Revitalization of Riverside Boulevards in Poland – A Case Study on the Background of the European Implementation

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Abstract. River banks have recently experienced a real renaissance, this form of development of the city areas located directly near the river is often treated as one of the most representative areas in the city. More and more municipalities are opting for the revitalization of heavily degraded areas bordering the river. Rivers, which in the past were "unfriendly" to man for most of the XX century, through the close proximity to industrial and transport functions, have become currently an attraction in the scale of the whole city and even in the wider region very often. The author presents examples of revitalized boulevards in Poland, i.e.: Vistula Boulevards in Warsaw, River banks in Bydgoszcz, Biała River bank in Białystok. The aim of the study was to compare selected types of the revitalization of these areas in Poland with selected foreign examples. In the conclusions, the author showed the factors determining their current function and character depending on their historical significance, location and function, and especially the current location in the functional and spatial structure. To a larger extent, the current function of these public spaces is determined by the size of the city and their location in relation to the centre. Distance from other open public spaces, especially green areas, is also significant. The most frequent activity in these spaces is the improvement of their pedestrian and bicycle accessibility through the construction of paths, ramps, slipways and footbridges. The second basic action is the change of the status of these areas and the attempt to include them in the park area system, giving the status of recreation and leisure places for residents and tourists. Foreign examples: The Nervión River in Bilbao, The Rio Madrid Avenue in Madrid and the Rheinauhafen Boulevard in Cologne show a fairly diverse approach to this issue while expanding the scope of possible actions.

1. Introduction

River banks have recently experienced a real renaissance, this form of development of areas located directly near the river is often treated as one of the most representative area in the city. More and more municipalities are opting for the revitalization of heavily degraded areas bordering on water. Rivers and their backwaters, which once were an area "unfriendly" to man, have now become often an attraction on the scale of the whole city and even the region. At the basis of urban planning, the relationship between the city and the water and the need to reintegrate these two environments are increasingly expressed. Currently, city planners quite often focus on the integration of urban fabric with the river and its immediate surroundings. The norm has been the revitalization of the 19th and 20th century post-industrial areas on the river. These are actions that aim primarily to improve environmental conditions, release the previously poorly used areas and increase the attractiveness of the city. As a significant example of revitalization, which often prompts the authorities of many other municipalities to "return the river to the inhabitants of the city", is the success of the revitalization of the banks of the Nervion River in Bilbao in Spain. To stimulate the city, a plan was created to transform the former shipyard into a cultural and entertainment centre, with the accompanying renewal of housing in the city centre, as well as the development of a communication node that would facilitate access to this place and increase its attractiveness. The quay has been developed in a very diverse way, among others by introducing residential, service and cultural functions. As a result, the boulevard of the Nervion River became a new quality space attracting residents due to new attractive places of
residence and work, but also became an important tourist attraction. It caused a decisive revival of space in the proximal and distal zones of the river. However, river boulevards are not only areas of revitalized old industrial zones [1], [3], [4].

2. Case study

2.1 Warsaw Boulevards

Unlike other large European cities, crossed by large navigable rivers, such as Berlin, Budapest, St. Petersburg or Vienna, until the end of the 19th century, the Vistula waterfront in Warsaw was not used to create a system of boulevards and promenades. It was not until 1899-1910 that a part of the quay was rebuilt and boulevards were arranged on the section, which was called Wybrzeże Kościuszkowskie in 1917. On the upper level, roadways with a square were built. The lower level was paved, and places for mooring ships and boats were prepared. There are also benches for walkers. After Polish regaining independence, more works were planned. In 1930, the Ministry of Public Works announced a tender for a contractor for works on the section from the Royal Castle to Bielany (in the first place to Żoliborz). The new boulevards, 16-20 m wide, were supposed to be a convenient connection between the city centre and the districts newly connected community. Until 1937, a part from the Diament Bridge to Mariensztat was rebuilt - on the upper level an asphalt road for cars was arranged, on the lower - a pedestrian promenade and a place for mooring ships. The mentioned promenade was destroyed during World War II. The first section of the metropolitan boulevard, about 500 meters long, from the Kierbedzia Bridge to the north was built in 1935-1938 and had the shape of two parallel terraces. Further works were carried out from 1970 to the end of 1976, about 2,700 meters of boulevards were built (including the pre-war section according to the design by Zofia Dziewulska). They had the shape of several concrete steps, which, however, did not enjoy much interest of the residents due to the proximity of a loud street and low availability of the area. Access to the river once again improved after the construction in 2001-2003 of a tunnel in the area of Powiśle and the Świętokrzyski Bridge.

