

GARDEN CITIES AND HERITAGE OF THE HOWARD'S IDEA IN EUROPE WITH PARTICULAR CONSIDERATION OF POLAND

Rafał BLAZY^{1,*}, Hanna HREHOROWICZ-GABER¹,
Ioan Gabriel SANDU^{2,3,*}, Alicja HREHOROWICZ-NOWAK¹

¹Department of Spatial Planning, Urban and Rural Design, Faculty of Architecture,
Cracow University of Technology, ul. Warszawska 24, 31-155 Kraków.

³Gheorghe Asachi Technical University of Iași, Faculty of Materials Science and Engineering,
Blvd. Mangeron, No. 41, 700050, Iasi, Romania

³Romanian Inventors Forum, Str. Sf. P. Movila 3, 700089, Iasi, Romania.

Abstract

European urbanization trends at the beginning of the last century were the results of an economic and social situation that had a major impact on the formation of urban structures and the development of peri-urban areas. The concept of an ideal city and the search for its model have gained in importance. Also in Poland, the influence of 19th century though on the formation of cities is visible and numerous references to model cities – in particular Ebenezer Howard's "Garden City". The background for these changes was the industrial revolution in the 19th century, intensifying the railway industry, which resulted in the introduction of the Electric Commuter Railway into the areas of the Warsaw agglomeration and laid the foundations for the location of Podkowa Leśna. The article analyses the phenomenon of the "Garden City" on the example of Podkowa Leśna case study, showing the identity of the place and the transformation of the structure over time.

Keywords: Garden city; Howard, Cultural heritage, Green areas

Introduction

The idea of a "garden city" was born with the idea of creating a space that is greener, closer to nature, but also self-sufficient. The first author of the urban concept was Ebenezer Howard [1]. This concept was an attempt to solve the problems of Great Britain in the 19th century, i.e. overpopulation of cities, the development of industrialization and urbanization of urban space. Howard's proposal was based on the theory of magnets. According to it, an ideal city should provide contact with nature, fresh air, but also the possibility of cultural and economic development.

The very definition of the concept of "garden city" provides many ambiguities and possible interpretations. The creator of the idea, Howard, in his book, divided the concept into: garden city, garden suburb and garden settlement, writing: "The garden city is a self-contained, industrial city, planned as a whole and with enough space for houses with gardens for 30,000 inhabitants, with a wide strip of open fields around it. It connects the positive sides of town and village, paving the way for the national movement to curb the depopulation of villages and the overcrowding of already overcrowded cities.

* Corresponding author: rblazy@pk.edu.pl and gisandu@yahoo.com

The garden suburb is for the normal growth of existing cities on a health basis, and if the cities are not too big, these kinds of suburbs are very useful.

A garden settlement, such as Bournville and Earswick, is a miniature garden town that is dependent on the neighbouring town for lighting, plumbing and water supply. Such a settlement, by its nature, cannot have a significant surrounding belt and is usually a centre of large industry” [1].

Over time, the definition of the garden city changed. After the implementation of the garden satellite cities of London (Welwyn and Letchworth), the English Garden Cities Association, founded in 1899, gave the following definition of the “garden city” term: “*A garden city is a city that cares for the healthy life of its inhabitants and a proper place for industry, a city of sufficient size to enable the fullness of social life for a certain predetermined number of inhabitants: it is surrounded by a strip of agricultural land and the whole area is owned by public, which is in the interest of the community (commune) (...) The garden city movement has acquired tremendous international importance. Societies of this kind are currently being established in many countries of the civilized world. In this movement, Poland ranks third (after England and Germany, and at the same time with France) both in terms of chronology and intense agitation activity. Poland also took part in organizing the International Federation of Garden Towns and Town Planning in 1913. This federation, as is well known, plays a great role in the movement in question. Its organizers included representatives of the following countries: England – Ebenezer Howard and Cecil Harmsworth, Montague Harris, Alderman Thompson and E.G. Culpin, France – Prof. Augustyn Bey, the USA – Mr. R.B. Watrous, Poland – PhD Wł. Dobrzyński, Norway – Tonneson, Germany – Adolf Otto and PhD Ludwig, Japan – Mr. Masao Ito. In that year in July, the Federation organized the tenth International Congress in Paris*” [1].

Societies promoting this idea arose all over Europe, emphasizing their social character. Satellite cities were to be built close to large metropolies. The concept of the garden city refers to the theory of the “Three Magnets”: City and village are magnets that attract with their advantages, but also repel with disadvantages. The city encourages high wages, jobs and social life, but they are counterbalanced by high rents, poor living conditions, long working hours, and isolation of society. A village with fresh air, beautiful nature, low rent, discourages with a lack of entertainment and low earnings. Howard pointed out the third possibility, which is the third magnet: Town-Country, a village town that combines all their advantages. Howard’s work on the concept was not a utopian ideology, as he based his solutions on economic conditions, combining the idea with the system of organization and financing of such an individual. On the land owned by local governments or cooperatives, relatively small cities of 32,000 inhabitants were to be established, with good communication links with the centre and industrial zones. Their remoteness from overcrowded downtowns and their location in the countryside were to provide a better living environment, fresh air and create small local communities with strong ties. The way of building development was to be regulated by a top-down plan that also took into account the existence of public buildings: libraries, meeting rooms, shops, health and culture centres – everything that would make cities self-sufficient in terms of satisfying the basic needs of residents. “*Poor places, like parks or open spaces, which people jealously defend, and therefore the inhabitants of the garden city will not let the development process destroy the beauty of their city (...). The city will grow, but its development will not diminish or destroy the social opportunities, beauty and comfort of the city, or even greater*”, Howard predicts, there will be urban hybrids in which life will be healthier, more enjoyable and cheaper [1].

The problem of recreating such objects is close to the conclusions and judgments expressed in the articles [2-7]. Such objects are important both as monuments of architecture as works of art and city gardens, if we talk about the variety of decorative means used both initially and in the process of restoration or reconstruction of such unique objects [8-15].

The article analyses the phenomenon of the “Garden City” on the example of Podkowa Leśna case study, showing the identity of the place and the transformation of the structure over time.

Experimental part

Materials

The first and the best example of a garden city is Letchworth Garden City, located several dozen kilometers of London. The layout of the city was based on a circle, with a park in the centre from which the roads spread out. Public utility buildings with pro-social functions were located around the square. These objects were surrounded by a 145-acre park with recreational functions. Around the central park there was an arched Cristal Palace passage, which was a kind of entrance to the park. It is also a roof for commercial targets that do not require large surfaces, similar to today's boutiques. Cristal Palace was also supposed to act as a winter garden.

