

Shopping streets as an instrument of architectural and design formation of consumer and investment attractiveness of functional-planning structure of city

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Abstract. In this article the authors consider formation of shopping streets as a powerful instrument of social-functional, composite-spatial rehabilitation of the urban environment and increase of its consumer value. The article provides an overview of the works of a number of well-known sociologists, urbanists, architects who have made a significant contribution to the concept of interdisciplinary consideration of the functional-spatial, planning, socio-economic and organizational-trade component in the transformation of the urban planning structure. This article describes the methods of research of the functional and planning structure of the city in order to identify and research centers of social activity as the basis for the formation of the complex system of shopping streets. The materials of the article reveal the need to create a system of functional filling, improvement and design of shopping streets in the planning structure of a city, consider the interaction of internal and external space in the modern environment of trading streets of the Russian city and determine the issues of their integration. This paper reveals the role and ways of implementing medium attractions in shopping streets. As a result of interdisciplinary approach to the theoretical and experimental parts of the study, the authors identified key aspects of solving issues in the field of theory and design practice of architectural and design formation of shopping streets, creation of a comfortable and attractive environment saturated with navigation and artistic components.

1. Introduction

The issue of shopping streets formation in Russian cities is practically a new direction in architecture and design of the urban environment. The most famous phenomenon is the creation of pedestrian streets that can be seen as some basic planning unit for forming sections of streets with a high concentration of different format shops for the convenience of consumers and business. According to experts, the concentration of shops grouped by functional orientation and assortment of goods attracts citizens, ensures profitability and profitability of trading facilities. Together with unique architectural solutions of commercial buildings, inclusion of exclusive improvement of pedestrian zones, scenario approach to organization of entrance groups in commercial objects all this creates a unique individual appearance of the urban environment, reflects peculiarities of society and culture of this region and city. The shopping streets of a number of cities of the world have gained worldwide prominence, among them are: Khaosan Road Street (Bangkok, Thailand) with a concentration of souvenir shops, restaurants, cafes, clubs, bookstores and cheap hostels; Nanjing Lu Street (Shanghai, China) with



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concentration of modern supermarkets, theatres and hotels; Saint Germain Boulevard (Paris, France) with plenty of boutiques, cafes, hotels, bars, museums; King Street (London, UK) with exclusive stores of exclusive brands and famous fashion designers; Getreidegasse Street (Salzburg, Austria) with stores of traditional jewellery, clothing, antiques and perfume; Grand Bazaar Street (Istanbul, Turkey) with 5000 shops, Istiklal Caddesi Street with many restaurants, cafes, bars and bookstores; Friedrichstrasse Street (Berlin, Germany) with modern architecture buildings housing shops, department stores and cafes; Ginza Street (Tokio, Japan) with shopping centers, boutiques, restaurants and art galleries; Chandni Chowk Street (Delhi, India) with a concentration of shops of spices, perfumes, electronics, textiles and famous street booths with food; Via di Condotti Street (Rome, Italy) with stores of the most famous fashion brands - Gucci, Prada, Salvatore Ferragamo, Bulgarian, Louis Vuitton and Armani; Trade streets Nguyen Thong, Trieu Quang, Le Hong Phong, Hai Thuong Lan Ong, Nguyen Thong (Hoshemin, Vietnam) specializing in the sale of aquarium fish, scissors, wines, traditional medicines, musical instruments; shopping district (Stockholm, Sweden) with shops of furniture and interior elements.

The given world experience testifies to the characteristic location of shopping streets within the boundaries of historical centers, which is also relevant for Russian megacities, in the historical areas and in the middle zone of which extra attractions are created to attract citizens and guests of the city. In case of the development in central districts, shopping streets can become an instrument of architectural and design formation of consumer and investment attractiveness of peripheral districts of cities. Design of a city-wide multilevel trading system is one of the urgent tasks of the modern metropolis. The determining factors of this process are: functional and spatial congestion of the historical center; lack of the necessary modern-level infrastructure in the historical center; territorial distance from the historic centre of the ever-expanding periphery of major cities, as well as the need to increase the investment attractiveness of central and peripheral public centers with territorial reserves for the development of high levels of infrastructure. In order to obtain objective conclusions about the locations of shopping streets on the territory of the city, it is necessary to carry out a comprehensive study of areas of the urban environment that possess the signs of multifunctional and highly urbanized zones and territories with the corresponding potential, involving an analysis of the urban structure for the identification of centers of social activity; the level of social activity of citizens in areas of spatial distribution; functional filling of social activity centers and functional orientation of population flows; direction and volume of labor migrations of the population. The inclusion of a concentrated trading function in the space of the trading street poses the tasks of complex and systematic study of the peculiarities of integration of the internal and external space in the architecture, their harmonization and restoration of broken adaptation ties, which will make it possible to form exclusivity of improvement of the territory adjacent directly to the trading facilities, including elements of the environment. Since the population of modern cities is characterized by the prevalence of clip thinking based on the updating of visual images, the middle space of the shopping street requires saturation of the informative and communicative field with the inclusion of art objects, which play the role of medium attractions and attract citizens [1].