In 2013, the reconstruction of the boulevards in Podzameze began. In mid-2015 an architectural competition was announced for the reconstruction of a fragment from the Świętokrzyski Bridge to the Czerniakowski Port. The first section of the boulevards was opened on August 2, 2015. Reconstruction between the Śląsko-Dąbrowski Bridge and the Świętokrzyskie Bridge was constantly subject to delays. It lasted from 2016 and was completed in 2017. For the design of the next section of the boulevards between the Świętokrzyski Bridge and Czerniakowski Headland in December 2016, a competition was opened. Work on it began in September 2017 and finally ended in March 2019. In September 2017 residents were informed about the outcome of the competition for the design of the rest of the boulevard. The project assumed, among others construction of a linear park, cascading terraces and five new buildings. The next stage of the revitalization of the boulevard along the Kościuszko Coast to the Poniatowski Bridge is planned for 2021. In this project, it is assumed, among others, to give a coherent character of the newly designed urban space at a different intensity of development, so that the reception of space is attractive to users on every part of the foundation. Creating an attractive public space, that gives the freedom to use it, thanks to the use of multifunctional elements and solutions that do not impose a way of using. In addition, allowing the use of these spaces in a variety of ways so that the way they are shaped is directed to each group of users, residents and tourists. The general character of Khala Square is to be preserved as a green urban space.

A perfect example is Krakow's Vistula Boulevards, which were built on both sides of the Vistula in the years 1907-1913 according to the plans of Roman Ingarden. First of all, they were to serve Krakow and Podgórze as defensive fortifications. To improve the accessibility of pedestrian boulevards, stairs were built. Currently, the area is one of the most recognizable spaces in Krakow. It received along with adjacent fragments of the Vistula and Rudawa embankments, the function and status of park areas, being now a popular recreational and leisure place for Cracovians and tourists.
constituting a bridge between tight urban buildings and recreational areas on the Vistula. The priority is to create the interpenetration of built-up and open spaces, and a possible delicate introduction of the user into the boulevard zone, through transition zones in the form of buildings that fit into the open landscape of the Vistula River. It is planned to use and strengthen the potential of the existing metro station as a node point of public and individual communication. A full opening to the Vistula was designed in the form of open architecture and open space. In addition, it is planned to emphasize constant contact with the river by developing new ways of viewing the river and maintaining the basic assumption of the RS Landscape Architecture office - in accordance with the guidelines of the competition. The existing development of the Boulevards along the Kościuszko Coast to the Poniatowski Bridge does not fully exploit the potential of a river in the city; therefore, the project provides a number of solutions that contribute to the activation of space, communication improvement, organization people's activity and mainly better perception of these areas throughout the city. The heart of the project - a place where, in accordance with the guidelines, a complex of multifunctional buildings is to be built, Kahla Square is present. This area currently forms a link between the city's buildings, having its distinct border in the frontage of Wybrzeże Kościuszkowskie Street and the Vistula River. This fragment is now largely covered with low grass with a rather chaotic arrangement of paths. Currently, it is a neutral element of undevlopment, covering the rivers with users of facilities located on Wybrzeże Kościuszkowskie Street, and, in turn, users of coastal space gives the opportunity to contact the dense quarterly structure of the urban tissue. In the design process, the emphasis was taken of the terrain function as a transition zone - connecting the city and the river closely and gently. The current - grassy character of the area decided on the concept of building a group of buildings covered with a green functional roof, which will serve as a green square and an observation point of the Vistula panorama. The existing layout of the Vistula riverbank with a strong linear element in the stepped form has been preserved. The project involves reconstructing the character of this place, enriching it with small architecture elements such as ramps, pots with greenery, deck chairs and terrace extensions at Poniatowski Bridge, where the location of the tram stop is also planned water and city beach.

2.2 River embankments in Bydgoszcz

The revitalization of water routes for a city located on the banks of the river is a very important aspect of the development of the region's economy. In the case of Bydgoszcz, it can be seen that the Brda River offers the authorities and residents many opportunities in terms of inland infrastructure, recreation and culture.

Thanks to the funds from the self-government of the Kuyavian-Pomeranian Voivodeship, three important undertakings were carried out. The revitalization of the riverside boulevards in Bydgoszcz carried out without interruption from 2007 until now, has primarily contributed to the expansion of the recreation area. Bicycle paths were built, new walking routes were run and water transport was provided in the form of water tram stops on the river. A new element that appeared in the coastal area is a modern marina. The Mill Island is the culminating point of the entire revitalization program. It is one of the most beautiful landscapes of Bydgoszcz due to numerous waterfronts, Międzywodzie cascades, greenery and the "Bydgoszcz Venice". Located in the Old Town area, it is a symbol of the close symbiosis of the city of Bydgoszcz with the rivers and canals of the Bydgoszcz Water Junction. The island has recreational and cultural functions due to the presence of numerous museum facilities. After completed modernization, it offers residents and numerous visitors the most attractive place in the city that is vibrant with life and improves the quality of downtown use. Mill Island is also a vegetation enclave, because the whole area has been complemented with green areas. Along the Brda River, there are also boulevards called Planty nad Brdą, which constitute a vast recreation and walking area in the river's coastal zone. For tourists and residents, the waterfront for exploration starts, from the city until Brda Estuary (end of Brda), greenery is located on the section of about 5 km. The whole assumption is one of the most attractive walking and tourist routes in Bydgoszcz, because it enables
not only a rest among greenery, but also an observation of the Bydgoszcz waterfront - the elevation of the city from the side of the river, together with reflecting buildings in the water.  