Fifth Avenue, lined with trees, ran directly beyond the Central Palace. The next ring was marked by single-family houses. The development zone was divided by a 420-meter wide Grand Avenue strip, in which, in the park surroundings, schools with a library, playgrounds and a church were to be located. The outer ring has an industrial function with numerous factories, plants, workshops, etc. The city was surrounded by railroads, and the agricultural surroundings – the Green Belt would isolate the garden city of the neighbouring areas [16-18].

The model was based on dividing the space into the urban part: 1/6 of the total area and the agricultural part constituting 5/6 of the area (Fig. 1). Agricultural areas were leased by city residents and intended for agricultural, orchard and horticultural production, the obtained crops satisfied the needs of the residents and thus the garden city functioned as a self-sufficient unit economically.

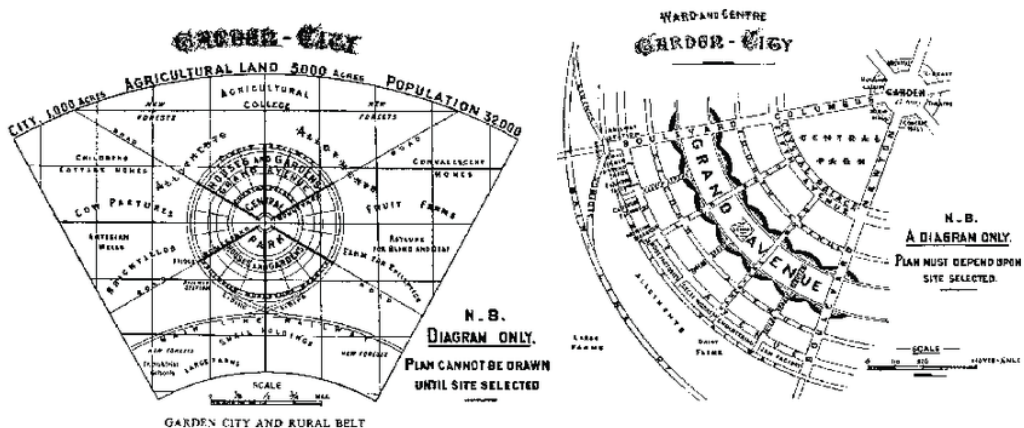


Fig. 1. E. Howard's idea of a garden city included in the book *Garden Cities of Tomorrow* [16]

The presented diagram is an ideal model, according to Howard, which should be pursued. The urban layout of the city should be adapted to the terrain and economic and social conditions. Almost simultaneously Letchworth, because in 1909, becomes the first German version of the garden city of Hellerau, now in the outskirts of Dresden. The plan from that year was created on the initiative of the factory owner Karol Schmidt and included housing estates, public utility buildings and a production area for furniture factories well connected with the city [18].

A little later, in 1912, on the outskirts of Berlin, Bruno Taut founds Falkenberg, a garden estate that was inscribed on the UNESCO World Heritage List, and now has been absorbed by the city structures of Berlin. At the same time, also in Germany, a garden city was established,

founded in 1906 by Margarethe Krupp on the occasion of the wedding of her daughter – Margarethenhöhe. On her initiative, the “Fundacja Pomocy Mieszkaniowej im. Margarethe Krupp” (Margarethe Krupp Housing Aid Foundation) was founded, to which she contributed a settlement area of 50 hectares in the south of Essen and building capital of one million German marks [17, 18]. The construction of the city was spread over time and lasted until 1938 according to the design of the architect Georg Metzendorf. The garden city was then (during its construction) exempt from the provisions of the construction law. The first houses were built in 1910, but earlier a viaduct was built to ensure communication with the nearest settlement areas of Holsterhausen and Rüttenscheid and to transport building materials. Today, Margarethenhöhe is the core of Essen’s southern district of the same name (Fig. 2). Opened in 1872, the Mülheim-Heißen-Altendorf railway line was closed at the end of the 20th century and turned into a bicycle route. As a result of hostilities during the Second World War, the settlement was largely destroyed. After the war, the garden city was reconstructed in its damaged parts and restored to its historical condition. In the post-war period, starting in 1962, the “Margarethenhöhe II” was established on the undeveloped land south of the original garden city, which, due to the architectural forms contrasting with the historical structure, became the subject of many disputes and discussions [17, 18].

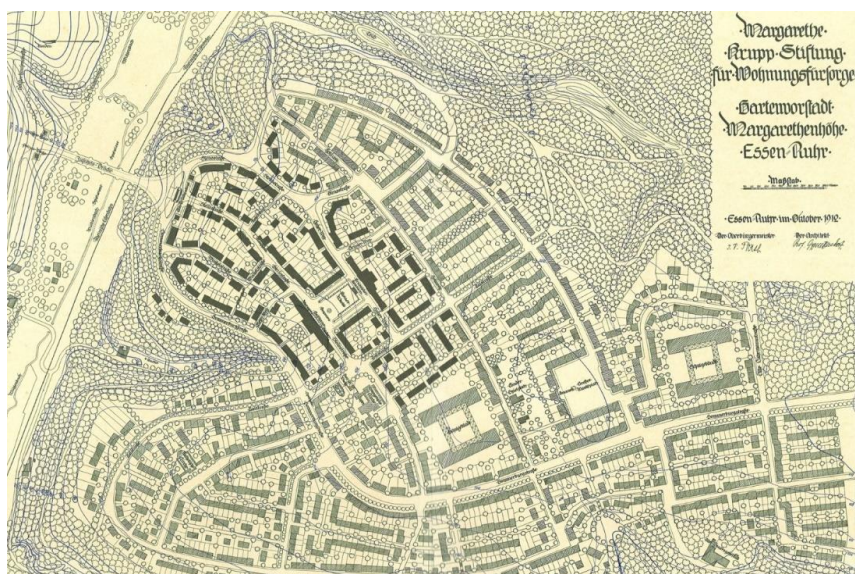


Fig. 2. Plan of the garden city Margarethenhöhe from 1912. Source: <https://www.gardencitiesinstitute.com/resources/garden-cities/margarethenhohe> [17]

In 1987 Margarethenhöhe I was placed under conservation protection. The history of the garden city was witnessed and documented by the local chronicler, Hugo Rieth, whose materials constitute a valuable source of knowledge and historical documentation of the entire establishment [16].

French garden cities are associated with the name of Henry Sellier, who in 1916 began to implement Howard’s idea around Paris. Already in 1920, a number of garden cities were established, including: de Stains, Dugny, Gennervillers, Suresnes, l’Aquaduc a Arcueil, Cachan [19].

Under the influence of Howard’s idea [1], the aspirations of metropolitan areas of Eastern Europe also appeared in the pursuit of modernity. The garden city idea gained popularity very quickly, but it never turned into the dominant urban model (Fig 3).



