

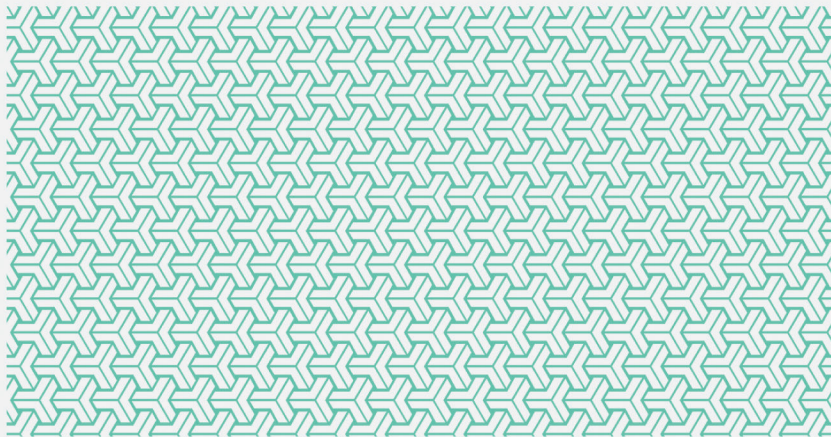
## 이용자 관점에서 본 공공건축 연구 : 국민체육센터

Public Sports Facilities from a User's Perspective

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After the 'Presidential Advisory Committee for the Advancement of Construction Technology and Architecture Culture' was established in December 2005, discussions began on improving the quality of public architecture. In 2007, the Building Framework Act was enacted, which set out the responsibilities of the national and local governments and citizens regarding architecture. In 2013, the Building Service Industry Promotion Act was enacted, and a system established and continuously improved to raise the quality of public architecture. The Building Framework Act provided the basis for participation of private experts (Article 23), and the Building Service Industry Promotion Act included regulations on new procedures such as priority application in design competitions, mandatory public architecture planning, prior reviews, and public architecture deliberations. Although various new systems have been established to improve the quality of public architecture, and more and more experts are participating in this process, problems such as facility locations that do not meet user demand, poor operation, user inconvenience, and safety are still arising. The goal of good public architecture is to provide optimal public services to citizens who use spaces and facilities. Therefore, in order to improve quality, it is necessary to approach the public architecture issue from the perspective of the end user. The purpose of this study is to derive plans to improve user satisfaction with public sports centers by conducting surveys and analysis of the current status of user demand, the current plan and usage, and user satisfaction in the course of promoting public sports centers.

In Chapter 2, the main points of this study are presented by identifying the current status of public sports center projects and analyzing major issues that emerged in previous studies and media reports.

Budget support was provided for 541 public sports centers built between 1997 and December 2020. From 2018, when the Living SOC Complex Project was promoted in earnest, the funding increased rapidly. There are three main types of public sports centers, namely, the 'base type', 'living type', and 'neighborhood small gym type'. In the early stages, construction was mainly centered on base-type facilities, but from 2018 onwards, there was growing push for the trend of constructing public sports centers in large cities to be supplemented, so the number of living-type facilities is rapidly increasing. As the types of public sports centers have changed, the project selection method has also evolved. The process of selecting a project involves review of whether the location is

appropriate, whether there is equity with other regions, and whether the operation plan is appropriate. In addition, in order to systematically disseminate public sports centers by reflecting the size of the region and characteristics of the residents, guidelines for the establishment and operation of living-type public sports center were established. The guidelines divide living-type facilities into four categories: 'urban growth type, city-specific type, small town growth type, and small town-specific type', and provide specific physical education programs for each type, room size, total floor area, number of occupants, and floor plan configuration.

