

Rita Łabuz

MSc Eng. Arch.
 Chair of Spatial Planning and Environment Protection
 Institute of City and Regional Planning
 Cracow University of Technology
 rlabuz@op.pl

**THE AREA OF KOSSAK SQUARE - A PUBLIC SPACE AT THE
 MŁYNÓWKA KRÓLEWSKA MILL RACE - IN THE CONTEXT OF ITS
 HISTORIC, CULTURAL AND NATURAL ASSETS**

Abstract

The article emphasizes the need to reclaim green areas in cities. It presents the assets of the Kossak Square area as a public space and pays special attention to the historic context of the areas surrounding Kossak Square, related to the course of the former Młynówka Królewska mill race, which was the place where the members of the Kossak Family used to live and create their art. On the basis of selected planning documents and an analysis of the existing condition of the areas in question, the author argues for the need of their revitalisation. She also presents a concept of how the areas could be redeveloped.

Key words: *public space, Młynówka Królewska, revitalisation, Kossak Square*

Introduction

Public spaces may perform various functions promoting social interaction. Their role in the city is of special significance as they are places, situated amid dense development, which enable contact with other urban dwellers or visitors and meeting new people. It is important in big cities to emphasise the options of reclaiming areas of greenery. The said areas may contribute to the improvement of the city climate quality e.g. by reducing air pollution. They are also areas of recreation offering a wide range of services.

There are many forms of public spaces in Kraków, they are *inter alia*: municipal parks (e.g. Jordana Park, Krakowski Park, Dębnicki Park, Decjusza Park, Solvay Park and Wyspiański Park), boulevards (e.g. Vistula Boulevards, Rudawa Boulevards), streets and squares (e.g. the Main Market Square, Mały Rynek, Wolnica Square, Szczepański Square, Na Stawach Square or Sikorski Square), viewing points (e.g. Kościuszko Mound, Krakus Mound, or Piłsudski Mound in Sowiniec), areas around water reservoirs (e.g. Nowohucki Reservoir, Bagry, Zakrzówek, Przylasek Rusiecki). They are not infrequently

representational areas in the city. Some of these places, however, are falling into disuse, they are less and less eagerly visited due to their deteriorating aesthetic and functional quality. For this reason they cease to function within the city as areas attractive for residents or tourists. Hence, emerges the need to restore the public spaces in Kraków to their former quality.

The author pays special attention to public spaces situated along the former course of the Młynówka Królewska mill race in Kraków, and to the areas of Kossak Square and Retoryk Street in particular, as they may become an important link in the network of green commons and public areas of supra-local cultural value. The areas in question may potentially provide a complementing component of the existing network of green spaces in the city, such as the Młynówka Królewska river park, Trzech Wieszców Avenues, Błonia Krakowskie and Vistula Boulevards.

At present, the area of Retoryk Street and Kossak Square is not associated with the former watercourse. The idea of the Młynówka Królewska river park is being implemented in the section between Mydlniki and Słowacki Avenue. The areas surrounding Kossak Square have valuable cultural and natural assets, which, however, remain neglected, even though situated in the centre of Kraków, as they are not properly displayed in the ill-functioning neighbourhood.

It is worth noting the option of extending the walking path along the Młynówka Królewska to these areas, which would provide a link between the existing city squares and plazas (Rev. M. Kuznowicz Square, Gen. W. Sikorski Square, Gen. Z. Zieliński Plaza and J. Kossak Square). The article presents the author's original concept of developing the areas in the vicinity of Kossak Square⁴.

Spatial policy of Kraków city regarding public spaces and natural environment referring to the Kossak Square area

The Study of Conditions and Directions of Spatial Development for the City of Kraków of 2003, updated in 2014, includes *inter alia* a formulation of the primary objectives to be achieved with the spatial policy as well as the methods of their accomplishment. One of the most important stipulations included in the Study is protection of the existing assets (cultural, natural and aesthetic alike) listed alongside compliance with the principles of sustainability. As for public spaces, the goal set in the Study is to improve their functional and aesthetic quality. In compliance with the act on spatial planning and land development of 27th March, 2003 (Art. 10, para. 2, pt. 8), the Study has marked out areas destined to be turned into public spaces and recommended linking them into a network [Study..., Vol. II: 46]. The recommendation also refers to green areas, such as parks, green plazas, boulevards and the so-called *green avenues*. The term *green avenues* has been defined in the above mentioned Study as *a network of streets lined with arranged greenery* [Study..., Vol. II: 49]. The areas in question could contribute to the improved continuity of systems of greenery.