Fig. 3. The winning project of Jaroslav Vondrak and Jan Senkyr became the basis for the final layout of this urban housing estate [20]

In contrast to many attempts to adapt the idea in Central and Eastern Europe, Howard's concept took the form of typical housing estates remote from industrial areas. In the area of today's residential district of Prague – Orechovka, there used to be a beautiful baroque garden with the castle of aristocrat Jan Krzysztof Borek. In the 18th century, there were military warehouses on this site. The establishment of the Czechoslovak Republic in 1918 resulted in a fundamental change in the area of the former Borek Garden – the construction of a large housing estate modelled on the Garden City.

In 1919, a competition was announced for the construction of single-family houses for the “Government Building Cooperative and Other Public Employees” in this area. The area was allocated to a garden city of the “Howard” type. The houses in the new location were to contain approximately 15% one-room flats, 15% four-room flats, 35% two-room flats and 35% three-room flats. The architecture of the designed villas was to refer to the modernist architecture of the English prototypes.

One part of Bucharest has a similar history, where, as a result of the division in 1909–1910, a low residential complex was built around the green area in the former Loanid orchard, which was called the Loanid Park (Fig. 4).

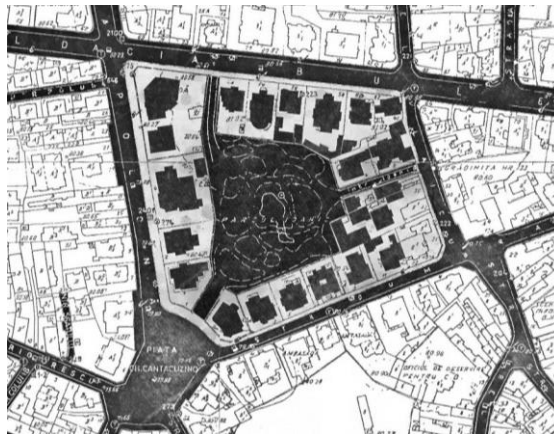


Fig. 4. Lot plan of the protected area of Joanidów – one of 98 areas of cultural heritage protection of the Bucharest city. Graphics: Ana Irina Bălănean [13]

In terms of architecture, the objects mostly represent national eclecticism – typical of all investments based on this idea. The layout of the buildings constitutes the natural framework of the park ensuring peace and quiet [19, 21].

Methods – ideological assumptions and spatial interpretation of garden cities

In Poland, the need to create garden cities was smaller, which was the result of weaker industrial development. However, the concept found a good basis and was implemented, among others, thanks to Dr W. Dobrzyński [22], president of the Warsaw Hygiene Society. On his initiative, the exhibition “Architecture and Interiors in the Garden Surroundings” was held in Kraków, which was attended by Howard [1]. The exhibition concerned the development of the newly attached districts of Kraków, which Howard himself considered them to be exemplary. He also admired the entire architecture of the city and large (Still) large green areas, calling Kraków “the garden city of natural development”.

Following the idea of caring for the quality of life of the inhabitants, satellite units were established around the largest and most urbanized (industrialized) cities: Warsaw, Katowice, Łódź, Wrocław and Kraków. The propagator of the idea himself, a friend of Howard, kept his distance to many implementations, claiming that they significantly deviated from the program assumptions: “A whole series of pseudo-garden cities arose, like malignant tumours on a healthy system, such as “Ząbki”, “Śródborów”, “Podkowa Leśna” and many others near Warsaw and in the provinces. It is true that very often these estates do not develop properly due to the economic inefficiency of the landowners” [22]. The main accusations concerned the social and communal area (profit-oriented, disregarding ideology) and not the urban layout itself.

The development of “garden cities” was closely linked with the development of agglomeration, demographic changes and cultural changes related to both the First and Second World Wars and the influx of rural people in search of work to the cities. The end of the 19th century also saw a change in land and real estate management. The first cooperatives in Poland were established in the 1890s. In the period after World War I, more than 20 of them were established. The development of cooperatives in the interwar years was regulated by the Act on the State Construction Fund (1919) and the Act on cooperatives (1920). The organizational change of real estate markets also affected other European countries. Pre-war housing needs were provided by private entrepreneurs, and only a small percentage were housing associations of a cooperative nature (5% in England, 3% in Germany). After World War I, for example, in Germany, the largest organization in the 1920s, building housing complexes, was established in 1924 of the GEHAG (Gemeinnützige Heimsstätten-Aktiengesellschaft) society.

We are currently encountering two models of migration: centripetal and centrifugal. The first one is the influx of people from outside the agglomeration. On the other hand, the model of centrifugal migration should be understood as the willingness to live in more distant and green places than in crowded cities. In Poland, we can meet with the consequences of both of these movements, including in towns near Warsaw, affecting places such as Podkowa Leśna. The construction of the Warsaw Railway Junction, in particular the Electric Commuter Railway (EKD) lines, played a very important role in the development of the Warsaw suburbs. The company „Siła i Światło” proposed a plan for the construction of electric railway lines, which largely referred to the plans from before World War I. It included the following lines: to Żyrardów via Grodzisk Mazowiecki, to Sochaczew through Błonie, to Łomianki through Młociny, to Wołomin through Ząbki, to Otwock through Wawer and also to Mińsk Mazowiecki through Miłosna. Planned housing estates were built along its route, such as: Podkowa Leśna, Michałowice (Komorów), Milanówek and many others. This line has solved, among others, the problem of transport from suburban zones to larger cities. Originally, the EKD was to run through the Młochów forests (Fig. 5), but the Princess Radziwiłł did not agree to this [23].

For this reason, it was decided to conduct it alternatively, through the Brwinów estate with the consent of Stanisław Lilipop, the owner of the land, with whom the construction of the railway and the village of Podkowa Leśna was agreed.



Fig. 5. Plan of the EKD railway (electric Access Railway on the section Grodzisk – Warsaw from 1929. <https://polska-org.pl/8860090.foto.html?idEntity=7740203> [23]

Differentiating many garden cities (e.g. Hellerau near Dresden, NeweEarswyck near York) in Poland, Howard’s concept took the form of typical housing estates, remote from industrial area. The health benefits were to encourage the society to settle in these areas. Polish town planners did not design economically self-sufficient cities, which were very dependent on metropolitan areas: according to the slogan: “Live in the countryside – work in the city”. The twenties and thirties of the twentieth century is a period in Poland, in which Howard’s concept was experiencing its renaissance in the area of the Warsaw agglomeration. Often, villas and summer residences were erected in forest areas, intended for the Warsaw intelligentsia, artists who wanted to rest outside the city. Warsaw’s Stare Włochy, Sadyba, and Żoliborz Oficerski, too, grew out of the garden city. The older part of Konstancin-Jeziorny is a place where 19th century villas are located largely in a forest area. An interesting example is also Komorów: a project by Tadeusz Szymański in roku gave rise to the city’s existence. The best example of implementing the idea of a garden connecting city and countryside is Podkowa Leśna. The beginnings of this “garden city” date back to the 1870s. In 1909, the summer settlement of Wilhelmów was separated from the Lilipop farm, and then in 1909 the settlement – Podkowa Leśna (Fig. 6).