Thus, the number of public sports centers has increased and the types been subdivided. According to the results of previous studies and media reports, there have been several problems experienced in the process of developing and using public sports centers. The first is the problem of site selection and regional imbalance. Conflicts between regions over location selection for public sports centers have arisen, and the suggestion of regional bias is constantly being raised. The second is operational difficulties. Since the early 2000s, when the construction of public sports centers began in earnest, the issue of difficulties in the operation of public sports centers has also been constantly raised. Third is the problem of low user satisfaction. Issues have been brought up regarding the fact that the programs that residents want are not properly established, or the fact that it is inconvenient for the socially disadvantaged, such as the disabled and the elderly, to use the facilities.

In this study, the main issues were set as 'access', 'use', and 'comfort' in order to derive a plan to improve user satisfaction with public sports centers. "Access" refers to whether the facility is installed in consideration of user demand and is located in an appropriate location, and whether the mode of access to the facilities is convenient; "Use" refers to whether the programs at the facilities are set up and operated according to the needs of users; and "Convenience" refers to whether the facility provides comfortable and pleasant spaces for users.

In Chapter 3, we analyze how users are considered in the establishment of the project planning and design stage of public sports centers, and look at actual center use.

As the typical type of public sports center is changing from the base type to the living type, efforts are being made to respond to regional needs and the needs of users by subdividing the model and applying the criteria for reviewing location

adequacy in the project selection process. Efforts are being made to enhance user satisfaction in the project planning stage of individual public sports centers by collecting user requests through demand surveys and interviews. However, there are limits to the scope of understanding the actual needs of users as the gathering of user opinions is confined to investigation of whether facilities are necessary in terms of content, and data utilization is the main method used.

In the design competition stage, proposals are being made to develop an open floor plan and to combine convenience or cultural facilities to increase accessibility and user convenience, and in the actual design process, many plans have been changed due to budget and space restrictions. In addition, initial designs were established based on the programs presented in the public sports center model; however, after the implementation of design contests, it was confirmed that there were some cases in which the design plan was significantly changed after consultations with residents during the basic and detailed design process, so it is necessary to reflect the needs of users in detail in the planning stage.

From the survey on public sports center use, it was confirmed that the use of rooms was changing according to the needs of residents. Accordingly, when planning a public sports center, it is necessary to respond flexibly to changes in resident demands rather than organizing rooms for fixed purposes. In addition, in order to increase user satisfaction, public sports center operators need to more actively perform the role of developing and operating various programs according to the needs of residents, rather than simply managing the facilities.

Chapter 4 attempts to derive considerations in terms of access, use, and convenience in order to improve user satisfaction with public sports centers in the future by conducting surveys on the use status of premium domestic public sports facilities and user satisfaction.

Users of excellent public sports facilities cited 'good accessibility' as the main reason for their use, and travel time was found to be less than 10 minutes. Although the means of transportation differed depending on the facility, it was found that private vehicles and walking were the main modes of transport used, and demand for securing sufficient parking spaces was also high. Users cited 'program diversity' as the main reason for using public sports facilities, along with good accessibility and affordable costs. It can be seen that not only the supply of public sports facilities, but also the preparation and smooth operation

of various programs desired by users, are important factors in increasing user satisfaction with public sports facilities. The demand for a combination of cultural or commercial facilities was also high, so it was confirmed that it is necessary to identify ways not only to provide sports facilities but also to combine facilities for the uses desired by residents. In terms of convenience, it was confirmed that it is important to organize spaces that are convenient for users and to continuously manage exercise facilities and equipment. It was also confirmed that the maintenance of facilities such as sports equipment as well as buildings is important for public sports facilities. For this purpose, it has been deemed necessary not only to secure continuous funding for maintenance and management, but also to secure management personnel.