⁴ The concept has been developed within the author's Master's degree project *The Area of Kossak Square in the Context of Spatial Transformations of the Młynówka Królewska Mill Race in Kraków* prepared at the Faculty of Architecture of Cracow University of Technology in 2016 under the supervision of Prof. El bieta W. cławowicz-Bilska and Ph.D. Urszula Nowacka-Rejzner.

It should be noted that the trail of *green avenues* includes among others Retoryk Street and the area of Kossak Square [Study... Addendum K1 Spatial Structure Directions and Principles of Development]. One of the main principles of natural environment development is *integration of the scattered structure of greenery into a continuous system* [Study... Vol. II: 92]. The existing system of greenery in Kraków displays the features of a radial-ring and patch arrangement [Raczkowski 1966: 56]. The green commons of Planty and the greenery along the Aleje Trzech Wieszców constitute the ring layout. Municipal parks, the areas of former city fortifications, the greenery surrounding monasteries and other small green patches make up a scattered system of greenery. The potential to foster further development of the radial layout of green areas in Kraków lies in its watercourses. The areas surrounding them remain to a great extent undeveloped due to difficult water and soil conditions.

Problems related to city growth based on systems of greenery (including also hydrographic networks) have been present in scientific and conceptual works for many years now. The following authors – among others – have discussed them in their works: Anna Ptaszycka [1950], Janusz Bogdanowski [1979: 316-323], Urszula Nowacka-Rejzner [2001], Agata Zachariasz [2006: 103-104] and Aleksander Böhm [2007: 279-281]. Since the built development in the city is continuously expanding, the areas along watercourses require protection against uncontrolled development. If these green areas are preserved and there is still a possibility of expanding them, it may contribute to a greater unification of the green network in the city.

One way of fulfilling the recommendation related to *integration of the scattered structure of greenery into a continuous system* [Study... Vol. II: 92]⁵ is creation of river parks. We may take the Młynówka Królewska river park as an example here – it is now being established at the sites along the former river course. However, the park has been planned mostly in the northern part of Kraków, in the section between the area of the weir in Mydlniki and Słowacki Avenue. The author of the article points out to the possibility of extending the said park to the section from Gen. Zieliński plaza to the outlet of the Młynówka Królewska into the Vistula at Czerwieński Boulevard, which would include Retoryk Street and Kossak Square. If this is to be done, the greenery existing in the above-mentioned area requires revitalisation. Bringing them back to life may contribute to unification of public spaces and improve the quality of the natural environment in Kraków. Thus, the suggested actions are consistent with the targets of the spatial policy adopted by the city.

It is also worth noting at this point that the areas in question are of considerable cultural significance. The area of Kossak Square is the site of *Kossakówka* – a manor surrounded by a park where the members of the Kossak Family used to live and create their art, now a listed site covered by the conservator's protection. Another element worth noting are the historic town houses of interesting architecture along Retoryk Street, including several buildings designed by the famous Kraków architect Teodor Talowski.⁶ In Gen. Zieliński plaza is situated the monument of Józef Piłsudski and a sculpture representing four soldiers of the Polish Legions from the I WW authored by prof. Czesław Dźwigaj. The junction between Podzamcze and Zwierzyniecka Streets features the Soldiers of the Fighting

⁵ It is one of the targets stipulated in the Study related to the directions of municipal greenery development.

⁶ In the space of Kraków structures designed by Teodor Talowski are located numerous along the Retoryk Street. The most characteristic houses are at no. 1, no. 3, no. 5, no. 7, no. 9 and no. 15.

Poland monument, sculpted by prof. Bronisław Chromy. The above-mentioned culture-related assets deserve to be properly displayed in the space of the city.

In the document Study of Conditions and Directions of Spatial Development for the City of Kraków, Volume III *Guidelines for Local Land Use Plans* we find recommendations related to how the areas of individual urban units are to be developed. Kossak Square was included in the second urban unit called the First Belt. The document points out to the need to *revitalise/rehabilitate urban enclosures by introducing arranged greenery* and to the need to *protect and transform the existing and to create new urban squares and plazas offering public spaces of the highest quality* [Study..., Vol. III: 19]. It is significant that no local land use plans for the areas in and around Kossak Square and Retoryk Street have been prepared so far.