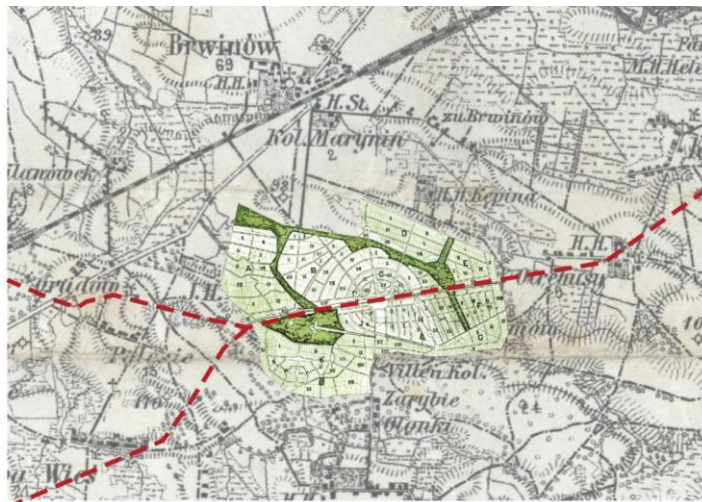


Fig. 6. Map [17] showing the future layout of the town [24]
(Own study on the basis of the wig 1911 map, good condition, the Lippop

The first plan of the city was designed by an architect from Warsaw – Antoni Jawornicnicki (Figs 7 and 8). The axis of the plan was based on EKD stops crossing the city. Two streets: Modrzewiowa and Pocztowa, straightened and separated rectangular squares. On the other side of the stop, a larger place was left without buildings, where a church and service

buildings were built later on. Podkowa Leśna was separated by various forest and recreational belts. To the southeast, the town was surrounded by the Młochów Forest, which is not a protected area.

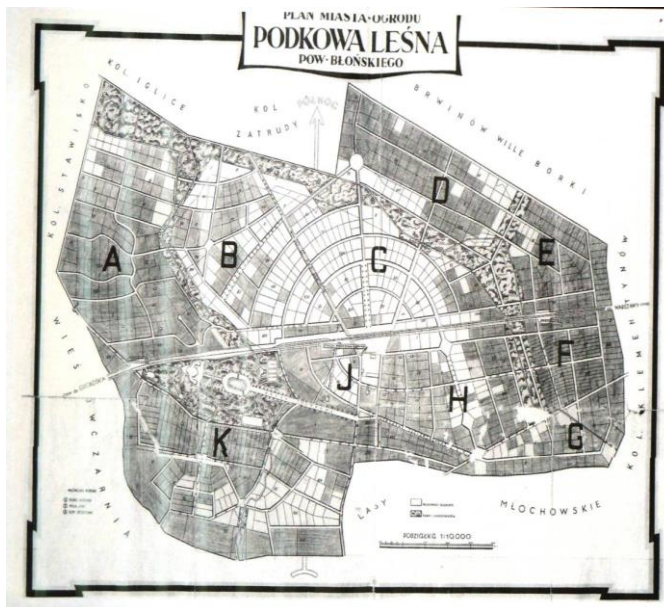


Fig. 7. Land plot plan of the town of Podkowa Leśna developed by Antoni Jawornicki <https://willeborki.org/historia-borek/> [25]

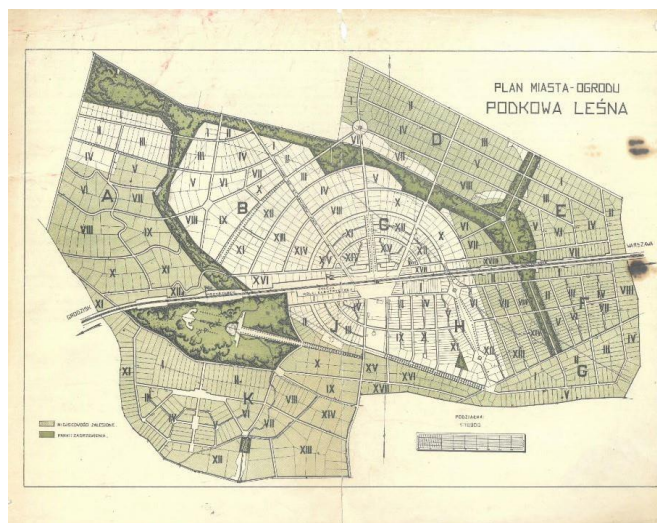


Fig. 8. Land plot plan of the town of Podkowa Leśna developed by Antoni Jawornicki [25]

The plan included approx. 14 hectares of wooded and landscape areas that were part of a Landscape Park, with a lake in the centre, a Sports Club and various recreational areas. In 1933, the Catholic Church of St. Christopher in the Art Deco style was established. It was designed by Prof. Brunon Zborowski, who was inspired by the Polish pavilion presented at the Paris exhibition in 1932 with pergolas and glass doors. In 1934, Prof. Zygmunt Hellwig, prepared a green design, which was then implemented. A school and a post office building were also built in the city.

At the same time, buildings in the form of houses and villas were built and were completed by around 1939. At that time, Podkowa Leśna was one of the most luxurious housing estates near Warsaw (Fig. 9).



Fig. 9. Railway station in Podkowa Leśna from 1927 [26]

(source: https://polska-org.pl/7740203,Warszawa,Linia_kolejowa_nr_47_Warszawa_Srodmiescie_WKD_Grodzisk_Mazowiecki_Radonska_WKD.html) and 2019 built in 1927.

A brick booth with a bay window and a large, open waiting room are decorated with forms referring to the Polish Renaissance trend

The houses were privately owned and often acted as second homes for residents of larger cities. In terms of architecture, there were three main styles: the “manor” style that revived the tradition of small country houses, wooden houses and international modernism. In 1981, the urban layout of the city, the buildings and greenery of the garden city were entered in the Register of Monuments under no. 1194 A.

Results and discussion

The register of the Provincial Office for the Protection of Monuments for Podkowa Leśna (Fig. 10 and Table 1) includes 9 residential buildings and the Church of St. Christopher, railway station and transformer room. In addition, the municipal register of surrounded monuments includes 39 historic interwar villas. The table below presents selected objects showing the spatial arrangement of objects on the plots in cross-section, together with a summary of changes in the building’s body based on archival materials and information. To define the significance of these objects in space, their contemporary function is also given.