2. Materials and methods

The works in the theory of philosophy, sociology of the city, architecture and design of the urban environment of many scientists were devoted to the creation of comfortable urban life and improvement. Thus, the development of a functional-spatial model of the system of shopping streets of the city is embedded in the concept of interdisciplinary consideration of the functional-spatial, planning, socio-economic and organizational-trade component in the transformation of the urban planning structure [2, 3, 4]. Thus, the concept of L. Mumford (1895-1990, American philosopher and sociologist, founder of the sociology of urbanization) brought to the fore in creating a comfortable urban environment the positioning of cultural heritage, captured in monuments of architecture. Jane Jacobs (1916-2006, Canadian-American writer, urban planning theorist and one of the founders of the "new urbanism" movement) opposed the construction of giant trading malls, pointing to the prospect

of forming linear formations in the city structure with a developed network of shops and public spaces built along the sidewalks of the area and working almost 24 hours a day, considering them as magnets providing a large influx of visitors. Erich Fromm (1900-1980, representative of Frankfurt School) called citizens the main subject of planning and formation of the functional structure of the city. Kevin Lynch (1956-1981, founder of the "medium approach," who combined psychological, socio-economic, sociological developments in the study of cities with urban planning and design) revealed in the planning structure of the city the main components of cognitive perception of the urban environment - the path, border, district, nodes and landmarks, uniqueness of the urban image.

Foreign researchers such as James Coleman (1926-1995, American sociologist), Charles Lendri (British urbanist, specialist in city planning), Richard Florida (Modern philosopher), Pierre Bourdieu (1930-2002, French sociologist), as well as a number of Russian urbanists, Among them V.L. Glazychev, L. Kogan, E. Percik stressed that the open and tolerant environment of public well-equipped spaces of a post-industrial city attracts creative people and concentrates cultural, educational and social activity combined with convenient infrastructure and comfortable environment, form a holistic type of citizen and become a center of attraction for tourists [5, 6].

The scientific approach to determining the prospects for the development of the system of shopping streets, as part of the population service system, is based on the graphoanalytic step-by-step method of studying the planning structure of a city. The first stage of the study is the identification of social activity centers, the basis of which is the transport framework of the city and the system of transport and transfer nodes, which have great potential for the development of trade and service function. Shopping streets often start and end with squares, in the structure of which are transport and transfer nodes, and binding of shopping streets to the system of transport framework and its nodal elements is dictated by the need to unload a large human flow. The growth of trade function is possible if there are spatial reserves and the possibility of existing development facilities for reconstruction and renovation. An example of functional restructuring is the process of replacing the residential function located in the first floors of buildings with a trading function concentrated in a series of objects forming the front of the trading street, which was formed spontaneously without a single functional and investment project. The second stage of the study is the analysis of the social activity of citizens in the areas of spatial distribution and the allocation of zones differentiated by the intensity of attendance by citizens. The third stage of the study is the analysis of functional filling of social activity centers, which characterizes the degree of concentration and content of trade and service functions. The fourth stage of the study is the identification of spatial reserves, which are potentially possible areas of the urban environment for the formation of shopping streets [7, 8].

The relationship between the internal and external environment in the architecture of shopping streets can be formed by combining elements in the form of "border" butt or "adaptation" spaces as part of the urban environment, occupy a certain place in its functional system, correspond to the peculiarities of population culture and social behavior. In this case, the main factor is the regionality and peculiarities of the cities of different cultures, which differ, among other things, in the different perception of the size of space [13]. Thus, a lot of open space and its large scale, that is typical for Russian streets, are opposed to Western European ensembles with their relative closeness and compactness. There are a lot of ways of orientation and navigation in the urban street space in different cultures: residents of Europe have created a street network and individual numbering of houses, and in Japan zones are organized. Cultural, sociological and historical research of architecture of scientists such as A. Flier, V. Yermicheva, S. Milgram reveal possible functions of adaptation space [9]. It can perform: recreational function and be intended for rest, communication and entertainment, materializing in the form of atriums, terraces or courtyards adjacent to the entrances of shops and cafes; communication function and help with physical overcoming barriers of the environment in the form of a gallery, which can connect individual store buildings; protective function against adverse external conditions in the form of awnings, passages; compositional-organizing function on formation of spatial directions of movement and "points" for opening of picturesque views, linking "open" and "closed" medium segments of various functional purpose, including medium attractions,

