Formation of a comfortable urban environment, taking into account the reconstruction, restoration of buildings and structures (on the example of the Kaliningrad region)

V I Pustovgarov

Immanuel Kant Baltic Federal University, 14 Nevski St, Kaliningrad, 236016, Russian Federation

E-mail: viktorpustovgarov@mail.ru

Abstract. The issues of reconstruction of the historical environment of cities are one of the most acute when considering the problems of development of urbanized territories. A significant number of examples of the loss of historical monuments make it especially careful to the preserved architectural heritage. The process of revitalizing the planning of the territory in the area of the South (Yuzhniy) Station in the city of Kaliningrad is due to the incompleteness of the town-planning ensemble, which began to form at the end of the 19th century. Urban planning reconstruction of the territory is a complex of necessary scientific research and the preparation of a historical and cultural reference plan, which is defined by the Federal Law "On cultural heritage sites (historical and cultural monuments) of the peoples of the Russian Federation" [1]. As a result of studying the stages of urban development of the historical territory of the city and analyzing its architectural and spatial organization, conceptual proposals for its development were developed.

1. Introduction

The area adjacent to the Yuzhniy railway station in Kaliningrad is one of the most iconic urban areas. This territory currently houses the Main Railway Station, serving both suburban and long-distance trains, a bus station, shopping centers, residential and public buildings, and infrastructure facilities. This territory, to a certain extent, personifies the image of the city, in the form of a unique example of cultural, historical and urban planning heritage. In the process of research to identify the historical and cultural characteristics and value of elements of the urban environment, the main problems of the study area were identified:

- randomness of the territory development;
- incompleteness of the ensemble of the station square;
- conducting construction in the absence of scientific research in the field of methods of regenerating the historical environment and restoration of individual historical buildings;
- construction in historic green spaces.

In addition, adjacent streets are problematic, as their traffic capacity is insufficient.

In the General Plan of the city of Kaliningrad (2006), developed in accordance with the Urban Planning Code of the Russian Federation [2], it was determined that the territory of the Yuzhniy Station should be consolidated as an urban planning element of the cultural heritage. Also, objects of cultural heritage must be endowed with rather strict regulations for use: from the requirement for the restoration of facades to the complete restoration of buildings, including interiors and historical
improvement. Contrary to these decisions, shopping centers were built on the territory not intended for development, which led to a significant deterioration in the perception of the entire ensemble of the Yuzhniy Station.

Architecture knows many phenomena when an idea is embodied, and moreover, only one for each case. This is the regularity. Various external interpretations are possible, but there is only one embodiment of a given idea in the material essence of this idea. The power of architectural excellence is that this external interpretation, i.e. transmission of expression, thought, accurately set out the tectonic content of the idea. Let's not forget that architecture is a presentation of tectonics [3].

2. Disclosure and preservation of the social value of the historical heritage and its inclusion in the modern life of the city

In the project of zones for the protection of historical and cultural monuments of the city of Kaliningrad, carried out by the Scientific and Design Institute for Spatial Planning "ENKO" (St. Petersburg) in 2002, the main stages of the city's urban development were determined:

- Order period – middle of 13th century - the beginning of the 16th century. Construction of the Castle and 3 cities: Altstadt (1286), Lebenicht (1300), Kneiphof (1327);
- The period of Absolutism – early 16th century - the end of the 18th century;
- Imperial period – 19th century;
- Republican period – early 20th century;
- The period of urban planning stagnation after the Second World War – 1945 - mid-1960s;
- Soviet period – mid 1960-1991;
- Russian period – from 1991.