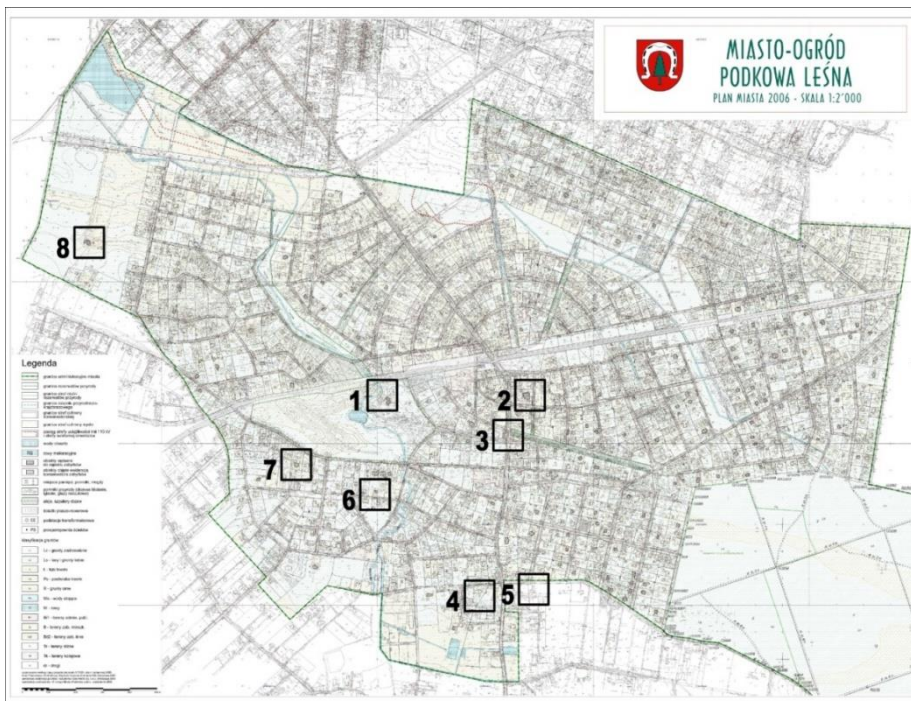

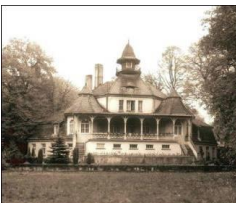







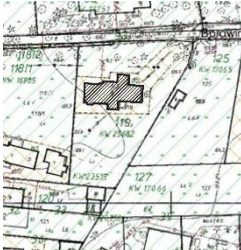

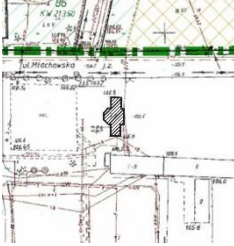




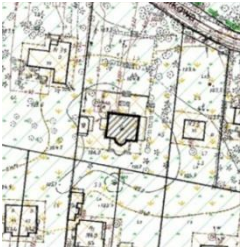







Fig. 10. Distribution of the most characteristic architectural forms in Podkowa Leśna in the city layout on the city plan [26]

Table 1. A list of the most characteristic architectural forms in Podkowa Leśna with a description of their function and location [24]

No.	Building category /Original function /Date of creation /Contemporary function	Location	Archival photo	Contemporary photo
1	Modelled on the architecture of Western European spas, especially Vichy. Built in 1927. Currently, it is the seat of the Centre for Culture and Civic Initiatives.			

No.	Building category /Original function /Date of creation /Contemporary function	Location	Archival photo	Contemporary photo	
2	Stanisław Lilpop's hunting lodge at Modrzewiowa street, corner of Jana Pawła II. Built in the first decade of the 20 th century. Later, after the reconstruction, it was owned by the Gayczak family, and after the war it housed a kindergarten for many years.				
3	House number zero at Jana Pawła II street, at the end of Lipowa Avenue. The last wooden building of the Stanisławów summer resort, which was built in the 1870s along today's Lipowa street.				
4	“ Borowin ”, Borowin 5 street. A suburban summer house built in 1927-28. During the occupation, the owners, the Niemyski family, took care of many Jews in hiding.		No archival materials		
5	Zarybie , Młochowska 1 street. Manor of Halina and Janusz Regulski (director of the company “Siła i Światło”), expanded in the early 1930s according to the design of Juliusz Dzierzanowski, Remnants of a landscape park. Currently, the seat of the Higher School of Theology and Humanities of Michał Belin-Czechowski conducted by the Seventh-day Adventist Church.				

No.	Building category /Original function /Date of creation /Contemporary function	Location	Archival photo	Contemporary photo
6	The villa of Karol Bertoni at Storzyczków 24 street, built in 1927-33		No archival materials	
7	The villa designed by Stanisław Futasewicz, Parkowa 37 street. An example of architecture referring to the tradition of a Polish manor house.			
8	The house was built by Stanisław Wilhelm Lilpop in 1928, according to the design of Stanisław Gądzikiewicz. The seat of Lilpop's daughter, Anna and her husband, Jarosław Iwaszkiewicz, who lived here until the end of their lives. Currently, there is a Museum of Anna and Jarosław Iwaszkiewicz			

The development of greenery in Podkowa Leśna

Podkowa Leśna was established in the areas of meadows, arable land and pastures near forests. The green areas of the city were and still are one of the most important assets of the city, including, for the sake of well-being and peace, as well as environmental and economic benefits.

During the existence of the “garden city”, some of the greenery was transformed into furnished public spaces, such as: the City Park or the Polish-Hungarian Friendship Square, some areas remained untouched and classified as nature reserves. Within Podkowa Leśna, there is the Bolesław Hryniewski Reserve, which includes the oldest oak and pine stands in Mazovia and the Zaborów nature reserve of Witold Tyrakowski, which protects the broadleaved forest and about 26 species of birds and nesting nests. Within the city there is also the Parów Sójek nature reserve, which includes deciduous forests with a predominance of oak and hornbeam and an admixture of conifers. The area of Podkowya Leśna lies in the catchment area of the Rokitnica and Mrówka rivers. Two streams flow through the town – Potok/Niwka river (irrigating the City Park and Parów Sójek and the drainage ditch of Uroczyisko Zaborów in the Młochowski Forest and flowing through the city towards Brwinów [26].

Podkowa Leśna lies outside the main migration corridors (national and regional), there is a clear system of interconnected green areas forming the local ecosystem in the city. They connect the forest areas around Podkowa Leśna, in particular the corridor connecting the Młochowski Forest with the City Forest Park and further with the forest in Podkowa Leśna Zachodnia (Fig. 12). The free migration of fauna and flora is separated and limited by property fences and technical infrastructure. A significant threat to the natural environment and, at the same time, to the very establishment of the ideological garden city is the individual cutting of trees on private properties, which, according to the owners, hinders reconstruction and renovation works and shades the plot.