Ensuring an adequate amount of green areas in cities is most difficult in their centres, with the dominant dense development. Free spaces which could be turned into public green commons are hard to find in highly urbanised areas. There have been numerous attempts to find a solution to this problem, and one of them is the idea of creating so-called *pocket parks* in city centres [Blake 2013: 1]⁷. One of the famous pocket parks is Paley Park in New York, located in a narrow space between buildings. The central part of the plot features tables with seats placed between trees and the building walls surrounding the park have been covered up to the second storey with climbing plants and an artificial waterfall has also been installed.

In the area of Kossak Square, the manor and park of *Kossakówka*, which are now in a dilapidated state, may become a new pocket park in the very centre of Kraków. Situated amongst multifamily development in the city centre, it is an ideal location for creating a pocket park which would make reference to the history of this place.

The history of the place, its determinants and conditions

Until the early 20th century, the present Retoryk Street used be the watercourse called Młynówka Królewska, which also ran in the vicinity of Kossak Square.⁸ In the 19th century, the square had the name Rządowy Plac Latarnia.

At present, Młynówka Królewska still flows in its natural bed in the section from the weir in Mydlniki to the area of Filtrowa Street. In its further section, the waters have been led into an underground channel which still lets out into the Vistula at Czerwieński Boulevard in the area of the Wawel Hill. The section in Retoryka Street and in the vicinity

⁷ These are small green areas, often situated in city centres. They are created e.g. between existing buildings, thus preventing the option of complementing the development with the so-called urban infill (Blake 2013: 1).

⁸ Młynówka Królewska was an artificial bed created for the Rudawa river in the 13th century to supply water for the royal mills later on for the city inhabitants and moats. It ran along the present Filtrowa and Zarzeczne Streets, further on it turned north towards Podchorążych Street, where it ran past the former Royal Palace in Łobzów. Next, it ran between Kazimierza Wielkiego and Mazowiecka Streets, parallel to both, and then along Grottgera, Łobzowska, Garbarska and Wenecja Streets. In the area of the present Piłsudski Street, Młynówka Królewska joined the Rudawa and their combined waters flowed along Retoryk Street until they let out into the Vistula in the vicinity of the Wawel Hill. The decision to gradually fill the bed of Młynówka Królewska was taken in the early 20th century following the floods which had plagued the city in the previous years. The course of the former Młynówka Królewska may be seen in historic maps of Kraków, e.g. in the 1785 Kołłątaj Plan, in the plan of Kraków within the trenches prepared by T. Tebrowski in 1836 and in the Plan of Kraków with its adjoining communes of 1947.

of Kossak Square was sealed in 1911⁹, and a green avenue was created in its place (fig. 1). In the 19th century, Retoryk Street – along Młynówka – was built up with residential townhouses, some of which had been designed by Teodor Talowski.



Fig. 1. Retoryk Street – view over the green strip between two roads – the place of the former Młynówka Królewska riverbed. Photo by R. Łabuz, 2016.

The townhouses mentioned above exist in the present day and have been listed in the Voivodeship Register of Historic Monuments. The conservator's protection also extends to the buildings of the *Kossakówka* manor and park (fig. 2) and – among others – to the villa of the Medyńscy Family situated in Kossak Square. The structures in question are at present in the state of complete dilapidation. The Medyńskich villa remains unoccupied and its facades require urgent renovation. It is worth noting that both buildings were surrounded by a garden, located in Kossak Square, which belonged to the Kossak Family. The garden was considerably larger than the present green area around the *Kossakówka* manor. After Jerzy Kossak's death, a part of the garden was taken up for the construction of a five-storey townhouse. Owing to the efforts of Kossak's wife Elżbieta, Kossak's villas were entered into the register of monuments in 1960 [Kamińska 2015: 62]. Gradually, the historic villas were being surrounded by four- and five-storey development. At present, the two buildings – *Kossakówka* and *Jerzówka*, similarly to the Medyński villa, are in a very bad condition and require renovation. In July 2016, construction of a new mixed use (residential and commercial) began on the plot of land between the Medyński villa and the *Kossakówka* manor and park¹⁰ (fig. 3).

