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## **THE DEVELOPMENT OF THE MUNICIPAL FLATWORK SPORTS INFRASTRUCTURE OF OMSK**

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**Key words:** social field, health of the population, physical culture and sports, mass sports, flatwork sports infrastructure.

**Annotation.** This article presents criteria and analysis methods, which allow improving a mechanism of managing the flatwork sports infrastructure in municipal district, using the example of Omsk. A detailed analysis of the mechanism of planning and distribution of flatwork sports facilities would allow solving such tasks as the creation of a system of information on present facilities of the flatwork sport infrastructure, an increase of indicators of implementing the municipal program, a definition of stages of planning the distribution of financial resources and their rational planning, etc.

**Introduction.** The city system of flatwork sports constructions takes one of the most important places in the social service system of the population [1]. One of the main issues that currently faces the development of the flatwork sports infrastructure and its main elements in the city – is its rational location. Location of these facilities is often chaotic. However, during the last decade, these facilities started to take place in city parts, to use embankments and undeveloped free urban spaces.

At the moment, a full-fledged development of the flatwork sports infrastructure is hindered by an absence of the united line of management over these facilities on a municipal level and the use of modern instruments and mechanisms of management within the system of physical culture and sports [2].

A necessity to improve the mechanism of managing the flatwork sports infrastructure is caused by following statements:

- 1) a non-stable material and technical support of flatwork sports facilities;
- 2) an absence of significance of building facilities, based on the population's needs;
- 3) a misbalance in distribution of flatwork sports facilities on the city's territory.

These issues become more complicated, because the united concept of the development of the flatwork sports infrastructure both in regions and on the level of the Russian Federation in whole is not fully formed [2]. Considering the fact that the leading role is given to municipal corporations, a theoretical and methodological justification, clarification of main and specific principles, definition of the role and value, main criteria and methods, allowing improving the managing mechanism and purposefully developing the flatwork sports infrastructure in the city, is needed.

The aim of this study is to improve the mechanism of managing the flatwork sports infrastructure in Omsk.

**Methods and organization.** The study was carried out in 2019 in a form of a questionnaire for Omsk residents, who used the Irtysh embankment as a place for active leisure. Three hundred thirty respondents, aged 14-54 years, participated in the questionnaire. The study was carried out during the summer period. Respondents' distribution, based on age and sex, is presented in table 1.

Table 1

Respondents' distribution of the social study								
Distribution of respondents based on age								
	14-23 years		24-33 years		34-43 years		44-54 years	
Number of respondents	153		88		58		31	
Distribution of respondents based on sex								
Number of respondents in age-based ranges	M	F	M	F	M	F	M	F
	84	69	31	57	27	31	9	23
Total number	men				women			
	151				179			

In order to solve the set task, following methods were used in the study: theoretical and methodological analysis, analogy and integrating data, received by studying literature and documents during the study. These methods were used at all stages of the study, when describing some characteristics, criteria, conditions, and when choosing indicators for an evaluation and analysis, which are appropriate for the sports infrastructure on a federal level.

Empiric level methods:

- the pedagogical observation was used at all stages of the study in order to analyze an acquirement of preliminary material and expand prospects of examined phenomena on flatwork facilities at all stages of the study.

- the questionnaire was used to examine opinions and reveal preferences of the population, on city territories and proposed sites for the installation of flatwork sports facilities.

Methods of statistics and processing results of the study: methods, implemented in standard programs and packages, were used. The “Data analysis” package was used in automated mode. Diagrams and tables were made according to the received data.

The received data was used:

- to define and evaluate the state of the issue’s scientific validity both in Russia and in other countries;
- to reveal analytical data on stages of development of the flatwork sports infrastructure on the level of municipal Russian Federation subjects;
- to compare and study the effectiveness of various managing techniques and approaches to organize the flatwork sports infrastructure in municipal Russian Federation subjects.

**Results and discussion.** Quantitative and qualitative aspects characterize the social effectiveness. The qualitative aspect is defined as the term “criterion”, the quantitative aspect – as the term “effectiveness indicator” [3].