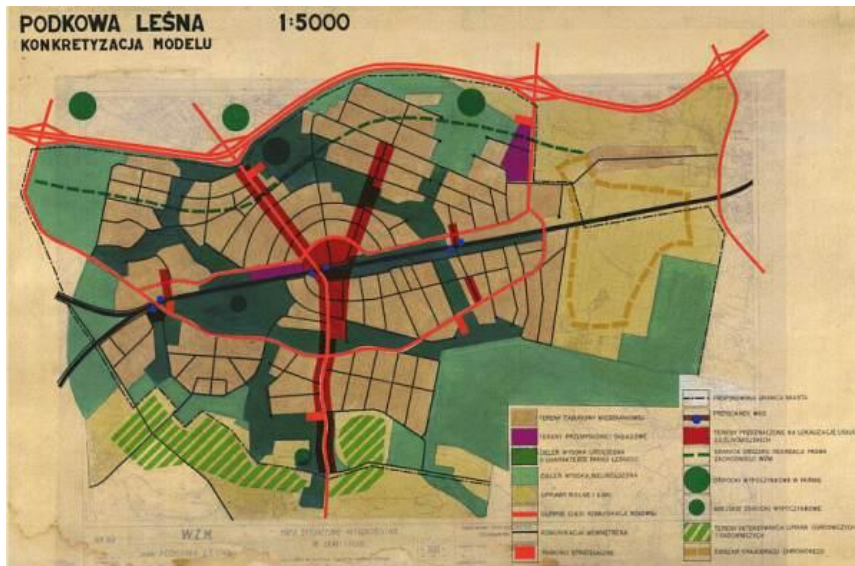


Fig. 11. Study of the detailed plan of Podkowa Leśna. Source: Krzysztof Domaradzki, Podkowa Leśna and urbanization processes, cultural magazine of Podkowa Leśna, no. 49-50
<https://www.podkowianskimagazyn.pl/nr49/domaradzki.htm> [27]

The plan of Podkowa Leśna as a „garden city” began to be developed again after the war period. The first urban study was made at the Institute of Town Planning of the Warsaw University of Technology by Prof. Hanna Adamczewska-Wejchert, arch. Krzysztof Domaradzki and Olgierd Dziekoński in 1975-1980. At that time, an inventory of the city was carried out, and then a city model was proposed that referred to the idea of garden city solutions. It divided the city into a central part surrounded by a ring of greenery, including the City Park and buildings. The project tried to provide residents with a sense of proximity to the centre, and at the same time the availability of open and green areas. Unfortunately, the connections of green areas with the outer areas of the city proposed at that time were largely developed later and they did not get a chance to implement them.

The next plan that was created was the „Study of the Conditions and Directions of Development of Podkowa Leśna 2001”. The study was carried out by PhD arch. Krzysztof Domaradzki and arch. Marek Sawicki on behalf of the City Hall in 2001. The layout of green areas and public spaces was considered the most important elements of the spatial layout. According to the creators, the development of Podkowa Leśna should be directed “inward” in the form of developing the values that already exist. Attention was drawn to the need to develop the city’s public space, which sets its standard and perception. It was noticed that regardless of the improvement in the quality of individual plots of inhabitants, the image of the city would not

improve if public spaces were not taken care of. One of the ideas was also to create walking routes through places related to historic buildings or under conservation protection. They would be aimed at showing the beauty of the architecture of Podkowa Leśna (Fig. 12), both to people living in the city and to tourists. The study also proposed a communication model for the city, so that Jan Paweł II street was a road for road communication, and Bukowa and Myśliwska streets were protected from the transit traffic. It was proposed in order not to burden more and more streets with communication.

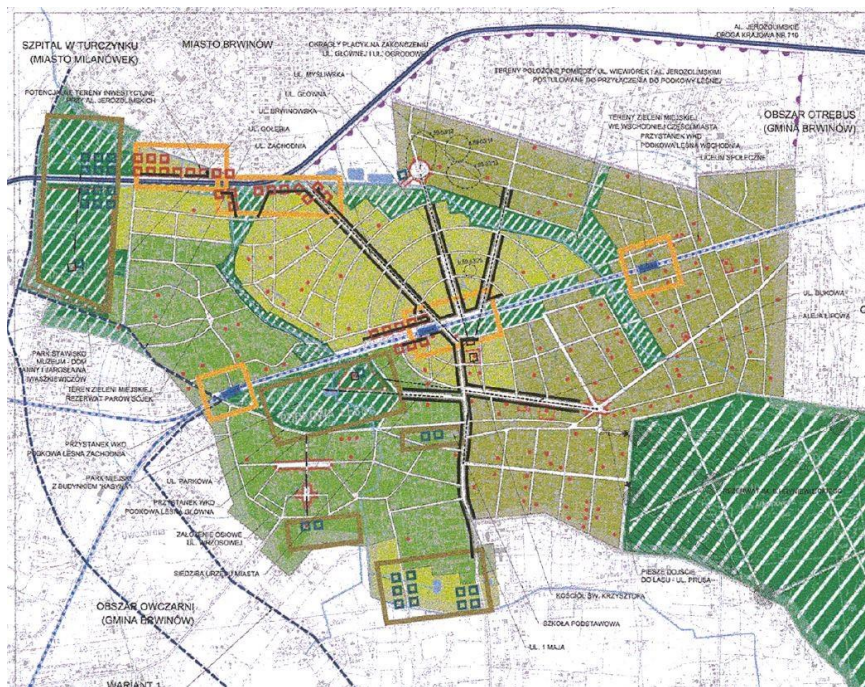


Fig. 12. A study of the conditions and directions of spatial development in Podkowa Leśna – valid until June 30, 2000 adopted by resolution no. 117/23/2000 [28]

In 2004, on the initiative of the City Council, a report on the city was prepared, which was to help in the future to create a plan for further development of the “garden city”. It consisted, among others, of getting to know the opinion of the inhabitants and providing “true and reliable” information. The document contained the characteristics of the natural environment and resources, demographic analysis, labour market, education, culture and arts, administration, health and even social problems, and the situation of young people living in the city. On the basis of the report and other research, a document was created entitled “Strategy for the sustainable development of the garden city of Podkowa Leśna for 2005-2014” [29].

In the document, the current environmental and socio-economic situation was analysed, the most important development problems were identified, a draft vision of a sustainable city was prepared, and specific, strategic and so-called main goals were set. The main goal was to harmoniously combine protection of the natural environment and monuments, with the social development of the inhabitants and the development of local entrepreneurship. The strategy also defines four strategic goals for the city [29]:

- ✓ Modern municipal infrastructure (using pro-ecological technologies)
- ✓ Protection of the natural environment and the urban layout of the garden city
- ✓ Comprehensive social development of the inhabitants of the garden city.
- ✓ Development of post-industrial entrepreneurship.

