

# auri research brief

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## A Study of the Improvement Plan for Small-Scale Public Buildings

Data on the state of public construction projects in the year 2015 shows that the central government had commissioned an even distribution of projects valuing in the range of 1 to 50 billion Korean won, while local government projects were mostly small-scale projects less than 5 billion won. However, there were only a sparse number of local governments that systematically managed their public architecture projects or ran dedicated organizations. With restrictions on budgets and manpower, the situation required a more effective management system.

There is an increased awareness of the importance of small public buildings, which are more closely integrated into the everyday lives of local residents; however, studies have revealed a low level of satisfaction from their users. This is due to the general lack of expertise of the government officials in charge at the planning stage which results in homogeneous, low-quality public buildings.

This study aims to identify the key improvement measures that would enhance the quality of public architecture and to prepare a checklist to be used in the planning stages that would strengthen the overall planning capacities.

First, in order to understand the current problems and limitations in the construction of small-scale public buildings, the study analyzed administrative

procedures, relevant legislation and guidelines, and the present conditions of development. Interviews with stakeholders were also conducted. A common need identified at each stage of the building project was for a close collaborative working system among project departments, facility departments, and professionals. At each stage of planning, design, and construction, design modification and major decision-making was required based on user feedback.

In the planning stage, it was found necessary to raise the expertise of the project personnel, to designate a sufficient planning period and allocate appropriate budgets. The planning aspect needs to be completed before finalization of the budget for the whole project; it is also in the early design stage when the opinions of local residents need to be considered.

For the design stage, the following needed to be established: a set timeline for the design phase, design competition criteria suitable for small-scale public buildings, qualification standards for architectural offices and minimizing of design changes through community and user participation. In order to ensure optimal results for the construction and operation phase, it is recommended that there be supervision by the architect to ensure construction quality, the selection period of operators be adjusted, and the selection method for construction companies be improved.

Following an analysis of other domestic and overseas support systems as well as relevant case studies, it was determined that the building of high-quality public architecture required a professional organization specifically dedicated to public building projects. The operating organization needed to actively participate in the early stages of the project, and customized support from the appropriate experts at each stage of the project was instrumental. Additionally, more integrative planning and quality management tools are needed, including a stronger role for the future occupants of the space. Lastly, for systematic management of small-scale public buildings, it is necessary to prepare manuals for each user-group to allow for continued progress of the project.

However, the key to improving the overall quality of small-scale public buildings depends upon a basic recognition of the importance of the initial planning stage; for this, there are numerous suggested measures in the following areas.

A close cooperation among all stakeholders from all stages of operation is essential. Toward this, the study proposes a work manual for administrative procedures and a checklist to ensure a professional standardization of the planning stage. These are important in outlining the roles and responsibilities of every person involved in the project; everyone can clearly understand their part in view of the whole project.

The project work manual was divided into the planning, design, construction and operation stages. A checklist was created for each administrative procedure so that the person in charge

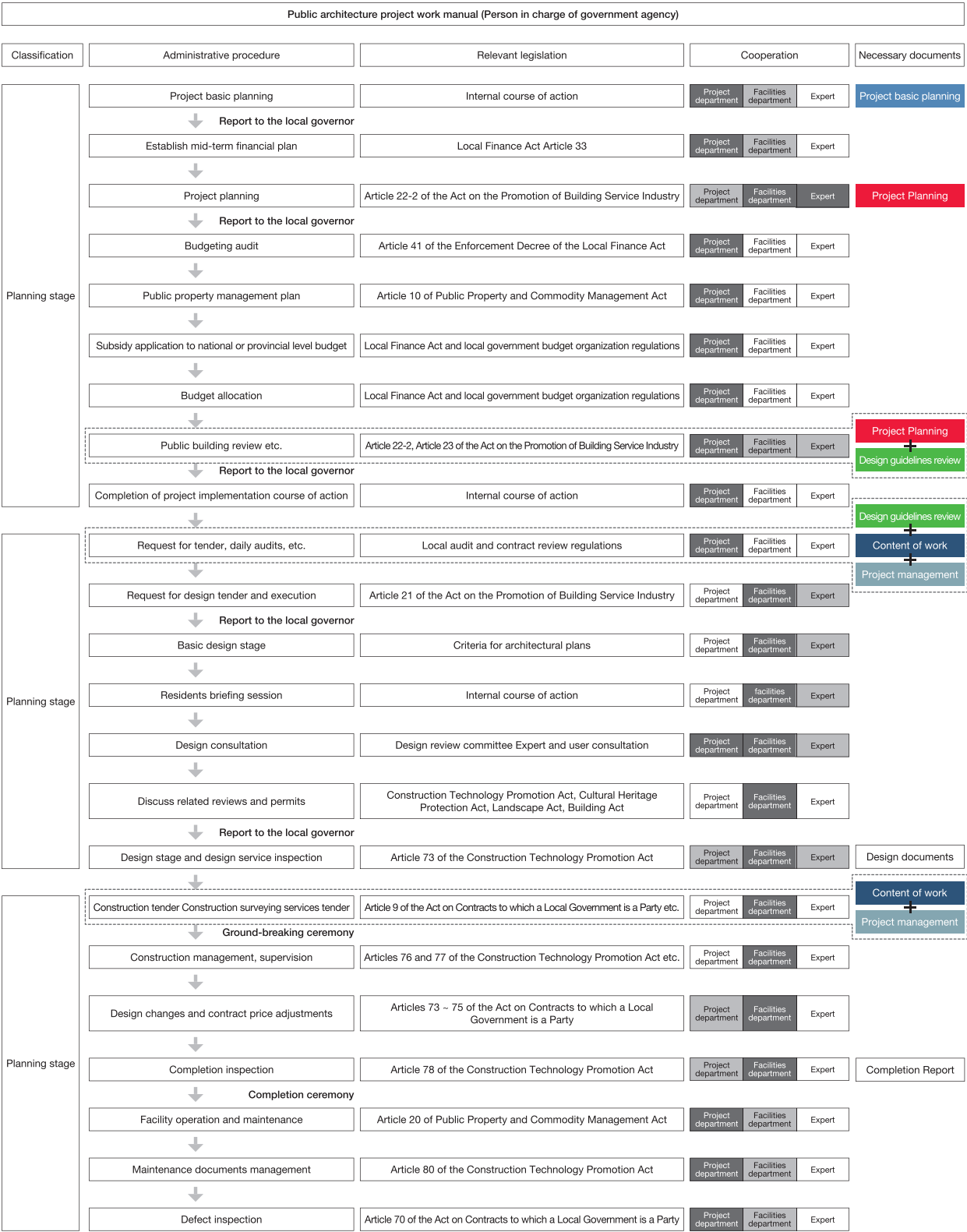
can understand what is required. The checklist is divided into strategic planning, project planning, design guideline review, design work and timeline review, and project management. The review items and contents were summarized and used as a preliminary check..