In we analyze flatwork sports constructions of the city, based on present city-planning documents, considering the formed legacy of city planning, we can distinguish two types [1]:

- flatwork sports constructions inside the microdistrict, i.e. these, which are located in the yard, adjacent territory, possibly between two or three houses, have a small diversity of sports elements, and correspond to safety requirements;
- flatwork sports constructions outside the microdistrict, i.e. these constructions, which are located in citywide territories, in parks, squares, embankments. They are of general use and multifunctional.

When examining issues of the development of the flatwork sports infrastructure, it is important to pay more attention to its qualitative state and readiness to maintain following main functions:

- integration function – a possible relation between other infrastructural facilities, between science and development in the field, and other social structures;
- implementation function – a functional support with physical culture and sports services for the population, use of different modern methods, instruments for improving the system of managing physical culture and sports in the city.

We also systemized the main criteria:

1. Social criterion – study of flatwork sports facilities as well as physical culture and sports services, taking into account demands and opinions of the population.

The analysis of the population’s needs. When ranging respondents’ answers during the social study, we concluded that the population’s need is one of the main factors, which should serve as an orienting point for choosing a facility. It is also

important to define those, who will visit flatwork sports objects in order to work out regularly.

Therefore, the experimental work on revealing the structure of needs for physical culture and sports services and sports facilities in a certain city territory, in flatwork sports facilities should include the questionnaire and the pedagogical observation.

When examining fig. 1, 2, we can assume preferences of the population in a certain city territory and use it for planning and distributing flatwork objects in terms of their significance.

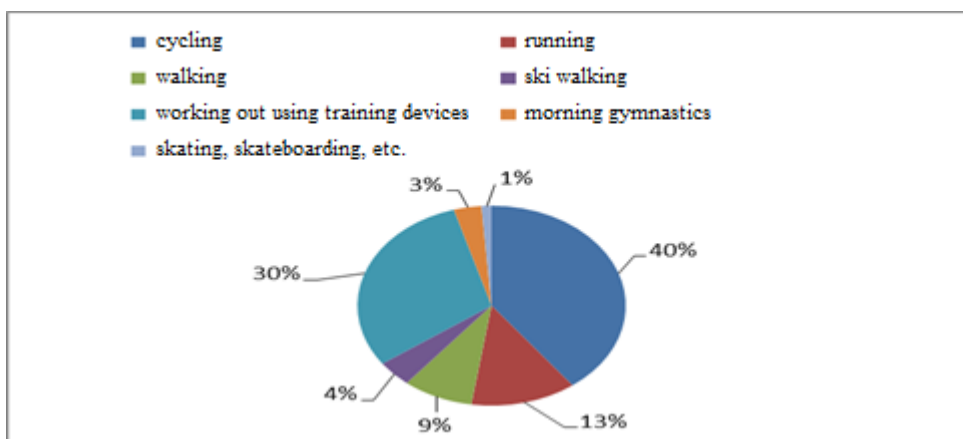


Fig. 1. Distribution of respondents, according to their preferences in types of physical culture and sports activity in facilities of the city and recreational infrastructure, fit for physical culture sessions

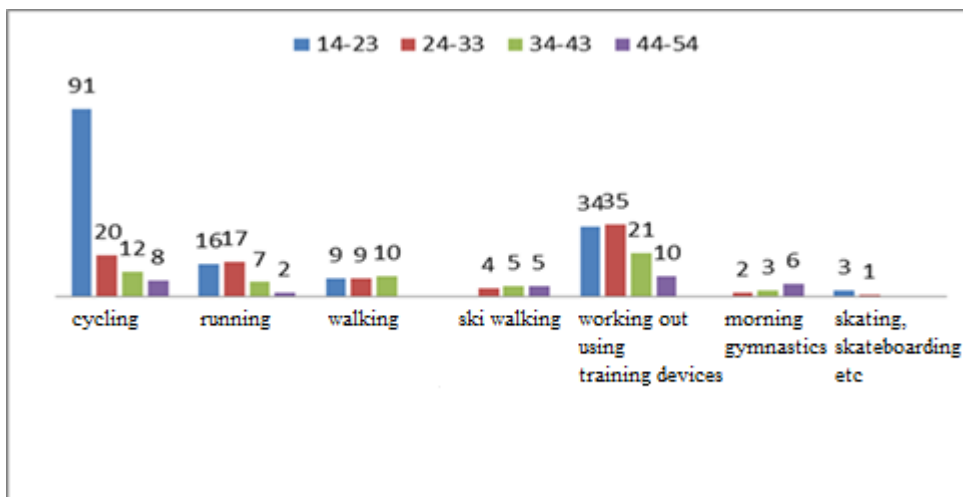


Fig. 2. Distribution of respondents according to types of physical culture and sports activity in examined sports facilities

Analysis of the existing flatwork sports infrastructure. This analysis is needed firstly for municipal authorities of managing physical culture and sports. In most cases, the process is built based on seasons, but most objects are used throughout the year [4].