⁹ The stages of sealing the bed of Młynówka Królewska are presented in the folder accompanying the exhibition *Rudawa – ywioł poskromiony /Rudawa – a restrained force of nature/* at the Historical Museum of the City of Kraków, Zwierzyniecki House at 15, Królowej Jadwigi Street, which was open to the public from the 23th April to the 4th September 2016; (Lampart 2016: 25-26).

¹⁰ According to the information board at the construction site and to the visualisation presented at the website of the architectural studio, the building has been designed to be a residential-commercial structure with a garage. Its size conforms to the scale of its adjacent development, with the exception of the *Kossakówka* buildings.



Fig. 2. The *Kossakówka* manor and park – area requiring revitalisation. Photo by R. Łabuz, 2016.



Fig. 3. The building site of the new multi-family building in the vicinity of the *Kossakówka* manor and park, view from Wygoda Street. Photo by R. Łabuz, 2016.

Most of the parking places in the area of Kossak Square and Retoryk Street are occupied all the time (fig. 4). A large number of cars within the square and the adjacent streets impede the pedestrian movement. Erecting a new residential-commercial building,

whose residents and their guests will also need to have regular access to it, is not very likely to facilitate the process of restricting the intensified traffic and congestion in this area. Since there is no local land use plan valid for the area, subsequent planning permissions may continue to be issued for the still undeveloped plots. As a result, new structures seem to obstruct any attempt to improve the traffic situation. We may take as an example here a new residential townhouse constructed at the site of a vacant building in Wygoda Street, which blocks the view and hinders access to houses situated along Słowacki Avenue. The new building preserves the former frontage alignment close to the windows of the adjacent house and is higher than the previous one, which does not improve the access to sunlight of either structure.



Fig. 4. Kossak Square, parking occupying the space. Photo by R. Łabuz, 2016.

Kossak Square performs the function of a carpark cut into parts by access roads. The railings, which are to prevent cars from parking on the pavement, are located in a way that impedes and in some places completely blocks pedestrian movement within the square. In its part close to Zwierzyniecka Street, the square features small commercial facilities in various styles, which block the view over the square.

A proposal to restore the area of Kossak Square to its former value

The presented work deals with the problem of revitalisation of spaces along the former Młynówka Królewska bed as part of implementation of the concept of creating river parks in Kraków. The new land development in the area of Kossak Square and Retoryk Street has been designed on the base of the author's own studies and land analysis of the areas along Młynówka Królewska. A field inspection provided material for evaluation of the present situation and for defining the problems and conflicts existing here. The author has also studied publications related to the history of the areas in

question¹¹ and historic maps presenting its hydrographic network and spatial transformations taking place between the 15th and the 20th century¹².

The analyses of the existing conditions carried out by the author provided grounds for marking out the areas for modernisation or redevelopment with a view to improving the functional and aesthetic quality of their spaces¹³. The areas of Kossak Square and Retoryk Street were subject of detailed analysis focusing on their potential to improve the continuity of systems of greenery and public spaces networks. Moreover, they are places in need of activation, but – due to their attractive location – they may become new representational sites of the city.

The terrain selected for detailed elaboration were the areas between Gen. Zieliński plaza (in the area of Wenecja, Garncarska and Piłsudski Streets) and Czerwieński Boulevard. The project proposed to revitalise Gen. Zieliński plaza, Retoryk Street and Kossak Square together with the *Kossakówka* manor and park complex and a part of Czerwieński Boulevard (fig. 5). The areas listed above would be developed to become freely accessible recreational spaces, in line with the concept of reclaiming public spaces, the leading motif of which is highlighting the course of the former Młynówka Królewska in Kraków.

The project focused on several characteristic areas, i.e. the environs of the building of Polskie Towarzystwo Gimnastyczne “Sokół” /*Polish Gymnastic Society – “Sokół”*/, the green belt along Retoryk Street and Kossak Square together with its surrounding areas. It has been decided to introduce new solutions into these places. The project proposed opening the areas surrounding the *Sokół* building and making them accessible to the public as green commons linking the Cracovia bus stop and Gen. Zieliński plaza. The bus stop would be covered with a new roof, which would also constitute the entrance into the area of the Polish Gymnastic Society “Sokół.” The area would feature a broad pedestrian route linking Zieliński plaza and the bus stop in Aleja Trzech Wieszczów. A fountain would be situated in the extension of the pedestrian route, symbolising a wellspring of outflowing water. The water would flow into Retoryk Street in a shallow trough, where – meandering along the pedestrian route – it would make symbolic reference to Młynówka Królewska. The green area outside the *Sokół* building would also be made

