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Current Trends in the Design of Urban Neighborhoods

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The banner features a background image of Earth from space. On the left, there are three circular logos: the top one is 'ECS' in a white circle; the middle one is 'The Electrochemical Society' with a stylized 'ECS' logo; the bottom one is 'THE KOREAN ELECTROCHEMICAL SOCIETY'. The main text in the center reads 'Joint International Meeting PRIME 2020 October 4-9, 2020' in white and blue. Below this, a blue bar contains the text 'Attendees register at NO COST!' in white. On the right side, there is a large 'PRIME' logo with a stylized 'P' and 'M', followed by 'PACIFIC RIM MEETING ON ELECTROCHEMICAL AND SOLID STATE SCIENCE' and '2020' in white. At the bottom right, a blue bar contains the text 'REGISTER NOW' with a white arrow pointing right.

Current Trends in the Design of Urban Neighborhoods

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Abstract. City courtyards built during the Soviet period do not meet modern requirements. There is a need to develop new approaches to the organization of the urban courtyard environment. The organization of the courtyard space should reflect today's trends in architectural creativity, as well as changes in the lifestyle of a modern person. The task of the designer is to create a comfortable, harmonious spatial environment of urban courtyards, including the architecture of buildings, landscape, color and lighting solution that takes into account the culture, ecology, natural components, climate, functional and aesthetic requirements, safety, barrier-free environment. The environment of the city courtyards must comply with the modern level of technologies and include high-tech materials. When organizing city courtyards, it is necessary to design an environment that takes into account new requirements, to organize a flexible, changeable environment. Innovative technologies and modern techniques of design and construction give the designer more opportunities to create a highly artistic image of the courtyard space. Designers have the task to create conceptual, bright solutions for courtyard projects. The article discusses the modern requirements for city yards, affecting the quality of life of citizens, which have an emotional impact on a person.

1. Introduction

Today, designing comfortable and safe urban neighborhoods is one of the priorities in Russia. The existing grounds built in the Soviet period do not meet modern requirements for the urban environment. The article deals with the design issues of house adjoining territories, analyzes the solution of the existing problems of organizing house adjacent territories by the example of domestic and foreign experience. The purpose of the study is to systematize and summarize the progressive experience of designing urban courtyards, to identify current trends in the formation of urban neighborhoods. The scientific relevance of the problem lies in the fact that a properly organized territory of the courtyard contributes to the creation of benevolent social ties between citizens, increasing the security and artistic expression of the local area. A modern courtyard is a space in which all people want to spend time, regardless of age and interests. The novelty of the study lies in the fact that when designing a city courtyard, it is necessary to take into account the modern interests of various groups of residents who use this territory. The objectives of the study raise the issues of organizing modern functional zoning of the territory, designing the landscape, including small architectural forms, equipment, using lighting, color, gardening in architecture and landscape of the surrounding territories, creating a safe, barrier-free environment.



The material and methods of research. The object of the research is the subject-spatial environment of the urban territories and the process of their design. In order to solve the problems of the study, the analysis of special literature was carried out. General theoretical research methods were used in this work.

2. Problem statement

The purpose of the design as a phenomenon of modern culture is to promote the improvement of the quality of people's lives and the improvement of socio-cultural relations between them by creating harmonious environment in all spheres of life for people to meet the diversity of their material and spiritual needs [1, p.37]. In nature, the basis of harmony is the interaction of form and function embedded in this form. The architecture relies on seeking and finding such a harmonious form that would most fully ensure the functioning of the architectural object, i.e. the satisfaction of certain social needs of the person [2]. The yard - is the basis of a comfortable habitat of citizens. To develop recommendations for the improvement of the courtyard, it is necessary to provide an analysis of the existing practice in this direction, to analyze the requirements for the modern city courtyard. Today it is essential to organize a high-quality, innovative object-spatial environment of the courtyards, including such components as: children's and sports grounds, recreation areas for adults, car parks, household sites and others.

The presented study is based on materials and documents of the urban environment organization [3 - 8]; the importance of landscape design in the environment project development [9 - 14]; addressing the humanization of the urban environment [15 - 17]; creating a harmonious environment of the city [18, 19].

3. The results of the discussion

The organization of a residential courtyard should reflect current trends in architecture, as well as changes in the lifestyle of modern citizens. Reflecting new requirements, the designer creates an innovative, creative functional space. Designers have the task to create bright, conceptual solutions in organizing the city courtyards. When designing urban courtyards, the following aspects should be considered:

- existing climatic conditions;
- focusing on the person of the existing characteristics of residential development (configuration, number of floors, quality);
- security of the courtyard environment (the ratio of open and closed spaces, lighting);
- the need to organize a barrier-free pedestrian environment for people with limited mobility (ramps, tactile tiles).
- transport (home drives);
- landscaping (functional zoning, gardening);
- provision of social connections (public zones and spaces, creation of accents in the yard);
- an important condition for the formation of yards is the presence of natural components;
- compliance with the existing norms and rules for designing adjacent territories.