On early plans and maps up to the beginning of the 18th century, the study area is not included in the city boundaries - thus, we can conclude that there was no active development of it. The main thing that was characteristic of this place was that the road to the castle of the Teutonic Order of Brandenburg passed through it in the south-west direction, the ruins of which are still in the village of Ushakovo on the shore of the Kaliningrad Bay. In 1626-1634, work was underway in the city to build the first rampart defensive ring around the three cities of Altstadt, Kneiphof and Lebenicht. On June 13, 1724, the Prussian king Friedrich Wilhelm I signed a decree on the unification of three cities and suburban communities into a single city of Konigsberg [4]. The rampart fortifications included 11 bastions, 2 ravelins and provided for the entrance to the city through 9 gates. It is from the appearance of the fortress wall on the plans and maps that it becomes possible to uniquely identify the territory of the modern complex of the Yuzhniy Station. In the middle of the 17th century, here, at the intersection of modern Bagration and Zheleznodorozhnaya streets, there were: the Brandenburg bastion, the Haberberg ravelin - east of Leninsky Avenue, in the area of existing residential buildings.
Between the bastion and the ravelin, on the territory of present-day Kalinin Square, there was a cavalier, which was an "intermediate" fortification of the First Rampart Defensive Ring. Behind the fortress walls, that is, on the site of the modern track facilities of the South Station, there were arable fields and a mill. Inside the city walls, in the area of the modern House of Arts, the Haberberg Church existed since 1652. It is interesting to note that in 1783, on the advice of Immanuel Kant, who was baptized in the Haberberg Church, the first lightning rod in Konigsberg was installed in the building of the church.

In 1840, the Konigsberg Landtag made a petition to the king to build a strong fortification around Konigsberg. Construction work began on October 15, 1843 with the ceremonial laying of the Kronprinz defensive barracks [5]. During this period, the construction of the second defensive ring with new powerful engineering fortifications (forts, bastions) was carried out. The basis of the urban planning culture of this period lies in the appearance of a two-part composition of the spatial planning structure of the city, which already consists of two types of urban planning grid:

Type I - urban planning discipline "hippodamov" plan of the central part of the city;
Type II - the radial structure of the inner city, already formed on the basis of historical, natural and trade roads leading to the castle.

At the beginning of the 20th century, the expansion of the city's territories and the growth of industry continued. "Until 1930, a new Northern (Severniy) railway station was built for the Kranz, Labiaus and Samland railways and the new Main railway station in the south of the city, with a large station square stretching all the way to the Haberberg church. In contrast to the old East and South railway stations, the new Main railway station was a gateway station. From here, trains departed to Labiau and Pillau, the first via Gare du Nord, and the second via Hollender Baum (Dutch Gate). Thus, the traffic flow went from the Kaiserstrasse street to the Vorstadt Langgasse. A technical novelty was the two-story railway bridge over the Pregel, built in 1926" [6].

As Professor Dr. Baldur Koster writes: "The planning of railway structures began as early as 1896. In this sense, the demolition of the fortifications that took place had a positive effect: the demolition of existing buildings was not required for the new main station and the tracks of the freight station. Quite the contrary, for the former ramparts in the south-east between the Haberberg bastion and the
Friedrichsburg fortress, they could find another use. Railway station square (Reichsplatz) - extremely large by the standards of Konigsberg - from the then positions was laid in the most optimal way for traffic. In front of the long facades of the railway station building and the adjacent administrative building (there is a second exit here) a long square appeared, where only trams stopped" [7]. The station building was designed by the high-rise building department of the Berlin Railways Administration with the participation of the architect Cornelius in 1929. At that time it was one of the largest railway stations in Europe.

Figure 2. Development plan for the main station complex and the station square. 1929-1940 [11]

Figure 3. The complex of buildings of the Main Station 1929-1940 [11]

In the first post-war period, the element of continuity of the cities of Konigsberg - Kaliningrad was still preserved, but already the following general plans of the city, developed in the 60s, provided for a complete rejection of the city's planning structure that had been historically established and established over the centuries. As a result, an ideological orientation was adopted to completely ignore the previous architectural and urban planning component. This led first to the appearance in one place of
two completely different cities, then to the collision of their architectural and urban planning cultures, and later to a complete change in the structure, character, scale and image of the city. The key concept of this time is rationalism, as a result of which the utilitarian becomes an aesthetic category. An ideally rational building within an ideally rational city in the urban planning ideology is a microdistrict. This is the basis of the urban planning culture of the seventh historical stage of the city's development.

3. Conceptual proposals for the revitalization of the historical territory

When solving the problems of reconstruction of historical districts in more preserved and more valuable areas, it is appropriate to maintain the existing morphotypes, preserve the laws of their relationship. In other cases, it is possible to consider proposals for the development of emerging features, and even for the introduction of new architectural themes into the building [8].

