the characteristics of the traditional urban fabric
- Protecting the plant corridors along the Bartın River and providing access to the public
- Restoration of the historic Bartın houses that are examples of civil architecture with conservation status and re-arranging their gardens
- Rendering the façades of the new buildings, which deteriorate traditional urban fabric, compatible with the historic environment
- Forestation and applying a green strip

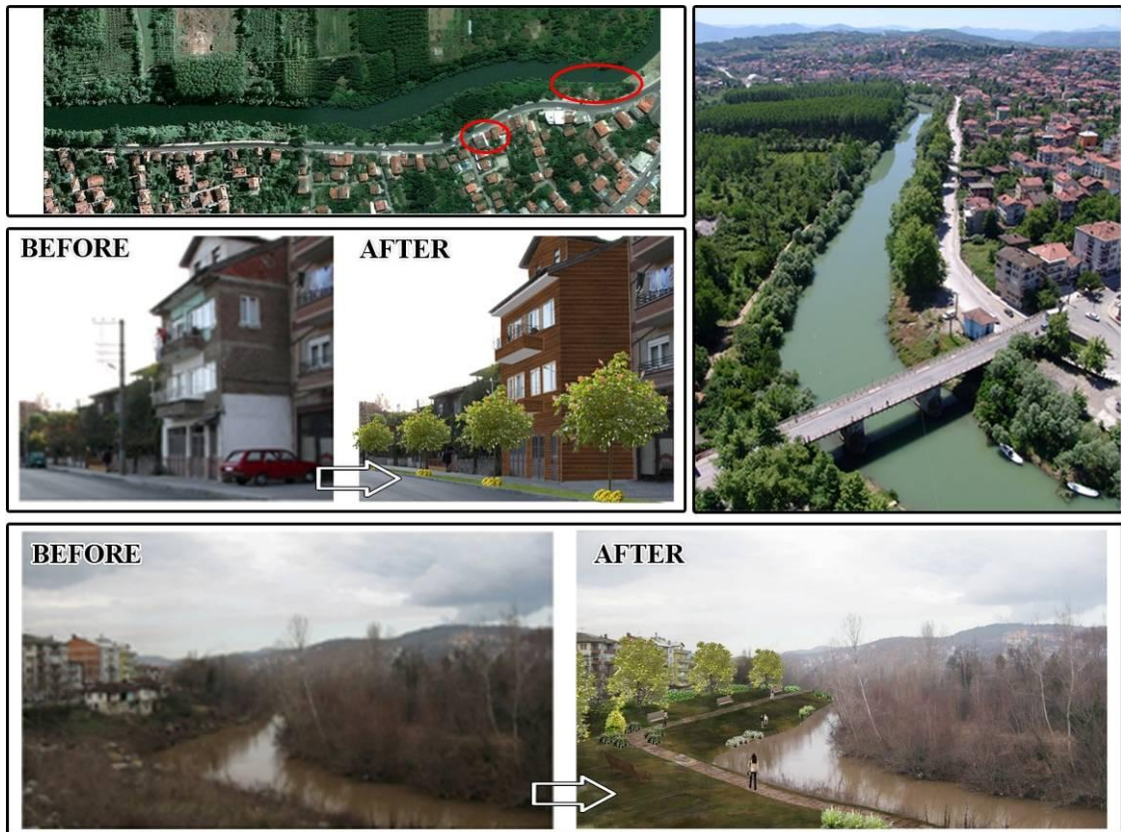


Figure 10. Existing and proposed Kanlırmak Street (derived from Anonim 2011)

### 3.2.5 Ulus Minibus Stop Area

Due to its location, Ulus Minibus Stop Area is a nodal point between Kanlırmak and Hendekyanı Streets. The minibus stop - with a parking function - has the potential to become a recreational area along the Bartın River.

Table 5 presents the SWOT analysis of Ulus Minibus Stop Area and Figure the streetscape design principles and the alternative design proposal.

Table 5. SWOT analysis of Ulus Minibus Stop Area

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• Having the characteristic of a square</li> <li>• Node (transport point) located on the passage used by inhabitants</li> <li>• Located close/adjacent to the Bartın River</li> <li>• Located at the intersection of two main streets</li> </ul>	<ul style="list-style-type: none"> <li>• Surrounded by buildings that are not compatible with each other (multi-storey, distorted façades)</li> <li>• Excess of hard surfaces and surface drainage problems in the area</li> <li>• Façades that are not compatible with the urban fabric</li> <li>• Irregular building pattern in the narrow area between the roadway and the Bartın River (in the riverbed)</li> </ul>	<ul style="list-style-type: none"> <li>• Natural ‘opposite shore’ effect</li> </ul>	<ul style="list-style-type: none"> <li>• Flood risk arising from Bartın Stream</li> <li>• Location in the flood zone</li> <li>• Pressures due to vehicle traffic (traffic load and density)</li> </ul>

**Streetscape design principles:**

- Designing the area as a square
- Making the area one of the major focal points of the city,
- Arranging the area as a prestige area available to the public until late in the evening
- Transforming the area characterized by irregular housing in the riverbed of the Bartın River into green areas, reducing the possible flood damages and ensuring the interaction between the square and the river
- Applying the historic house silhouettes to the existing buildings to a possible extent
- Planting designs for functional and aesthetic purposes (forestation, etc.)



Figure 11. Existing and proposed Ulus Minibus Stop Area (derived from Anonim 2011)

**DISCUSSION**

With a river running throughout the city, Bartın stands out with its natural, cultural and historical characteristics. Although important for urban ecology, riversides are subject to misuse, and as a result, they turn into derelict areas where inhabitants do not spend time.

This article discussed on-the-spot proposals for the streetscape design of two streets in the traditional urban fabric, Tersane and Kanlırmak, running parallel to the Bartın River for approximately 1.5 km. The integration of these proposals to the whole of the city of Bartın is important for ecological greenway planning. In this respect, the following should be taken into consideration:

- Linking open spaces to recreational bicycle/pedestrian areas
- Focusing on the protection of the scenic and natural settings of the Bartın River
- Increasing access to the Bartın River
- Enhancing the visibility of the riverfront
- Improving the riverfront and its habitat
- Connecting the waterfront area to the traditional urban settlements
- Encouraging 24-hour multiple uses along the waterfront
- Creating diversity in recreational areas

The natural and cultural assets within the potential flood zones along the river should be taken into consideration in urban landscape planning and design processes. It is of importance for the quality of contemporary urban life that riversides are transformed into green areas open to public use by ensuring the balance between conservation and use with a multifunctional approach. As a result, it is expected that both natural assets are protected and integrated into cultural environment. In addition, the amount of green space per person and landscape quality would increase and contributions would be made to sustainable urban development.

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