It is important to organize the courtyard space highly-demanded. The basic principle of the organization of city courtyards is the design of functional zoning, which takes into account the modern requirements of residents and meets town planning standards. When designing courtyards at the stage of zoning the territory, it is necessary to represent the number of projected environment. These zones should be fenced from each other, but not isolated, to unite the space by a common ideological plan, which allows you to create a unique design territory. Modern design practice, aimed at obtaining a highly artistic object, creating a harmonious and comfortable environment for living for a real person, capable of "a human attitude toward man" [18].

Urban territory includes:

- driveways, sidewalks;
- parking;

- playgrounds for children from 0–3 years old and from 3–7 years old, which can be combined (possible placement of equipment: themed gaming complexes, developing game elements);
- separate areas for active recreation for children from 7–12 years old;
- adults (communication, sports, morning runs, walks);
- pensioners (quiet rest).

Having identified the users of the space, we can draw conclusions about what zoning must be taken into account when designing the yard area:

- zone of quiet recreation (recreational areas, remote benches, tables, with low noise characteristics);
- zone of active recreation (children’s and sports grounds with high noise characteristics);
- paths, alleys for walks;
- sports grounds (depending on the size of the yard);
- zone of the local area (entrance zone);
- lawns, flower beds, shrubs, trees;
- small architectural forms, landscape gardening equipment;
- economic platforms: platforms for domestic needs (if necessary), for garbage bins, platforms for walking dogs;
- car parking.

When designing courtyards, it is necessary to apply the principles of flexible zoning, the requirements of ergonomics and ecology, to take into account the peculiarities of the landscape and climate. Modern courtyards should have a compositional and artistic unity, a relationship with the environment, create a feeling of harmony, completeness, create a friendly atmosphere (picture 1-3).



Figure 1. The yard in Vladivostok. **Figure 2.** The yard in Moscow. **Figure 3.** The yard in Moscow.

When designing urban courtyards, it is necessary to take into account the characteristics of the constituent adjacent territories: buildings, small architectural forms, landscape, landscaping, parking color and light (picture 4).

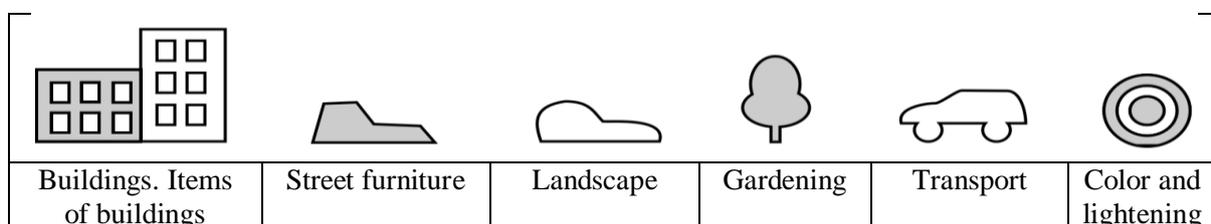


Figure 4. Components of city courtyards.

Imagery is the main characteristic of modern urban courtyards. It is necessary to design a conceptual image of city adjacent territories. Courtyard spaces should have original solutions, modern architectural forms, beautiful, bright image and style. In carrying out the design project of city courtyards, the concept being developed addresses the problems of zoning, harmonization of style and

small architectural forms with the surrounding architectural environment, the choice of small architectural forms and equipment.

In Russian cities there are a number of problems in the organization of yard spaces:

- unorganized parking spaces, chaotic parking;
- absence or poor condition of small architectural forms;
- lack of equipment for people with limited mobility;
- poor condition of the courtyard coatings (asphalt pavement, tiled pavement, rubber pavement for children's or sports grounds);
- low level of security of the territory (most often due to the lack of lighting);
- low level of functional zoning;
- lack of areas for walking animals.

In Vladivostok city, a survey was conducted among residents of urban district No. 64, the results of the survey are presented in Tables 1 and 2

Table 1. Assessment of the quality of local area improvement.