A certain remoteness in time with today's assessment of the design solution of the station square allows it to be perceived in an expanded cultural context, where design ideas often could not be realized, but were transformed and changed under the influence of various factors. At the same time, it is proposed to restore the design scale of the public space of the square, create a single ensemble, which will be formed by the reconstructed buildings of shopping centers and new buildings of the bus station, hotel, public and business centers, buildings of the temple complex and the complex of buildings of the railway station. The planning organization of the territory according to the plan obeyed strict geometry and stable balance with the self-sufficiency of each node of the composition. Community is also achieved by some kind of unity of action, where public transport is one of the main participants.

As a result of the studies carried out, taking into account also the conclusions from the master plans of Kaliningrad in 2006, 2016, it is possible to formulate conceptual proposals for the revitalization of the studied historical territory in the area of the Yuzhniy station:

1. The identified development plan of the early 20th century is the most durable and basic element of the spatial structure.
2. The second element of the reconstruction is the idea that the scale of development is the lasting value of this territory.
3. Reconstruction of the architectural-spatial, historical-cultural and landscape originality of the territory.
4. When carrying out the reconstruction of this territory, it is necessary to form a complete compositional urban planning ensemble, the main objects of which should be:
   - reconstructed residential development and development of multifunctional buildings in the area adjacent to Kalinin Square;
   - development of a transport hub, taking into account the optimization of the use of the territory and the road network;
   - separation of traffic flows to the Yuzhniy Station, to the bus station, transit transport, public intracity transport, intercity and international transport;
   - construction of underground parking lots, underground and overground pedestrian crossings;
   - expansion of the carriageway of streets;
   - expansion of the territory of the bus station.
5. It is proposed to clarify the zones of protection of objects of cultural heritage of regional significance and their territory in accordance with the Regulation on zones of protection of objects of cultural heritage (historical and cultural monuments) of the peoples of the Russian Federation [9].

4. Conclusion

The tendency in the Kaliningrad urban studies of recent years is associated with a revival of interest in the main central public spaces, a rethinking of their role and significance in the structure of urban space and the development of models of their evolution in new economic conditions. Improvement has become synonymous with reconstruction. Everyone is well aware of the severity of transport, environmental and resource problems. Involvement in commercial turnover and, consequently, in the
process of revitalization of more and more areas of the historical urban environment, is one of the important tasks facing the authorities and the urban community. The considered territory of the Yuzhniy Station is one of the centers of attraction for people. Along with solving the problems of the transport hub, the environmental approach should prevail as the main priorities. In this situation, high-quality improvement is designed not only to provide psychological comfort, but also to preserve, emphasize and reveal the symbolism of the place, its inner atmosphere and individuality.

The attitude to the past becomes creative only when the architect is able to understand its inner meaning [10]. The square near the Yuzhniy Station has been preserved as a vast open space, although it was somewhat changed after the last construction of a number of buildings, but its public, socio-cultural essence as a square has practically disappeared. This implies one of the main conclusions that the square should revive its role as an attractive place for townspeople and for tourists, become a powerful utilitarian frame of the symbolic dominant of the Yuzhniy Station building in accordance with the identified planning decision of the 20s years of the last century.

References
[1] Federal Law of 25.06.2002 N 73-FZ 2005 On cultural heritage sites (historical and cultural monuments) of the peoples of the Russian Federation (Moscow)
[2] Russian Federation. Laws. Town-planning code of the Russian Federation Electronic resource: federal law. Reference and legal system "Consultant Plus"
[3] Pasternak K V 2007 Civic centers of the cities of the ancient world of the Middle Ages and classicism (Moscow: Stroitelstvo i biznes Press) p 389
[4] Albinus R 1988 Lexicon of the city of Konigsberg and its surroundings Leer
[5] Gubin A B and Strokin V N 1991 Ocherki istorii Konigsberga (Kaliningrad: Kaliningrad book publishing house) p 190
[6] Gause F 1994 Koenigsberg in Prussia. The history of a European city (Bitter) p 19
[7] Koster B 2014 Koenigsberg. Today's Kaliningrad. The architecture of the German time (Kaliningrad: LLC Zhivem) p 272
[8] Shchenkov A S 2013 Reconstruction of historic cities (Moscow: Monuments of historical thought) p 420
[9] Regulations on protection zones for cultural heritage objects (historical and cultural monuments) of the peoples of the Russian Federation 2008 (Moscow: "RG" - Federal issue No. 4653)
[10] Gidion Z 1984 Space, time, architecture (Moscow) p 17
[11] Visual archive of East Prussia Electronic resource: https://www.bildarchiv-ostpreussen.de