

공공건축물 건축기획업무 현황 진단 및 활성화 방안 연구

Public Building Architectural Planning Analysis and Improvement Measures

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SUMMARY

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The fulfillment process of public building projects strengthened with the performance of public building planning becoming mandatory via the 「Act On The Promotion of Building Service Industry」 in December 2019. However, detailed analysis and diagnosis on the status regarding the policy since its enforcement have not been performed. This study seeks to discuss the direction through which the procedure can adequately settle and enhance effectiveness based on the data from more than 300 cases.

The purpose of the study is as follows. Along with the concept and range of the building planning task that has been discussed in the relevant literature and previous studies, we seek to reconfirm the motive and purpose behind the policy and set this as the standard of current status analysis to diagnose whether the policy is operating in alignment with the original objectives. We seek to deduce implications by interpreting actual cases that have performed building planning tasks based on the details and range of the planning, progress, utilization, etc. We want to identify structural supplementation or potential improvements in the performance of the policy, which may be necessary to advance the procedure to have practical significance.

The subject of the study are projects that have performed the building planning duties after December 2019 among those selected as the preliminary review targets of public building project plans according to Article 23 of the 「Act On The Promotion of Building Service Industry」, where we aim to analyze the building planning task status and performance conditions with the range of the study encompassing the entire public building project from the initial project planning stage up to the design service order. Therefore, this study observes actual building planning task performance cases and the relevant personnel to see how the policy is being operated in the changed environment after the amendment of the policy. Through this, we will identify the initial process of the procedure being applied in the actual site, its effects or problems, and suggest a solution that can be appropriately utilized in Korea's public building sector.

The building planning performance status analysis was primarily divided into plan performance result data analysis, case study analysis, and status analysis. The data analysis checked the performance status per building planning item to perform quantitative analysis based on the performance frequency of each item, after which the weight deduced through consultation and evaluation of building planning-related experts were reflected in each item to analyze the final building planning performance status. This allowed the analysis of the details of actual cases and the selection of projects subject to in-depth investigation.

The in-depth investigation took place to identify the status, such as the performance process and method of the planning task towards officials of projects at the higher and lower ends of the spectrum in terms of building planning performance status analysis. The in-depth investigation target was classified into entities: ordering department, building planning performing personnel, and entities that review the details of the building planning through the follow-up procedure. The investigation was done through in-person, in writing, and phone interviews. It was done based on the interview sheet, which consisted of items identified through the consultation of a planning work official.

The overall result of the building planning performance data and status analysis is as follows.

There were conflicting perceptions on the institutionalization of building planning tasks. While the mandatory building planning task made the project management convenient

as well as being helpful towards establishing a reasonable budget and shape of the direction of the planning due to an advanced review on problems and mandatory details in the project execution process, the recognized disadvantage was that the operation of the public building project becomes longer and more complicated.

There was a gap occurring between the building planning task range and the performance status in the actual site. Upon analysis of the performance status of the building planning by item, there were no projects that have entirely performed more than 50 items out of the total 68 building planning items. While this result could have resulted from a highly detailed analysis of the 11 items stated in the policy, the fact that the task range of the building planning is very comprehensive was also reaffirmed in the result of the degree of performance.

Also, an increase in awareness of the role of the ordering institution as a building planning task performing entity was necessary. As identified in the in-depth interview results, the general understanding was that the performance of the building planning task was in the form of a service order to professional companies or institutions such as architectural firms, etc., rather than the primary entity being the ordering agency. While it is clear that the primary entity that performs the building planning task is the ordering agency based on relevant literature and previous studies, it is necessary to constantly change the perception of the officials, since the actual site does not recognize it as such. However, since it can be deduced that most of the ordering agencies feel burdened with performing the building planning task itself or specific items that require expertise from the fact that 'lack of professional personnel and task expertise in the department' was most frequently selected as the reason behind performing the building planning via services, a review on the method to relieve the ordering agency managers of this burden is essential.

Other than that, the performance item and performance analysis results based on the building planning data all showed that the building planning task was substantially performed in proportion with the size of the estimated design costs. However, when looking at the building planning task performance costs in the official in-depth interview, it was challenging to identify the correlation between factors that affect the compensation and range of the building planning service, such as duration, design costs, etc. This leads to the interpretation that more significant projects perform more building

planning items, but it is difficult to quickly conclude that a lot of items are served through services, as the ordering agency could perform a lot of the building planning items through independent reviews.

Finally, based on the official interview results, the appropriate period of consigned service for the building planning task was different for each project. While there were opinions that performing building planning that fits the final confirmed budget is reasonable, others suggested that building expert consultation during the initial project planning phase is reasonable in reviewing the appropriate size and direction of the project to confirm and adjust the budget accordingly, meaning that it is necessary to have different periods in effectively performing the building planning service based on the circumstances of each project.