¹¹ Information on the hydrographic network in Kraków, especially on the course of Młynówka Królewska, has been taken from the following publications: „Dziejowe przemiany sieci wodnej i zagospodarowania przestrzennego Krakowa” (Tobiasz 1977), „Gospodarcza rola Młynówki Królewskiej w Krakowie i jej wpływ na obecne zagospodarowanie miasta” (Hebda-Małocha, Małocha 2007), „Rudawa – ywiół poskromiony” (Lampart 2016). There is also some information on the areas within the *Kossakówka* manor and park complex to be found in the following publications: “Simona. Opowie o niezwykłym yciu Simony Kossak” (Kamińska 2015) and „Maria i Magdalena” (Samozwaniec 2010).

¹² In the research, the author used the 15th century hydrographic map of Kraków and its adjacent areas found in Borkowski K., *Kraków : (geologia – hydrografia – prawiek – pierwodzię – dzieje – o wiata i sztuka – bibliografia)* as well as: the 1785 Kołłątaj Plan, the Plan of Kraków within the trenches prepared by Teodor Borkowski in 1836 and the Metod Pharus Plan of Kraków of 1912; the Plan of Kraków with its adjoining communes from 1947 – courtesy of the Institute of City and Regional Planning of the Faculty of Architecture at Cracow University of Technology.

¹³ The areas assigned for revitalisation are situated along the course of the former Młynówka Królewska. Within the framework of the concept of creating river parks in Kraków, it has been proposed to arrange these areas as green public spaces of predominantly recreational function. The proposal stipulated introduction of park furniture, which should interfere into the existing natural landscape in the possibly minimal way (particularly in the area of the preserved river bed). The proposed transformations have been presented within the author’s Master’s degree project.