The analysis of the existing infrastructure is needed to reveal important and abandoned facilities, to evaluate in order to reconstruct and recover the facility, to assign an economic entity to it [5].

Table 2 presents an example of integrating data from the statistical report 1-FK, in which a total amount of sports fields and their distribution are shown. Fig 3. presents a detailed analysis, rinks within the period of preparation to the winter period serve as an example. A necessity to analyze high-demand facilities is related to their further consideration when distributing, planned building and reconstructing.

Defining the economic entity (asset holder) would allow computing the facility's contents, expenses for its operation.

Experts, who are concerned with the issue of developing flatwork sports facilities both at the place of residence and as part of citywide spaces, should conduct each season the analysis of demand using observation and social study.

Table 2

Analysis of sports fields in Omsk, 2019			
Total amount, according to the 1-FK report	Municipal property	High-demand	Asset holder
Flatwork sports facilities			
974	519	310	117
Facilities of the city and recreational infrastructure, adapted for physical culture and sports classes			
44	43	44	44

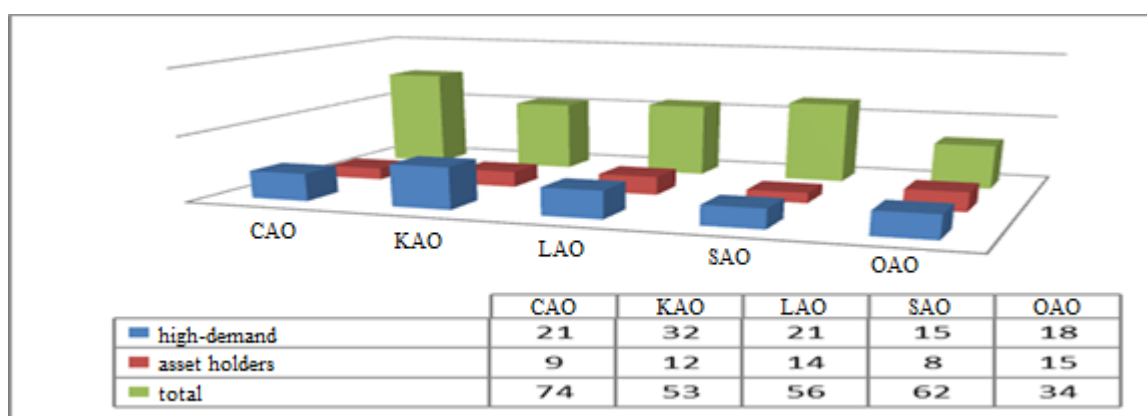


Fig. 3. Distribution of rinks in administrative okrugs of Omsk during the 2018-2019 winter period

Note: CAO – Central administrative okrug; KAO – Kirovskij administrative okrug; LAO – Leninskij administrative okrug; SAO – Sovetskij administrative okrug; OAO – Oktyabrskij administrative okrug

2. City-building criterion – analysis of standard planning, compliance of quantity, types, location of communications on suggested city territory for building or installing the flatwork sports facility.

When planning a place to locate a new flatwork construction, following points must be considered:

- functionality of the territory;
- an absence of communicating nodes (above ground, underground), an absence of project documentation for their further planning in this territory;
- a presence of long-term plans for city-building and development of city's territories.

The use of this criterion is not entirely specific for the field of physical culture and sports, but considering the fact that flatwork sports facilities are included in the social system of the city, it is important to form an additional field document for rational city-building planning.

Analysis of the functional city zones is used to study territories intended for building places for an absence of different communication nodes.