2.3 Embankment of the Biała River in Białystok
The riverbank of Biała in Białystok is one of the most valuable investment areas of the city. This area is attractive in terms of architecture, landscape and nature. The unfortunate urban decisions made after the Second World War, resulting in part from the necessary transport transformations and the need to secure the city with the necessary technical infrastructure together with the sparsely implemented spatial policy, have diminished the importance of this space. As a result, the river, especially in the strict region of the city centre, became a water channel of small values, deprived of its natural assets. In spite of the revitalization works that have been going on for many years, this area still has great potential, which is not fully utilized. The current concept of revitalization of the downtown boulevard has been designed with the development of the centre in mind, combined with the natural possibilities of the Biała River and preserving the historical substance of the city. The Biała River was consciously used to create a representative panorama of Białystok. The main assumption is the separation of urban interiors and their coherent connection. The adjacent areas are to be a multifunctional and attractive public space, a representative place serving the interaction of residents and guests of Białystok.
Considering the importance of the river and its historical and natural conditions, the boulevard areas have been designed as the "green spine" of the city, which is to become a place to identify Białystok. In addition, these areas are to be a link between the urbanized part of the city and park complexes along the river. The concept of revitalizing the downtown boulevard on the Biała River is a proposal to continue the former status of Białystok, as a city in which a direct, harmonious relationship of the architectural environment built with nature (gardens and parks) was treated as a priority. It seems that a city boulevard so designed as an attractive recreational area should become a city salon. The connection of the boulevard with skilfully shaped, surrounding areas of the urbanized and non-urbanized inner-city zone (park) should contribute to the emergence of a new image of the capital of Podlasie as a metropolitan city.

2 To emphasize the value of the river in the city, numerous outdoor events, exhibitions, conferences, concerts, canoeing and artistic events are organized. These events are very popular, contributing to the promotion of the city's close connection with river and water transport. Water sports and riverside recreation brought residents closer to the water, thanks to which the identity of the place in the awareness of the city's society increased. It is also a "city salon" in which various cultural, entertainment and sports events take place. Over 100 million zlotys have been spent on revitalizing the boulevards in Bydgoszcz since 2007.
2.4 Rio Madrid Avenue in Madrid
The Rio Madrid Avenue in Madrid is an area surrounded by greenery, which is a perfect example of the revival of public space during uncontrolled urbanization. The place where the once-burnt highway was once located, today is a 6-mile city park along the Manzanares River. The area is located in the heart of the Spanish capital, it covers a total area of 80,000 m². The complex consists of 47 projects completed, the first of which was completed in spring 2007. The final completion of the work was planned for 2011. The investment covered the construction of several bridges, boulevards and parks, which significantly contributed to a better connection between districts located along the Manzanares River. The design elegantly spans the quay in the surrounding landscape, creating a lively recreational area that attracts not only local users, but also residents of distant districts and tourists. Being among the play area, it is easy to see how much it is appreciated by the youngest, who contribute the most to reviving this area. The project was divided into several sections and stages of implementation. Salon de Pinos (2010) is an area referring to pine. It is a green corridor connecting old and new urban areas along the river creating a plant oasis. Puentes Cascara (2010) are mainly bridges designed from massive concrete domes. Their large scale is balanced by a delicate mosaic on the vaults. Huerta Dela Partida was divided into two stages, the first in 2007, the second in 2009. This place offers a wide selection of fruit trees (pomegranates, figs) lined up in lines, creating an impressive urban orchard. In turn, the existing one of the most important roads in Madrid, Avenida de Portugal (2007), was moved to a tunnel providing underground parking and accessibility of the area. Burdensome car traffic was turned into a garden with blooming cherry trees planted in the shape of a cutout. The pavements were made using traditional Portuguese techniques "pedra portuguesa" and "petit pavet". The Rio Madrid concept shows the professional approach to large-scale urban space design. This is evidenced by numerous awards received, as well as intense and willing use of space by residents.