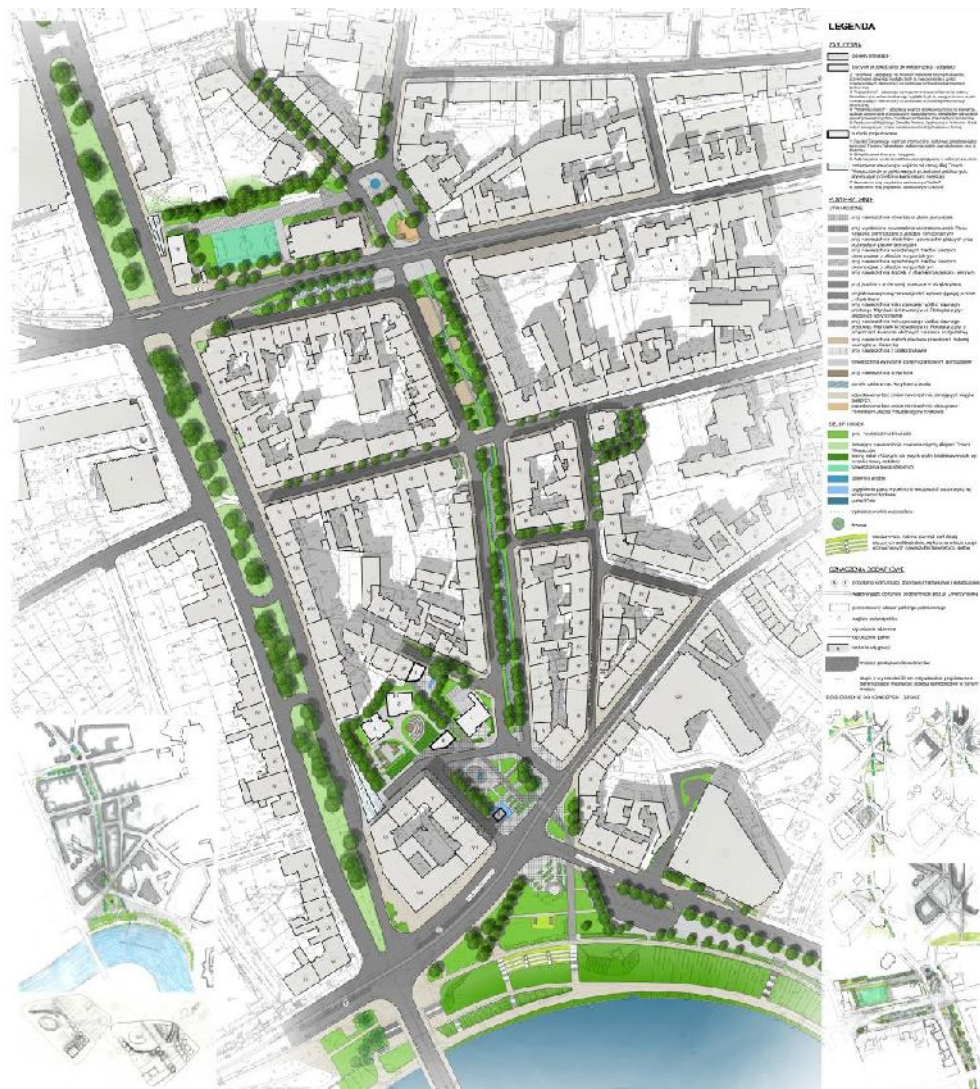


Fig. 5. Concept of development of the areas between Gen. Zieliński plaza and Czerwieński Boulevard. Fig. by R. Łabuz, 2016.

accessible to the public; it would be turned into a square with sprinklers, which may become a local attraction, especially for children. Small squares on circular plans have been designed for the area at the entrance into Retoryk Street with the purpose of providing proper conditions for displaying the buildings designed by Teodor Talowski. Kossak Square would have an automated underground carpark instead of the present one, located above ground. The adopted solution enables limiting the number of exits from the carpark onto the surface of the square to the necessary minimum, while at the same time it ensures the required number of parking spaces under a relatively small area of the square. The vehicle entrance into the underground carpark would be situated near the Kossak hotel. There is also a lift designed in a glass casing with a lightweight steel frame.

This solution reconciled the need to have the necessary facility in an adequate size with the desire to have an unobstructed view over the square and its adjacent areas. The lift is to be surrounded by a shallow basin filled with water. The roads cutting across the existing square will be removed, and the traffic will be shifted to the road running outside the Kossak hotel.

An underground tunnel has been provided for cars coming from Powiśle Street and turning left, which should improve the traffic conditions in the area and solve the problem of the conflicting crossroad involving cars and trams. The square would feature diverse green surfaces and a 90 cm deep artificial riverbed lined with concrete steps finished in stone, which would also create seating areas. The riverbed would be surrounded by lawns with a tree colonnade continuing the line of trees in Retoryk Street and thus compositionally highlighting the course of the former Młynówka Królewska. Introducing new green elements is consistent with the city policy related to natural environment protection and contributes to giving the place a friendly character. The square would be horizontally divided by a 90 cm high wall providing a backrest for the seats. The fountain, too, would be surrounded by seats, and they together would make a symbolic “painter’s palette”, with the seats, each in different colour, as paints. The palette alludes to the art of Juliusz, Wojciech and Jerzy Kossak. The main axis of the square is created by a pedestrian route, marked out by a different colour of the surface. The axis connects the area of the Soldiers of the Fighting Poland monument with the area of the *Kossakówka* manor and park. The axis would end with a new pavilion, erected as an extension of its adjacent townhouse. The pavilion would perform information and culture-related functions and it would feature a space devoted to Teodor Talowski. The *Kossakówka* manor and park complex would undergo thorough revitalisation, the existing manor buildings would be restored to their former glory and a new garden would be established – accessible to the public within specified hours. The buildings would be turned into a museum of the Kossak Family. *Kossakówka* (the building) would be used as a venue for presenting the family’s literary achievements, whereas *Jerzówka* would display their accomplishments in painting. The concept of adapting the buildings comprising the *Kossakówka* manor and park complex as well as the Medyński villa has been developed on the basis of the technical documentation of the said buildings preserved in archives, it is to be implemented within the Kossak Square revitalisation project¹⁴. It has been assumed that the interiors of both buildings should be preserved and the furnishings should reflect their authentic look in the period when they were inhabited by the Kossak Family. A new single-storey pavilion has been designed in the area of the *Kossakówka* complex, situated near Kossak Square, which is to house a souvenir shop and public toilets. The Medyński villa is also planned to be renovated and adapted for new functions: a café in the ground floor and residential functions in the upper storeys. The garden has been divided into two zones. A small stage has been proposed in the eastern part, in the form of a wooden