Analysis of residential density and development of city territories is needed to predict planning of the future building and location of flatwork sports facilities in city territories, taking into account an amount of predicted residents in future microdistricts or territories. Based on this analysis, a distribution of city zones is possible according to following types: high, average and low necessity to build flatwork facilities.

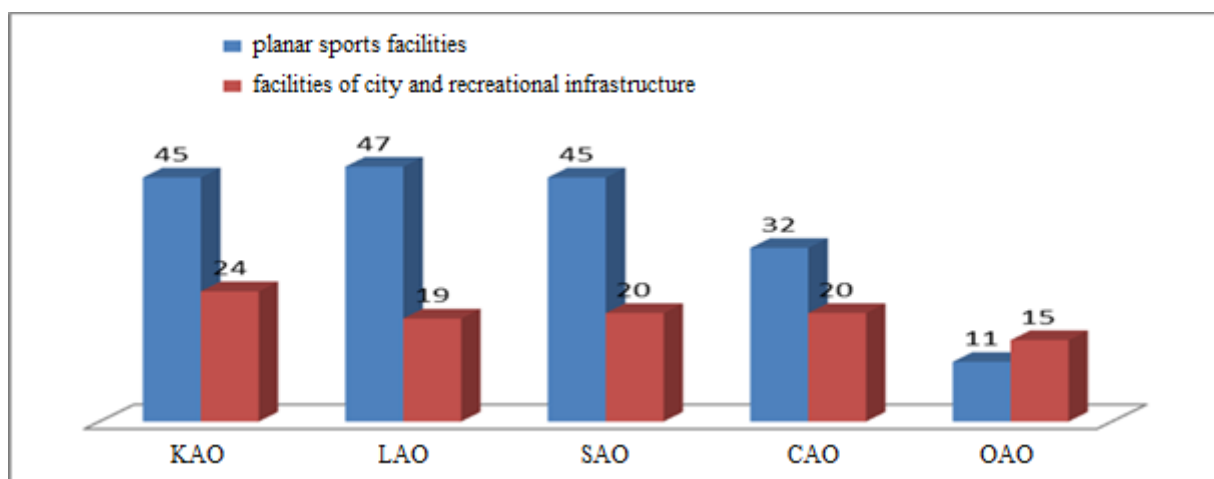


Fig. 4. Amount of flatwork sports facilities, planned for building in administrative okrugs of Omsk in 2040

Note: CAO – Central administrative okrug; KAO – Kirovskij administrative okrug; LAO – Leninskij administrative okrug; SAO – Sovetskij administrative okrug; OAO – Oktyabrskij administrative okrug

An example of predicting the distribution of flatwork sports facilities in administrative okrugs of Omsk is presented in fig. 4, considering building new microdistricts and the estimated number of residents in administrative okrugs till

2040. Calculations were made in accordance with the need of the population to increase the single throughput efficiency (STE) of sports facilities.

3. Typological criterion – an analysis of flatwork sports facilities using the specificity and parameters, accepted in reliance on appropriate standards on a federal level (statutes and regulations, guidelines, statistical reports).

It is important to use the quantitative, problem and content analysis when examining documents.

Table 3

Calculation of needed indicators, using the example of Omsk administrative okrugs

	KAO	SAO	CAO	LAO	OAO
Flatwork sports facilities (m2)					
Required space	4564	4793	5017	3641	3093
Facilities of city and recreational infrastructure					
Multipurpose gym/playground (m2)					
Required space	10 913	11460	11 995	8 704	7 396
Distance/bicycle lane (m)					
Required length	15 060	15 861	16 554	12 012	10 206
Area with training devices (a number of training devices)					
Required number	251 000	263 600	275 900	200 200	170 100
Seasonal rink (m2)					
Required space	16 733	17 573	18 393	13 346	11 340

Note: CAO – Central administrative okrug; KAO – Kirovskij administrative okrug; LAO – Leninskij administrative okrug; SAO – Sovetskij administrative okrug; OAO – Oktyabrskij administrative okrug

When calculating the contents of table 3, following data was used: a number of residents in each administrative okrug, a STE calculation formula.

4. Economic criterion in this case is used when planning an effective functioning of flatwork sports facilities when building, using, serving and other material operations.