characteristics of which are related to architectural and artistic principles of inclusion of art objects in the urban environment: "The principle of interpreting concepts of world art into architectural space; the principle of integrating art objects into the architectural environment; the principle of provocation in design of the architectural environment; the principle of innovation in digital imaging in order to enhance the attractiveness of the environment; the principle of scenario approach to environment formation" [9,10]. The medium attraction in the communication space of shopping street is characterized by the nature of its location, physical dimensions in the space; shape and contour-plastic properties; spatial organization in relation to the viewer; light-color solution and functional filling. The inclusion of medium attractions increases the attractiveness of shopping streets for the population, increasing the attendance and turnover of trading objects.

3. The study of the structure of the modified lead-tin-base bronze

Today the largest cities of Russia have an urgent need to form medium areas with functional direction of objects capable of attracting flows of citizens, investments, tourism, as well as reflecting socio-cultural and architectural characteristics of the place. This role can be handled by shopping streets formed on certain sections of the planning structure of the central districts of the cities, concentrating attractive architectural monuments. The relevance and profitability of such inclusions is illustrated by a comparative analysis of rental rates \$ per m², profitability and selling price of \$ per 1 sq. m (table 1) [10].

Table 1. Cities of the world with the most expensive rental of shops on the leading shopping streets

№	Country	City	Street	Rental rate \$ per m ²	Profitability	Cost of sale, \$ per 1 m ²
1	USA	New York	The 5th Avenue	38 207	3,09%	1 236 472
2	Hong Kong	Hong Kong	Kozuey-Bae	26 191	1,90%	1378474
3	France	Paris	Champs Elysée	14 978	3,00%	499 267
4	UK	London	Bond Street	14 421	2,25%	640 933
5	Italy	Milan	Via Montenapoleone	11 300	3,50%	322 857
6	Switzerland	Zurich	Bahnhofstrasse	9766	3.10%	315 032
7	Japan	Tokio	Gindza	9627	3,50%	267417
8	Germany	Munich	Kaufinger	5017	3,50%	143343
9	China	Shanghai	Nanjing Road	4783	5,00%	95 660
10	Russia	Moscow	Stolesnikov Lane	4309	8,50%	50 694

In general, the international brokerage company Cushman & Wakefield claims that today in the world and in particularly Russia the character and principle of placement of trading facilities in the city is changing. The main attention of developers, architects and designers is aimed at the transition to small point trading objects with the original concept and renovation of adjacent territories. Developers note a shift of emphasis of trade infrastructure in favor of smaller (district) formats: the classic regional trade center is replaced by projects with developed social, cultural and educational functions, spaces for communication, training and leisure, extended entertainment and catering area, as well as shopping centers as part of urban infrastructure projects or multifunctional facilities. A study of the planning structure of Samara (Russia) shows that at the moment there are large shopping centers and complexes from 55,000 to 245,000 square meters, where the main part of the city's retail space with a wide functional set of major brands and a deployed customer service system is concentrated. The spatial reserve of the territory of large shopping centers is used almost as much as possible, but the systems of improvement of adjacent territories are less developed, which indicates the emphasis of

architects on the development of their internal space. The study found that the formed shopping and pedestrian streets in the historical center of the city consist of 30% of catering facilities and up to 20% of leisure and entertainment facilities, the trading function is 50% and contains a high percentage of leading brands. In the middle and peripheral parts of the city local objects of trade are located dispersed, operate mainly in public zones and in territories adjacent to transport and transfer nodes. The first floors of residential buildings occupied by small shops can be considered as reserve space for the formation of shopping streets in these areas of the city. The formation of the system of improvement of adjacent areas should be considered as work with adaptation spaces of different types: 1) adjacent adaptation space in the form of open terraces; 2) enclosing adaptation space in the form of terraces with canopy or galleries with continuous structure, which "encloses" the building shell from several sides; 3) atrium adaptation spaces in the form of inner yards, atriums, winter gardens with a "core" structure in the center of the building shell; 4) combined adaptation space built on the combination of the above types. A special role should be given to the inclusion of medium attractions in the shopping street through street art, public art and their synthesis, which has become an integral part of urban culture and urban landscape. Architectural and artistic works of street art (in such directions as op-art, land-art, hyperrealism, actionism, super graphics, optical illusions and etc.) in cities of the world attract a large amount of tourists and contribute to development of the social and cultural infrastructure of the city. Optical painting as a modern form of street art has combined optical illusions and super graphics. Striking examples of representatives of optical painting are: German artist Edgar Müller, known for his street painting chalk using projection; The American painter John Pew, who creates three-dimensional works on the walls of houses on which he depicts city streets looking naturalistic; French artist Patrick Comese, who embodies architectural optical illusions by turning empty walls into historical scenes; Aakash Nihalani is an American street artist who uses fluorescent ribbons to create optical illusions based on geometric figures, fitting them into urban landscapes. One of the newest examples of medium attractions is the "Mystery of the Great Pyramid" - an impressive large-scale installation created by French artist JR which covers the whole space near the glass pyramid of the Louvre and it seems that the pyramid rises from the abyss when observed at a certain angle [11].