Priority tasks for the first two objectives included, among others: modernization of streets and communication development, completion of the construction of the water and sewage network, ensuring the proper condition of municipal buildings, creation of energy and ICT infrastructure, protection of the Młochowski Forest, protection of groundwater, greenery, air and silence and revitalization of the city centre.

The next goal can be understood by preserving local cultural heritage and traditions, high level of educational development, raising safety and health standards, developing recreation, sport and tourism, as well as integration and solidarity. The strategy points out that approx. 30% of the inhabitants settled in Podkowa Leśna after 1989 (Fig. 13), so one should strive to develop a sense of attachment to the place and its traditions. It was also noticed that cooperation is important not only in the city, but also outside it, i.e. with the nearby gardens of Milanówek, Nadarzyn, Brwinów and Komorów (Michałowce commune).



Fig. 13. Processed SIUKZP of Podkowa Leśna – putting the draft out for public consultations, January 2021 [30]

In line with the fourth strategic goal, the city should also develop in terms of entrepreneurship, tourism, leisure and local services, education and health. However, it was emphasized that it is necessary to protect the existing craft plants and basic services for the population, which have been serving the residents for years, so as to ensure their work on the spot. The document also emphasizes that there is not needed to create 24-hour shops and supermarkets, because the neighbouring towns have such an offer, and this would change the character of the city. For each of the above goals, a task list and a work schedule have been created. After 6 years, the City Hall of Podkowa Leśna summed up the state of work carried out in accordance with the document. It was determined that the implementation of the objectives was adequate to the duration of the Strategy. After about 58% of the time, 60% of tasks were completed, which meant that the plan was prepared correctly, and the goals were consistently implemented. With the new term of office of local government authorities, it was decided to

update the Strategy for 2013-2025. The new document specifies the current state of Podkowa Leśna, among others population, natural environment, urban and architectural monuments, communication, etc. For each of the individual issues, the main problems were identified on the basis of the SWOT Analysis. It was assumed that in 2025 the concept of the city and its features will be preserved along with the protection of the environment and monuments, and at the same time will be supplemented with a modern pro-ecological civilization and technical infrastructure. The main goal and strategic goals remained the same, and the specific goals will continue to be implemented and have been extended to new tasks for the coming years. Because for many years the Study in force in the commune was passed on the basis of the previous act of July 7, 1994, it became necessary to update it. The Podkowa Leśna commune made an assessment of the validity of the study in 2012. The conducted assessment recommends the city authorities to proceed with the preparation of a new study document, but so far, no actions have been taken in this direction. [24].

In connection with the development of the structure with public consultations, at the end of 2019, the SUIKZP change of the town of Podkowa Leśna was made available for public inspection along with the statutory environmental impact forecast [31] (there were not many comments to the study, because only 3 associations and 23 residents took advantage of this possibility. The comments concerned, among others, the division of the city into functional zones and development indicators for individual areas). New development trends are visible in the continuation of the foundations of the garden cities in the form of urban villages of Urban Villages. Implemented, among others by architects Trevor Osborn and Leon Krier, a new small-scale urban structure, compact, multi-functional and self-sufficient, referring to the Howardian idea, was composed based on local spatial forms and built-in traditional technologies [31].

The planning guidelines for the further development direction set out in the directional document, which is the Study of the Conditions and Directions of Development of Podkowa Leśna, are also aimed at maintaining traditional forms of construction and maintaining the garden character of building plots. The biologically active surface area indicators oscillate around 70% of the green area on the plot.

Conclusions

It is worth emphasizing that Podkowa Leśna retained the spatial structure, continuing the thought of the prototype, and also preserved the objects and the characteristic layout of the alley in the tissue. At the same time, while remaining a clear and easily recognizable example of a garden city implemented in Central and Eastern Europe.

The concept of a garden city in this part of the old continent was a response to the problems of industrial cities in the 19th century. In Poland, the idea of garden cities was a certain transformation of Ebenezer Howard's concept. Usually, it took the form of typical green housing estates that were remote from industrial areas. The origins of Podkowa Leśna date back to the second half of the 19th century and are the best example of the implementation of Howard's concept, including its circular arrangement. It was one of the most luxurious housing estates near Warsaw. The post-war development of the city referred to the main assumption from the past, thanks to which we can talk about evolution in development.

Over the years, there are differences in the approach to the development of the Podkowa Leśna structure, however, they are not a sudden change, but rather a form of evolution that does not destroy the historical system. The spatial form of the unit constitutes a great value of the area due to its historical character and a large amount of greenery (including the Młochowski Forest). Historical buildings in the city are the most characteristic architectural forms that create the unique identity of Podkowa Leśna. They are also determinants of the archetypes of urban substance development. Objects, urban layout and greenery were entered in the Register of Monuments. The future of the city's development must take into account the history of the place and be a good continuation of it, taking into account all the requirements posed by the present. The threat may be the reduction of the requirements for the amount of greenery in the city, both

in public areas and on private plots. All strategic goals of the city concern the implementation of Podkowa Leśna as an exemplary “garden city” taking care of monuments, social development of the inhabitants, cultural heritage of the area and improved with additional pro-ecological solutions. It seems that a good solution that would strengthen the historical conditions of the philosophy of the garden city should be the greater use of the existing potential in the form of the railway line as the basic means of transport and the development of bicycle paths and privileged bicycle lanes.