Based on such status analysis, the critical issues for building planning task vitalization were determined. First, the policy itself requires a systematic organization of the purpose, intention, task performance details and range to seek ways to enhance understanding of the building planning task. Secondly, in terms of minimizing duplications in the process, it could be practical to apply the determined size and business standards, etc. during the initial stages of the project planning and select/focus to classify the building planning performance items that need to be reviewed, which could be used to adjust the range(items) of the building planning task. Thirdly, it is necessary to provide guidance on the effective building planning task service performance points for each project since such guidance on the optimal effective building planning service period and range based on the type and circumstances of the public building project allows the ordering agency to perform the building planning task in a more systematic manner. More specifically, providing guidance on the range of the building planning task based on the project type and method would be effective.

Before discussing policy improvement methods, we would like to materialize the concept of the building planning task based on the current status analysis details. The purpose of the building planning task refers to the overall process of the ordering agency in shaping the necessity and pieces of the project, which prevents wasting of the budget and providing optimal facilities that fit the convenience and demands of the users. While emphasizing that the primary performing entity of the building planning task is the ordering agency, a guide for various professional entities to support the performance of

the building planning is necessary, as the task is very comprehensive.

The establishment of the range and details of the building planning task are as follows.

While it is necessary to set the range of the building planning task range that encompasses the entire process from the essential planning up to the design service order, it is also necessary to minimize duplicate reviews of items that have been verified in relevant processes. Therefore, it is essential to seek a differentiated strategy to construct a functional space and environment as well as review the direction of detailed facility composition to realistically and specifically enhance the effectiveness of the project within the provided budget, size, and conditions. Also, it is advisable to understand the advanced public building project plan review and the public building deliberation committee process as processes relevant to the building planning, while various entities need to clearly set the range of the task and adjust the items in the building planning to conveniently put the range of the building planning service if necessary.

Strategic adjustment of the building planning performance items that consider the characteristics of the project is necessary for effective performance of the building planning task. Projects with detailed and clear guidelines must focus on the design plan, individual building projects that do not have independent standards/guidelines must perform all the project and design strategies, and detailed projects that are completed within the master plan and overall project plan must also perform all the project and design planning. Also, an adjustment in the building planning performance items must be adjusted for building acts such as extension, remodeling, improving and repairing, etc. Finally, changing the items is possible to deduce results at an appropriate level.

We have deduced a building planning item improvement(proposal) as follows by summarizing the details specified above.

[Table] Building planning item improvement(proposal)

Division (4)	Main Category (26)	Subcategory (68)
1. Details on project propulsion	1-1. Decide planning task propulsion method	1-1-1. Decide appropriate planning task propulsion method and performing entity
		1-1-2. Confirm task process with relevant departments
	1-2. Review necessity of the project	1-2-1. Review necessity of pursuing the project such as appropriateness/urgency/(economic) validity, etc.

Division (4)	Main Category (26)	Subcategory (68)
	1-3. Set basic direction of the project	1-3-1. Set basic direction of the project
	1-4. Set size and key functions of the project	1-4-1. Perform prior demand survey to set the project size
		1-4-2. Estimate user size
		1-4-3. Case study and review differentiation from similar facilities
		1-4-4. Review appropriate facility size based on surface area standards, etc.
		1-4-5. Set contents and functions for each room
	1-5. Decide construction and operation method	1-5-1. Review and select alternatives for the facility location
		1-5-2. Decide construction method that fits the size and conditions of the project
		1-5-3. Decide the facility operation method
	1-6. Review budget size and financing plans	1-6-1. Set the land cost
		1-6-2. Set the construction cost
		1-6-3. Set the design cost
		1-6-4. Set the design contest compensation cost
		1-6-5. Set the supervision cost
		1-6-6. Set the design implementation costs
		1-6-7. Set other relevant costs (certification fees, economic feasibility review costs, evaluation and investigation costs, etc.)
	1-7. Review project period	1-7-1. Calculate the prior investigation period
		1-7-2. Calculate the order preparation period
		1-7-3. Calculate the design contest period
		1-7-4. Calculate the design period
		1-7-5. Calculate the construction period
		1-7-6. Calculate the test run period
	1-8. Linkage and differentiation from nearby facilities	1-8-1. Avoid duplications with facilities near the project site and consider links with relevant facilities
	1-9. Building operation plan	1-9-1. Details on the operation program
		1-9-2. Details on personnel on duty, expected visitors and number of users
		1-9-3. Details on acquiring operational costs
		1-9-4. Details on facility management method
	1-10. Reflect official opinion	1-10-1. Reflect expert opinion on resolving problems and reflecting demands
2. Details on location and space planning	2-1. Review and confirm location conditions	2-1-1. Investigate land-related conditions
		2-1-2. Confirm site and set the plan range
	2-2. Site status investigation	2-2-1. Investigate infrastructure
		2-2-2. Investigate land circumstances
		2-2-3. Investigate terrain, environment
		2-2-4. Review relevant legislation
		2-2-5. Investigate cultural assets
	2-3. Review design conditions and directions related to the arrangement	2-3-1. Investigate master plan details