According to the international consulting company Knight Frank, the city of Samara ranks third in the ranking of megacities according to the results of the first half of 2018 on the provision of trading space among Russian cities. The total volume of commercial real estate in large-format objects of our city amounted to 721000 square meters. At the same time, it should be noted that against the background of the high rotation of service facilities in the central districts of the cities due to the size of the rental rate, in peripheral districts of the city the situation is more stable, the rental is long-term and the income of entrepreneurs is high. Thus, it should be concluded that the formation of shopping streets can not only create comfortable conditions for the service of the population, but also become a powerful instrument in social, functional and composite-spatial rehabilitation of peripheral areas of the city and increase their consumer value. The scheme of functional and spatial optimization of trade on the territory of the city, developed by the author's team under the leadership of Doctor of Architecture, Professor T. Karakova allowed thoroughly specifying the activities on management of development of the urban functional and spatial complex and its subsystems, as well as determining the vector of development of entrepreneurial activity in the field of development and trade. The establishment of a shopping street system is a multi-faceted process that includes the following aspects:

1. Urban planning aspect. The established central and historical zones of the city do not have free territorial reserves, but the presence of neighborhoods requiring partial or complete demolition of housing stock creates an opportunity for the formation of long trading zones in the process of new development. In the middle and peripheral zones, urban planning reserves are used to form residential groups, during the formation of which it is possible to organize shopping streets.

2. Transport and communication aspect. The network of shopping streets of the city is formed in inextricable connection with the transport framework. The communication role of the building space determines the growth of the trading function on its basis.

3. Functional aspect. The strategy of forming shopping streets of the city depends on its location in the city structure and can have monofrequency or polyfunctional filling.

4. Space-compositional aspect. This aspect is related to the formation of a unified concept of territory development in the form of compositional-spatial dominants in nodal elements; unified solution of elements of greening and improvement, lighting; the relationship between facade plastic and their coloristic solutions; unified concept of advertising surfaces placement; creation of programmable and harmonious perspective frames on the main species points of perception of the trading street environment.

5. Economic aspect. It predetermines the investment attractiveness of shopping streets and high social activity in their territories. The concentration of goods and services increases the competitiveness of trading facilities. Territorial concentration of trading space creates an opportunity to form a unified investment and economic development strategy, reduce excessive competition and increase functional diversity.

6. Construction and technological aspect. Increasing the level of universality of structural systems used in buildings of shopping streets creates prerequisites for their functional, spatial-planning and composite mobility, which leads to reduction of reconstruction costs.

7. Environmental aspect. The formation of a shopping street as a solid structural and functional element of development creates an opportunity to organize a centralized system of energy consumption, collection and removal of garbage, cleaning of the territory. The use of a multilevel greening system increases the comfort of the environment.

8. Administrative and legal aspect. The formation of a single urban trading framework is a factor that provides saturation of the planning structure with social services objects.

4. Conclusion

Nowadays the need to allocate and create a system of functional filling, improvement, design of shopping streets in the planning structure of the city is becoming the obvious fact. As a result of theoretical research and experimental modeling, the authors identified key aspects and attempted to solve issues in the theory and design practice of architecture on the formation of shopping streets, the creation of a comfortable and attractive environment rich in navigation, informative and artistic components. An important circumstance for the development of the territorial potential of the trading street is the availability and identification of urban planning reserves in conjunction with the analysis of the transport and communication system of the city, as well as analysis in the context of functional saturation, formation of the spatial and composite structure of the trading street using modern marketing and construction and technological innovations. Local urban planning conditions of the environment, sociocultural and psychological peculiarities of the population and architectural potential of the shopping street are becoming basis of transformation of external factors of the environment into an acceptable and comfortable for the stay of a person and his psychological condition internal "microclimate" of the structure, which is expressed in ergonomics, functional convenience, visually comfortable organization of space. At the same time medium attractions in the space of the shopping street act as the most active means of formation of space as a whole and creation of recreational islets, saturating it with various species frames, creating holistic authentic compositions with other spatial elements in the dynamics of movement of the observer in the plastic and light-light environment, forming a unique "spirit of a place."

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