References

- [1] E. Howard, *Garden Cities of to Morrow*, (Chapter 1), **The Town-Country Magnet**, 2013. https://en.wikisource.org/wiki/Garden_Cities_of_To-morrow/Chapter_1. [accessed on 03.02.2022].
- [2] I.C.A. Sandu, P. Spiridon, I. Sandu, *Current studies and approaches in the field of cultural heritage conservation science. harmonising the terminology in an interdisciplinary context*, **International Journal of Conservation Science**, 7(3), 2016, pp. 591-606.
- [3] L. Pujia, *Cultural heritage and territory. Architectural tools for a sustainable conservation of cultural landscape*, **International Journal of Conservation Science**, 7(1), 2016, pp. 213-218.
- [4] O. Florescu, I.C.A. Sandu, P. Spiridon-Ursu, I. Sandu, *Integrative Participatory Conservation of Museum Artefacts. Theoretical and Practical Aspects*, **International Journal of Conservation Science**, 11(1), 2020, pp. 109-116.
- [5] P. Spiridon, I. Sandu, *Muselife of the life of public*, **International Journal of Conservation Science**, 7(1), 2016, pp. 87-92.
- [6] P. Spiridon, I. Sandu, L. Stratulat, *The conscious deterioration and degradation of the cultural heritage*, **International Journal of Conservation Science**, 8(1), 2017, pp. 81-88.
- [7] V. Petrušonis, *Symbolic potential of place and its modelling for management needs, Landscape Architecture*, **Scientific Journal of Latvia University of Agriculture**, 13, 2018, pp. 39-49.
- [8] M. Orlenko, Yu. Ivashko, *The concept of art and works of art in the theory of art and in the restoration industry*, **Art Inquiry. Recherches sur les arts**, 21, 2019, pp. 171-190.
- [9] P. Gryglewski, Yu. Ivashko, D. Chernyshev, P. Chang, A. Dmytrenko, *Art as a message realized through various means of artistic expression*. **Art Inquiry. Recherches sur les arts**, 22, 2020, pp. 57-88.
- [10] M. Orlenko, Y. Ivashko, J. Kobylarczyk, D. Kuśnierz-Krupa, *The influence of ideology on the preservation, restoration and reconstruction of temples in the urban structure of posttotalitarian states*, **Wiadomości Konserwatorskie – Journal of Heritage Conservation**, 61, 2020, pp. 67-79.
- [11] I. Sandu, M. Orlenko, M. Dyomin, O. Ivashko, Y. Ivashko, C.G. Lăzăreanu, K. Paprzyca, I.G. Sandu, P. Sztabińska-Kałowska, *Scientific Conservation of the Outstanding Theaters of the 19th Century and Their Influence on the Creation of Modern Art-Space*, **International Journal of Conservation Science**, 12(2), 2021, pp. 361-390.
- [12] M. Orlenko, Y. Ivashko, P. Chang, Y. Ding, M. Krupa, K. Kusnierz, I.G. Sandu, *The Specificity of the Restoration and Monument Protective Measures for the Preservation of Historical Chinese Gardens*, **International Journal of Conservation Science**, 12(3), 2021, pp. 1003-1026.
- [13] Y. Ivashko, K. Kuśnierz, M. Krupa, P. Gryglewski, A. Dmytrenko, I. Sandu, *Ways of Performance and Preservation of Monumental Art Works on the Facades of Architectural Monuments of the 19th – Early 20th Century*, **International Journal of Conservation Science**, 12(4), 2021, pp. 1209-1230.
- [14] M. Orlenko, Y. Ivashko, J. Kobylarczyk, D. Kusnierz-Krupa, *Ways of Revitalization with the Restoration of Historical Industrial Facilities in Large Cities. The Experience of Ukraine and Poland*, **International Journal of Conservation Science**, 11(2), 2020, pp. 433-450.

- [15] S. Baiandin, Y. Ivashko, A.I Dmytrenko, I. Bulakh, M. Hryniewicz, *Use of Historical Painting Concepts by Modern Methods in the Restoration of Architectural Monuments*, **International Journal of Conservation Science**, **13**(2), 2022, pp. 381-394.
- [16] G. Uhlig, **Garden Cities and Courtyard Apartment Buildings: Visions of Social Reform**, Birkhäuser, 2019, pp. 123–143.
- [17] W. Buschmann, *Die Margarethenhöhe. Ein Denkmal von Weltgeltung*, **Vortrag** <http://www.rheinische-industriekultur.de/objekte/Essen/siedlMargarethen/margarethenhoehe.html>. [accessed on 04.02.2022].
- [18] W. Buschmann, *Arbeitersiedlungen. Historische Bedeutung und denkmalpflegerisches Erhaltungsinteresse*, **Rheinische Denkmalpflege** **32**, 1995, pp. 263 – 271.
- [19] A.R. Voinea, **Think Piece - Garden City in Bucharest**, 2012. <https://www.gardencitiesinstitute.com/think-piece/think-piece-garden-city-in-bucharest>, [accessed on 06.02.2022].
- [20] * * *, *Ořechovka – a district as an exhibition of modern architecture of 20’s and 30’s*, **Praha Neznámá, Průvodce po pražských čtvrtích**, <https://www.prahaneznama.cz/orechovka/> [accessed on 06.02.2022].
- [21] * * *, <https://www.scena9.ro/article/bucuresti-oras-minat-interviu-cu-edmond-niculusca> [accessed on 08.02.2022].
- [22] W. Dobrzyński, **Współdział sfer społecznych w sanacji mieszkaniowej**, „Praca i Opieka Społeczna” zeszyt 4, styczeń 1929, wyd. Ministerstwo Opieki Społecznej. [accessed on 10.02.2022]
- [23] * * *, <https://www.wkd.com.pl/o-wkd/historia-ekd-wkd.html> [accessed on 03.02.2022].
- [24] * * *, **Artyści i społecznicy – przygotowaliśmy biogramy 50 ważnych dla tożsamości Podkowi Leśnej postaci**, <https://www.podkowalesna-tppl.pl/dziedzictwo/miasto-ogrod-i-jego-mieszkancy-w-i-polowie-xx-wieku/>[accessed on 13.02.2022].
- [25] * * *, *Mieszkańcy Borek od zawsze życie swoje wiązali z Podkową Leśną*, **Historia Borek**, <https://willeborki.org/historia-borek/>[accessed on 03.02.2022].
- [26] * * *, **Gminny Program ochrony środowiska dla Miasta Podkowa Leśna na lata 2011-2014 z perspektywą do 2018 roku**, http://bip.podkowalesna.pl/wp-content/uploads/pliki/uchwaly/VI_kadencja/15/program_ochrony_srodowiska_zal_76.pdf [accessed on 05.02.2022].
- [27] K. Domaradzki, *Podkowa Leśna a procesy urbanizacyjne*, **Podkowiński magazyn kulturalny**, 2006, nr. 49-50.
- [28] * * *, **Plan zagospodarowania przestrzennego Miasta-Ogrodu Podkowa Leśna** <http://podkowalesna.pl/samorzad/samorzad-urząd-miasta/projekty/>[accessed on 08.02.2022].
- [29] * * *, *Strategy for Sustainable Development of the Garden City of Podkowa Leśna for 2013-2025*, **Podkowa Leśna**, 2013, http://bip.podkowalesna.pl/wp-content/uploads/2016/04/strategia_rozwoju_miasta_ogrodu_2013_2015_uchwalona.pdf. [accessed on 10.02.2022]
- [30] K. Lenc, **Studium uwarunkowań i kierunków zagospodarowania przestrzennego – zakończono zbieranie uwag**, <http://podkowalesna.pl/bez-kategorii/studium-zakonczono-zbieranie-uwag/> [accessed on 13.02.2022].
- [31] K. Pluta, *Nowe zespoły mieszkaniowe w miastach europejskich – projekty teoretyczne i realizacje*, **Czasopismo Techniczne A** (Kraków University of Technology), **104**(2), 2007, pp. 37-44.

Received: May 24, 2021

Accepted: August 22, 2022