The concept of the settlements’ urban linear spaces formation in the southern region of Russia (on the example of Taganrog street in Rostov-on-Don)

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Abstract. Modern urban development policy in our country is aimed at creating a comfortable environment for settlements. The Federal Program “Formation of a Comfortable Urban Environment for 2018-2022” adopted in the country, provides for a set of measures aimed at improving the quality and comfort of the environment in the settlements territories in order to improve the ecological state and the cities’ appearance. Such attention to the public space of the cities is determined primarily by the fact that they are the important urban development nodes, which generally determine the appearance of the city, its sanitary and hygienic indicators, aesthetic characteristics, etc.

Introduction

An analysis of the design and construction practices showed that special attention is currently being paid to the city streets in the country. According to the Town Planning Code, they relate to the common areas, “…which are freely used by an unlimited circle of people (including squares, driveways, embankments, coastal stripes of public water bodies, public gardens, boulevards)” [1].

Currently, the city street is a complex linear element of the city structure, in which various social processes and functional activities take place. It is possible to find shopping spaces, pedestrian paths, traffic arteries, various types of public functions, etc. on it. All the processes of street space are complicated in time, as well as their interaction is complicated. Le Corbusier said, “A curved street is the way for donkeys, a straight street is the road for people” [3].

And if earlier the street was the main transport artery of the settlements, then over time, its status has changes. The street turns into a linear public space, the state of which cannot always be called satisfactory for several reasons. In particular, as a rule, it is still considered by the urban planners as transport communication, on which it is necessary to solve the problems of separating traffic from pedestrians, reducing noise levels and gas pollution, landscaping, and more. Thus, the basics of designing the modern linear public spaces of urban entities are determined in each case depending on the urban situation and the tasks set by the project customer [2].

Architectural and urban planning analysis of linear public spaces.
The DSTU School of Architecture and Design is actively involved in the city program to create a comfortable environment for the public areas in the city of Rostov-on-Don as well as in the settlements...
of the region. The architectural and urban planning analysis of the public areas’ current state has shown that at the present time a whole range of problems is observed on them, including both functional planning, transport and pedestrian, as well as a low level of landscaping, unorganized pedestrian paths, a limited number and uniformity of zone functions’ recreation, the lack of a single style solution, the presence of visual pollution, broken pedestrian paths, outdated small architectural forms, irrationally placed objects of trade, unauthorized parking, lack of places for walking with pets, etc.

One of the main thoroughfares of the city is Taganrogskaya Street in the Oktyabrsky District of Rostov-on-Don, which is the longest and main entrance zone from the city of Taganrog. The basis for the city’s territory development in this direction was the construction of a military airfield outside the city in the 1920s, where all transportation links were summed up. The construction of Taganrogskaya street itself started taking shape in 1937.

Figure 1. Distribution of cultural household services on Taganrogskaya street

The construction of the Voenved residential area started here in the 70s of the last century with kindergartens, schools, a shopping center, a clinic, the officers’ Palace, a fire station. A survey of the public territory along Taganrogskaya Street showed that, depending on the individual linear sections’ development time, each of them requires a certain approach to their transformation. The design of a city-wide street as a linear public space should be based on its socio-landscape features’ identification. In addition, public spaces on both sides of the transport artery are equivalent, and therefore, the project combines functionally and planning-cultural as well as public services along Taganrogskaya Street.

Conceptual proposals for the linear urban public spaces’ formation.

On the basis of the territory survey, identification of their significance, urban development, the function of the territory, the nature of the development and landscape features in the area, the main thematic zones are identified: military-patriotic; public trade area; temple area; trade and educational; cultural
and leisure; landscape-ecological; military historical. Each of the above-mentioned zones has its own existing and projected centers of gravity, the main function of which is determined by the historical urban planning situation.

Creating a comfortable quality of life in the Taganrogskaya Street is based on the following main conceptual provisions:

1. **Comfortable safe environment** achieved by the urban development means, by the balanced movement organization of vehicles, bicycles and pedestrians; creating a barrier-free environment, using environmentally friendly and natural materials.