Division (4)	Main Category (26)	Subcategory (68)
		2-3-2. Review land utilization method
		2-3-3. Review building placement plan and direction
		2-3-4. Review size of the building
		2-4-1. Size, capacity, and requirements (weight, ceiling height, facility conditions, etc.) for each room
	2-4. Review design conditions and directions related to space planning	2-4-2. Review planar/cross-section zoning plan conditions and directions
		2-4-3. Review public spaces and variability of spaces
		2-4-4. Review interior path planning conditions and directions
		2-5-1. Review energy-related certification items
	2-5. Review directions of energy efficiency plan	2-5-2. Review environment-friendly plans such as new and renewable energy, etc.
		2-6-1. Review certifications on living environment without obstacles
	2-6. Review directions of other facility plans (BF, CPTEd, seismic design, etc.)	2-6-2. Review crime prevention design standards
		2-6-3. Review seismic design and other relevant plans
3. Details on public character and improving class	3-1. Contribution to local vitalization, etc.	3-1-1. Exterior space plan and open public spaces
		3-1-2. Role as a local strongpoint
		3-1-3. Support local industry and local economy vitalization
	3-2. Methods to predict and materializing minimize risk factors	3-2-1. Predict and seek measures against risk factors during construction
		3-2-2. Predict and seek measures against risk factors during building use
	3-3. Consideration of the surrounding environment	3-3-1. Comprehensive review on the surrounding tangible/intangible environments such as building cultural asset/environmental asset/community, etc.
	3-4. Materialize convenience, accessibility, comfort, creativity, etc.	3-4-1. Review details necessary to materialize convenience, accessibility, comfort, creativity, etc.
4. Details on project management system	4-1. Project management system	4-1-1. Consider project management method for smooth project directing/adjustment
	4-2. Utilize private experts	4-2-1. Utilize private experts entrusted by local governments and public institutions
		4-2-2. Entrust expert members, operate advisory committees
	4-3. Design intention materialization performance and method	4-3-1. Review details and range, etc. of design intention materialization tasks
		4-3-2. Review/reflect performance period and budget of design intention materialization tasks
	4-4. Decide design order method	4-4-1. Review appropriate design contest method considering the project characteristics
		4-4-2. Review constitution of a design contest operation committee
		4-4-3. Review methods to form design contest judges with expertise and fairness
		4-4-4. If not a preliminary target of design contest method, seek

Division (4)	Main Category (26)	Subcategory (68)
		methods for good design materialization
	4-5. Decide construction order method, etc.	4-5-1. Review construction order method suitable for the project 4-5-2. Review establishing a construction project management plan suitable for the project
	4-6. Other services (interior, display, etc.) order method	4-6-1. Additional review required for projects including complex processes (interior, display, etc.)

Source: Created by researcher

We have also prepared a method to differentiate the construction plan (service) performance period and the method that fits the project method and type. The construction plan service performance period can be separately applied upon considering the project characteristics. Also, projects without relevant standards and guides could consider independently performing the project planning.

Based on the details above, policy improvement methods to vitalize the building planning task was deduced as follows:

Act On The Promotion Of Building Service Industry amendment proposal

An amendment proposal was suggested so that the meaning of project and design planning performance processes based on the definition and purpose of the building plan, as defined and verified above, can be reflected. Also, we suggested a solution to amend the details based on the description of the building planning task. We tried to indicate the task performance details as detailed as possible compared to the existing provision, and have reconstructed the law and enforcement act details to fit the project flow and task procedure. Also, we have further emphasized the elements that are only reviewed in the building planning stage to highlight a differentiation method from similar building planning processes.

Established building planning task performance guideline(amendment)

The main building planning task performing entity must be the ordering agency, and support of professional entities for various tasks is required. The entities that receive and perform service requests were classified from the ordering agency into categories to help the understanding of the building planning task performer and allowed a more precise setting of the task range when performing the service.

There are various entities that perform and participate in the building planning process based on the ordering agency, with the roles and task range of each entity being

different. As it can be determined from the current status analysis, since there is a demand that classification is required for items among the building planning tasks where the ordering agency needs to lead the decision or provide relevant information, we can consider adding details that can provide guidance on pertinent items in the future.

Advanced planning task guide and checklist

We have reflected the building planning tasks that encompass the entire process before the design service order and have advanced the guide and checklist by reflecting the public building plan item final (proposal). We have adjusted strategic planning performance items that consider the item characteristics to effectively perform the building design task and have suggested a checklist that combined the building planning (service) performance period and differentiation method that fits the technique and type of the project.

Stronger link between building planning—preliminary review—public building deliberation committee

Since the preliminary review items are composed based on the details of the 「Act On The Performance Of Building Service Industry」 and equivalent enforcement decree, it is necessary to reorganize the preliminary review items that fit the building plan item composition and system suggested by the study. This can reduce the burden of legal processes for personnel that perform the building planning tasks, as stated in the current status analysis, and can also promote convenience for the plan reviewing personnel.

Keywords :

Public building, building plan, building plan current status diagnosis, policy improvement