2.5 The area of the former Rheinauhafen port in Germany
The area of the former Rheinauhafen Port in Germany was rediscovered by artists in 1987. His potential was recognized, especially due to the very favourable location and close relations with the Old Town. In 1989, the City Council of Cologne adopted a resolution on the need to revitalize these areas. Following this decision, an architectural competition was announced in 1992 for the concept of reconstruction of the Rheinauhafen Port. The essential assumptions of the competition were to provide inhabitants of the neighbouring port with access to the Rhine, the use of water as an element significant for the quality of urban space, creating a publicly available external public space associated with water and attractive functions. After the transformation and creation of new public spaces, this is an area of natural extension of the public zone of the Rheingarten Park. Coastal boulevards allow pedestrians and cyclists to safely reach the Rhine harbour to the former Rheinauhafen area. After the transformation of this area, the attractive public city space was extended by a further two kilometres. It was planned to introduce new buildings in this area and use some existing facilities (about 30% of the tissue) to preserve the identity of the place. Generally, this area combines the functions of culture, sport and recreation, unobtrusive trade together with office and housing functions.

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3 Two companies cooperated in the design process with the workshop, and from that moment on they worked together on a revitalization project for the former motorway area near the river.
4 The new development plan for the city areas has been awarded with many prizes, including Asprima-Sima Award for the best urban development or urban revitalization 2012 (Spain).
5 The Rheingarten park was rebuilt in the 1980s, merging seamlessly with the Cologne Old Town on a distance of 550 m, between the Hohenzollembrücke Bridges in the north and the DeutzerBrücke in the south, thanks to the coastal traffic communication in the Rheinufertunnel tunnel. Public squares, designed exclusively for pedestrians, associated with the most important public facilities in the area - the railway station (Hauptbahnhof Köln), the cathedral, a complex of museum facilities and the philharmonic hall, thus have direct communication with the park and the Rhine.
2.6 Areas of the Nervión River in Bilbao, Spain

Areas of the Nervión River in Bilbao in Spain are an example of the brilliant revitalization of post-industrial areas from the immediate vicinity of the river. The development of the banks of the Nervión River in Bilbao is an exemplary solution for many cities. The revival that followed the construction of boulevards, cafes and restaurants, cultural centres, and above all the Guggenheim Museum is known and valued all over the world. The revitalization of the areas was carried out in a comprehensive manner and divided into stages, which allowed for the implementation of such a large scale project. The area was well served by public transport, many attractions were provided, which encouraged both tourists and residents of the city to visit this place. The whole area, along with service facilities located near the boulevards, also brought image gains alongside material profits. Revitalization has allowed to reduce unemployment and increase the attractiveness of the city, which has begun to attract tourists from around the world. The museum itself, which is one of the most important tourist facilities in Bilbao, currently employs about four thousand employees. Despite the huge funds that were invested in the creation of this facility, it turned in a year. The success of the riverside revitalized areas allowed the development of the entire city, both in terms of communication and housing.

3. Conclusions

River banks have recently experienced a real renaissance. This form of development of the city areas located directly near the river is often treated as one of the most representative areas in the city. More and more municipalities are choosing to revitalize often degraded areas bordering the river. Revitalization, which was able to change the face of cities and amaze the whole world, was undoubtedly the revitalization of the post-industrial areas in Bilbao in Spain, as well as the area of the former port of Rheinauhafen. In the case of Spain, it was an amazing venture that not only turned the river over to the people, but also over the next few years rebuilt the economy of the city, which has become the leading tourist and cultural centre in Spain. Since then, many cities around the world have tried to repeat this success. It seems, however, that the success of this type of venture may depend to a large extent on the objects and their functions that accompany the coastal spaces. The revitalization of the areas near the rivers is a very positive phenomenon that allows residents and tourists visiting the city to spend time in an interesting and active way. The boulevards have become the ideal place in the centre of the cities to introduce the park functions that seamlessly connect the urban tissue with the river. The combination of the city and the river creates the possibility of combining recreational functions with facilities and services. The recreational function here is to encourage residents and tourists to use the boulevards in a variety of unlimited ways. This is particularly important in the cities that are heavily urbanized, where the green areas are often omitted, which gives the opportunity to create a "city's lung" in the very centre of the city without the need to strongly interfere with its structure. The presence of the park areas in the modern cities around the world is often their important image element that attracts investors, tourists and new residents [1], [2], [3].

References

[1] J. Barwicka, Woda, jako element urbanistyki, Green 2- Ogólnopolski kwartalnik architektoniczny, s. 59 Kraków 2010.
[2] R. Blazy, Wartości humanistyczne jako kod genetyczny miasta, (text in Polish with abstracts in English and French), MONOGRAPH No. 497, Series Architecture, Publishing House of the Cracow University of Technology, Cracow, 2015.
[3] D. Czarnecka, Relacja rzeka- miasto, Wydział Architektury Politechnika Warszawska, Warszawa 2010.
[4] A. Januchta-Szostak, Fronty wodne, jako element tożsamości krajobrazowej miasta, Wydział Architektury Politechnika Poznańska, Poznań 2009.