Major countries such as Germany, France, and Japan have established and applied supply standards related to public sports facilities. Countries such as the UK and Canada have secured access to public sports facilities and are operating programs that meet the needs of users, and they have established and are operating detailed guidelines to create suitable spaces in consideration of each facility's user characteristics. The UK operates planning standards for each sports facility at the national level. Sports England (SE) established design and cost guidance for each sport. This guide suggests the standards of locations for sports facilities and the installation standards for entrances to improve accessibility. In addition to presenting facility specifications for each type of sport, the guidelines include the principle of configuring convenience-oriented spaces and sports facilities in consideration of user convenience. Canada has established and implements supply and planning standards for items deemed important for each province in its development of public sports facilities. In the case of Ontario, standards for securing facility location and accessibility have been set, and to increase accessibility in particular, location-related principles such as the necessity of linking with local parks or schools are presented. In order to improve user satisfaction with public sports centers, it is necessary to go beyond presenting models and standard guidelines for installation of facilities, and to prepare and operate detailed planning standards that take the specificity, accessibility, use, and convenience of each facility into account.

In Chapter 5, three basic directions are presented in order to improve user satisfaction with public sports centers: selecting an appropriate location to enhance user accessibility; building a plan for user convenience; and

organizing/operating programs that reflect user needs, and the necessary tasks have been presented for each stage of planning, design, construction, and operation.

In the planning stage, it is necessary to more actively ascertain user feedback by introducing a participation method that can enable organizers to directly listen to the opinions of users, such as demand surveys/interviews or public hearings/briefing sessions. In addition, it is necessary to prepare more specific standards for location selection and arrangement of public sports centers to improve accessibility. Currently, when selecting a living SOC complex project, the appropriateness and accessibility of location selection are evaluated, but in the future it will be necessary to expand and apply this evaluation method to the construction of all public sports facilities. In addition, standards are required for location, as well as installation and arrangement of access roads to provide easy access from adjacent areas or roads. In addition, from the planning stage, it is necessary to establish a specific operation plan that includes not only the composition of sports programs with consideration of the needs of users, but also the formation of networks with related organizations and implementation of a cooperative facility operation program.

In the design and construction stage, it is necessary to establish a building plan to enable flexible response to user needs that can change at any time. In addition, there is a need to prepare guidelines for user convenience-oriented spatial configuration. The "2018 Guidelines for Establishment and Operation of Living-Type Public Sports Centers" provide examples of establishments for each recommended facility; however, there are no specific guidelines for spatial composition. In order to prevent design changes according to the request of clients, it is necessary to present spatial configuration guidelines that consider user convenience and enforce adherence to such guidelines. In particular, separate area-related standards must be prepared to secure convenience facilities such as resting spaces, sports goods stores, and cafes, or to ensure sufficient shared spaces. It is also important to secure an appropriate budget to fully realize the design intent. In addition, thorough implementation of the design intent of design should be induced in accordance with the Building Service Industry Promotion Act.

In the operation stage, it is important not only to maintain and manage facilities, but also to operate sports programs professionally, and it is necessary to strengthen linkages with programs in other fields in light of the reality that



facility complexes are becoming more active due to the Living SOC Complex Project. In addition, continuous reflection of user demand must take place during program operation. As mentioned above, there may be shifts in the main users of public sports centers, and preferred programs may change at any time, so a system should be put in place to allow flexible adjustment of programs by regularly conducting demand surveys and reflecting the results accordingly.

In this study, performance and limitations were derived by analyzing the project plan, design, and use phases of public sports centers from the perspective of accessibility, use, and convenience, and improvement tasks were presented for each phase of public architecture in order to enhance user satisfaction with the centers.

Since the first confirmed case of COVID-19 in Korea in January 2020, the spread of the virus has continued to date, and the government has been implementing measures to prevent further spread, so public sports centers have been closed or operated under restrictions. Therefore, in this study, the survey of actual use was limited only to excellent public sports facilities, and there were also difficulties in survey design. In order to increase accessibility and user convenience of public sports centers, living-type sports centers have become more widespread. Another limitation of this study was that it was difficult to confirm the effects of living-type public sports center establishment as there are still only a few such centers completed, having only begun to be constructed from 2018. As the types of public sports centers and construction types are becoming more diverse, with an increasing number of complexes being built with other facilities, for example, continuous monitoring and research on the operating status of public sports centers should follow.

**Keywords :**

Public Building, Public Sports Facilities, Access, Use, Comfort, Project plan, Design, Operation