Analysis of budgetary projects and programs. Distribution of flatwork sports facilities according to forms of property presented on fig. 5 shows that most facilities are municipal property. This situation appears not only in Omsk, but also in other cities as well. That is why it is needed to note that maintenance, use and building are made with city funds. Moreover, according to the analysis of the “Development of physical culture and sports in Omsk” municipal program, a decrease in funding is observed during the last decade.

Lately, regions got a possibility to participate in targeted investment programs (participation of the Omsk region in targeted investment programs is shown in table 4). The “Formation of comfortable city environment” program implies installing facilities of the city and recreational infrastructure for physical culture and sports sessions [6].

Unfortunately, using additional investment programs does not have a high percentage. Mechanism of the public-private partnership in building sports facilities is not common, or has isolated cases of implementation.

Table 4

Targeted investment programs, within which building of facilities in accordance with Omsk funds is conducted for 2020 and the planning period of 2021-2022

Municipal programs	Expensed of the targeted investment program (million rubles)		
	2020	2021	2022
Supporting population with affordable and comfortable housing	764299 559,31	2 956 032,66	10603680,00
Development of road facilities and transport system	42 140 907,36	58 302 500,00	106 212 320,00
Development of education	591 292 423,10	241 083 828,51	138 322 820,52
Development of culture	0,00	0,00	0,00
Development of physical culture, sports, and youth agenda	0,00	0,00	0,00
Formation of the comfortable city environment	43 839 479,95	25 984 000,00	0,00

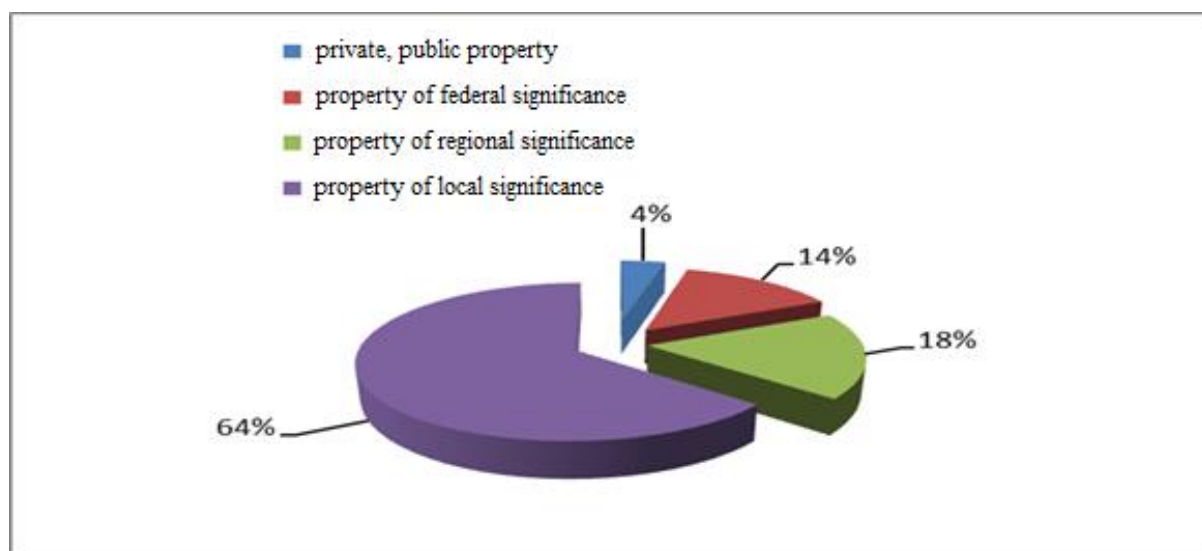


Fig. 5. Distribution of sports facilities by forms of property based on data from the № 1-FK "Data on physical culture and sports" report on the form of federal statistical observation at the end of 2020 in Omsk



**Conclusion.** In our opinion, detailed analysis of the mechanism of planning and distribution of flatwork sports facilities would allow the following:

1. To make a system of information on present facilities of the flatwork sport infrastructure and form a unified idea of supporting Omsk with flatwork sports facilities.

2. To increase indicators of implementing the municipal program, to support performing federal standards.

3. To define stages of planning the distribution of financial resources and plan them rationally.

4. To decrease misbalance in distribution of flatwork sports facilities in city territories.

5. To minimize managing risks.

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