¹⁴ In the course of her design work, the author was able to obtain the historic technical documentation of the buildings comprising the *Kossakówka* manor and park complex and the Medyński villa from the National Archives in Kraków, Department V of Cartographic Resources and Technical Documentation. The following technical drawings have been used: The Plan to build a new House on the property No. 356/7/8/9 of 1851; Design drawings for building a villa in Juliusz Kossak Square of 1921, Design drawings for building a laundry room and a kitchen in the ground floor and a room and an attic in the upper floor in the property owned by P.M. Kossakowa Esq. L90.DZ III at J. Kossak Square L.5 of 1917; Design drawings for building a villa in Kossak Square of 1921; Additional plan complementing the documents approved for building the second storey at the property in Kossak Square in Kraków of 1922.

platform surrounded radially by seats. It would offer a venue for literary meetings and lectures. The western part would feature a form resembling a labyrinth of secluded places for seating and repose separated from each other by rows of tall trimmed shrubs. The establishment of the garden is intended to commemorate the figure of prof. Simona Kossak, whose academic work was related to the natural environment. A symbolic continuation of Młynówka Królewska has been proposed to run on the other side of Zwierzyniecka Street, in the area of Czerwieński Boulevard, all the way up to the existing outlet into the Vistula river. The continuation would take the form of a concrete trough lined with a tree colonnade (fig. 6).



Fig. 6. Design project of land development in the area of Kossak Square. Fig. by R. Łabuz, 2016.

Conclusion

Public spaces are important components of any urban structure, uniting different areas of development. The above fact gives rise to an obligation to maintain high quality of the existing spaces and to create new ones to keep up with the development of urban fabric. Places that have fallen into disrepair or have ceased to be perceived as public spaces in the cityscape require revitalisation. Reclaiming public spaces promotes clarification of the city structure and creation of places that are friendly and inviting for residents and tourists alike. Kossak Square in Kraków is now a public space that does not serve pedestrians as a place of recreation, but – due to its present function of an aboveground carpark – it only serves car users as a place to leave or manoeuvre their vehicles. However, the square is situated near the Wawel Hill and Vistula Boulevards, it also has underground carparks in its vicinity. All these factors suggest that the public space of the square should be restored to pedestrians, and vehicle traffic should be considerably restricted. It is worth taking into account the historic, cultural and natural context of the place while preparing the concept of its revitalisation, since it may to a certain extent determine or influence the proposed development. Introducing new green elements in relation to Młynówka Królewska is consistent with the spatial policy of the city regarding natural environment, particularly preservation of the continuity of systems of green areas. Highlighting cultural and historic assets, such as historic architecture or works of famous figures in art or science may contribute to the consolidation of cultural identity. While developing a concept of a public space revitalisation, we must not limit our considerations to local problems or assets present in a given area, but instead we must reconcile them with the provisions adopted in the scale of the whole city so that the solutions we choose are consistent with the plans and projects of key significance for the growth of the city as a whole. If we analyse a broader context, we are able to act effectively and at the same time stay true to the principles of sustainable growth. At present, implementing the idea of sustainable growth is one of the tasks with the highest priority in the process of urban growth since putting a stop to uncontrolled development and improving the living conditions in cities are a necessity. From this perspective, it is important to emphasise the role of recreational areas in the city, which are not only places for relaxation and rest, but they have a potential to improve the quality of the climate, e.g. the air condition. Taking proper care of natural environment is one of the main principles of sustainable city growth. Natural resources provide people with numerous components of key importance for their lives. They ensure that we have the necessary conditions to live, including climate conditions. Greenery affects the quality of air in the city. It often provides a natural barrier from the noise generated by vehicle traffic. It provides places for recreation and repose, thus affecting human health.¹⁵ For the reasons discussed above, adequate management of systems of green areas in the city seems to be one of the key problems of spatial planning.

¹⁵ Benefits drawn by humans from natural environment have been defined as services provided by ecosystems. Their classification was meant to enable defining economic profits that could be made by taking action aimed at environment protection in cities. A detailed classification of services provided by ecosystems has been presented *inter alia* in publications: “Usługi ekosystemów w miastach” (Kronenberg 2012) and “Usługi ekosystemów wodnych w miastach” (Januchta-Szostak 2012).

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