2. **Functional saturation** linear public space is carried out through the creation of a single interconnected integral multifunctional space with the aim of organizing people’s leisure, holding cultural events of social and age groups of the district population.

3. **The revival of the cultural area values** is solved by restoring and “new sounding” formation of the historical foundations in the region, creating an eventful multilayered space that is revealed during the pro-residents’ movement.

4. **Preservation and enhancement of the “natural framework”** is organized by combining the disparate landscaped areas into a single structure that creates the natural framework of linear space as a whole; the creation of “thematic” plant communities using a local assortment of plants resistant to these climatic conditions.

5. **Using smart technology** in order to create the life quality of the territories that ensure the growth of human capital; the allocation of a special Wi-Fi zone for conducting virtual classes for various segments of the population (lectures, seminars) in real time using the information and communication technologies (ICT), allowing to open up wide access to educational, methodological, scientific information; organization of active consultation assistance, etc.

![Figure 2. The scheme of allocation of thematic zones of linear space of Taganrogskaya street](image-url)
Figure 3. Functional zoning of the “Military-patriotic” zone

The project proposes the separate delimited spaces’ creation throughout the entire territory of the extended space according to the functional use and nature of the person’s stay (movement, outdoor activities, sports, quiet relaxation, contemplation, sensation, service, etc.); orderly traffic and pedestrian traffic with the allocation in a separate area of the bike path, passing along the entire city highway. On the way of their movement, including the shopping areas, organized parking places for bicycles are provided. On the sections of individual thematic zones, the additional pedestrian crossings’ organization is proposed.

On pedestrian directions, the sections are formed in the form of organized boulevards with high-crowned vegetation and transit pedestrian paths. At the same time, it is proposed to use the landscape techniques in the walking routes’ planning, which makes it possible to visually expand, as a rule, the small sections of the territory along Taganrogskaya street. It also provides the use of environmentally friendly means of transport—bicycles.

The project provides the solution of a linear object in a single design style. Particular attention is paid to the creation of a stylistic solution in public trade zones located on the first floors of the residential buildings. The shopping area is also developing separate sections of the food court with gastronomic leisure sites.
The project proposes the creation of a quiet recreation area with mixed-leisure areas, performed in a plastic style, on the site of the “Temple Zone” territory. In the “Exhibition and Educational” zone on a site close to residential development, the organization of a youth recreation area, which houses two zones with different types of intellectual activities, conditionally divided by a Wi-Fi zone. Here one can find a possibility to connect to the World Wide Web, get the necessary information, listen to the favorite tunes and much more. On the whole, this part of the territory will make it possible to increase the social and public capital of the district residents in future by organizing virtual classes for various segments of the population (lectures, seminars) in real time using the information and communication technologies (ICT) as well as the Street Library database, which will allow open wide access to educational, methodological and scientific information; organize operational consulting assistance, etc.

Figure 4. A fragment of a plane memorial zone in Taganrogskaya street

Figure 5. A fragment of the natural-ecological framework of public space along Taganrogskaya street with geo-plastics techniques.
The project proposes the expansion of various types of recreation with the organization of modern game types, such as a pam-trek pad, a skate pad, a pad with a “Rock-climbing wall” attraction, a pad for training to pass the TRP standards, a pad with an open amphitheater for mass events, watching cartoons and movies, conducting lectures, educational seminars, etc.

**Summary**

One of the priority areas of modern urban development is the formation of linear public spaces of settlements. Considering these objects as a holistic urban planning fabric, adapting it to the existing buildings to modern urban planning requirements will create the comfortable conditions on the territory that ensure the human capital growth.

**References**

[1] *Town Planning Code of the Russian Federation* (Moscow) 2014 (from 29.12.2004 № 190- Federal Law).

[2] Modern public parks based on Southern Russian cities in relation of the historical aspects and transformation of their natural landscape (scientific article in English) TASTING THE LANDSCAPE, 53 IFLA WORLD CONGRESS: abstract - TORINO, ITALY, 2016

[3] “Le Corbusier. Architecture of the XX century” 1970 Translation from French by V.N. Zaitseva. (Publisher “Progress”)