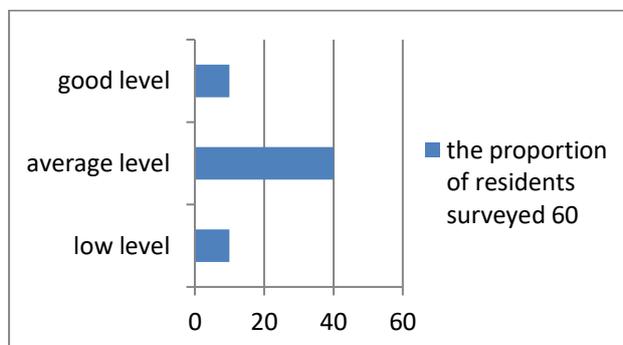
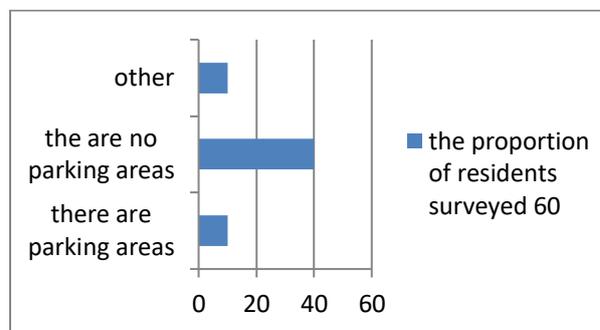


Table 2. The results of a survey of residents on the availability of parking in the local area.



The solution of these problems is possible by the formation of yards with the help of landscaping the site (trees, hedge). Gardening the courtyard area contributes to the overall improvement of climate comfort. This is facilitated by the planting of new trees (protection against noise and wind), protection from the sun's rays, from exhaust gases. In order to free the local area (in front of the windows of the house) or near the rest areas (active or quiet) from parking, the localization of parking spaces is necessary.

Children's and sports grounds should meet the interests of various groups of the population, for example:

- a playground for children from 0–3 years old and from 3–7 years old can be combined (thematic play complexes with developing game elements);
- separate sites for active recreation for children from 7–12 years old, from 12–15 years old (play complexes for active games, board games, places for children's communication).

In order to improve rest areas for adults, there should be platforms for quiet rest and sport (table tennis, board games).

Adequate courtyard lighting should be organized to improve the safety and comfort of the territory (house lighting, lighting of children's and sports grounds, lighting of rest areas, lanterns of driveways). To organize a barrier-free pedestrian environment for people with limited mobility (ramps, tactile tiles). All sites should be placed in accordance with the rules and regulations [20, p. 1-2]. The territory of the courtyard should be landscaped and zoned on the space intended for different groups of residents. The implementation of this concept creates a friendly environment for a comfortable life and communication of people, contributes in one way or another to the formation of communities, brings people together and allows you to make the environment as rich and varied as possible [21].

Foreign experience in the design of courtyards in the urban environment takes into account the need for an integrated approach and preliminary research work before the project. Presented in

pictures 5-7 yards are made brightly, harmoniously, in compliance with the requirements of ergonomics and ecology, take into account the peculiarities of the landscape. In the design of urban courtyards new technologies and modern materials are used. The design of the courtyards creates the integrity of the overall solution, compositional and artistic unity, communication with the environment, a sense of harmony, completeness, friendly atmosphere.



Figure 5. A yard in Austria, Vienna.



Figure 6. A courtyard in Austria, Vienna.



Figure 7. The yard in Sweden, Stockholm.

Modern city courtyards require an individual architectural and artistic approach. Such decision should be conceptually meaningful, compositionally and thematically connected with the specifics of the nearest architectural environment included in the courtyard system and also with peculiarities of the organization of the district and cultural and historical traditions of the city as a whole. Architects take into account that architecture is routinely included in life and any meeting with it, is always a wonderful event and experience [3].

4. Conclusion

Thus, city courtyards are in constant interaction with the person. Yards are reviewed and evaluated in terms of their ability to meet the changing requirements of citizens. As a result of this study, the main factors determining the quality of the living environment - "comfort and safety" are highlighted. The main functional areas are defined:

- the entrance area (adjacent to the entrances to residential buildings);
- parking zone;
- zone of noisy recreation (children and sports grounds);
- quiet rest area;
- economic zone (with platforms for garbage collection).

For the successful functioning of residential courtyard spaces, it is necessary to design:

- maximum orientation on a person of the residential development characteristics;
- security of courtyard space (the ratio of open and closed spaces, lighting);
- transport (separation of vehicles and pedestrians);
- landscaping (zoning, gardening, barrier-free environment, consideration of climatic conditions);
- provision of social connections (public areas, originality).

Using these principles in the design, it is possible to provide residents with everything they need according to the regulatory documentation and make the space of the yard unique, comfortable and in demand. After analyzing how courtyards are designed in foreign practice, we can conclude that even in the large cities of our country, courtyard complexes are not at the proper level. Today, in carrying out a design - project of the urban courtyard environment, it is necessary to develop creative projects for building and improving courtyards. New approaches to the organization of the environment of courtyards are focused on a comfortable, harmonious and holistic environment, taking into account the needs of citizens.

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