The validity of proposed project work manual and checklist was evaluated by government officials and professionals. The study applied its results to 16 small-scale public building case studies and found most of the procedures laid out in the manual were based on legal procedures and hence carried out consistently throughout the projects; however, execution of the checklist items differed greatly. In cases where high-quality results were reported by the government official in charge of the project, the basic planning, project planning, and design guideline review items were executed at a rate of 63-68%. Case with less positive evaluations had only executed 35-46% of the checklist items. This evaluation result substantiated the validity and effectiveness of the checklist.

A revised project work manual and checklist will be used in accordance with the project procedures. In the future, it will be possible to select and modify manuals and checklists according to building type (office, cultural facilities, welfare facilities, and administrative facilities), and construction methods (renovation and new construction). Under the Act on the Promotion of Building Service Industry in Article 22 (2)-2, (currently scheduled for revision), public institutions are obliged to execute planning work in public architecture projects. The results of this study may be used as a source for such planning works and as a tool to streamline the public building review process.

**Keywords :** Public Architecture, Small-Scale Public Buildings, Project Planning, Architectural Planning, project Manual, Checklist

[Figure] Small-Scale Public Building Project Work Manual And Planning Stage Checklist



Small-scale public buildings planning stage checklist			
Classification	Item	Review content	
Project basic planning	Establish a project objective	Ensure consistency with higher planning documents (national, local, government institutions) and policy direction	
	Decide on planning method	Project planning strategy, expert consultation, TF team or planning of collaborative system between departments, etc.	
	An estimate of demand for facility	Review whether to conduct a survey of demand, case studies review, a user (visitors and operating organization) demand estimation	
	A brief review of location and scale	Appropriate location review, staffing plan, appropriate size review based on area standards (net area / common area), etc.	
	Review of construction method	Review the use of the existing facility (remodeling), review leasing, review brief construction method depending on new construction or mixed-development	
	Review of project costs and duration	A brief review of project costs (design, construction, surveying), a brief review of project duration (review, design, construction, etc.)	
Project Planning	Establish basic planning	Survey of demand, facility and architectural scale review, feasibility study	
	A detailed review of location condition	Review of alternative locations analysis, building possibility by statute, urban planning, permission for the exclusive use of mountain area, etc.	
	Detailed examination of site condition	Existence of infrastructure, ground condition check, underground safety review, cultural heritage survey, consideration of the geographical and environmental characteristics of the site, etc.	
	Planning standards review	Restrictions, etc.	Review of the upper limit of the legal scale (building coverage ratio, floor area ratio, height limitation), restriction to the building (layout, shape, color, construction line, landscaped area, etc.)
		Meets eco-friendly standards	Building energy efficiency level certification, Green building certification, New / renewable energy requirement
		Aligns with standard of living	Obstacle-free living environment certification, Crime Prevention of Buildings (CPTED), application of seismic design
	Detailed budget review	Construction cost	Review of detailed items such as building construction cost, site construction cost, existing facility demolition cost
		Design cost	Review of design cost, certification related fees, certification related cost, VE, design review, etc.
		Additional expenses	Detailed design items such as implementation of design intent, surveying and ground survey costs, various impact assessment costs, asbestos survey, structural safety diagnosis, urban planning facility, surveying and CM cost
Design guidelines review	Building layout	Approximate orientation, circulation planning (vehicle, pedestrian, entrance, parking, etc.), energy efficiency considerations	
	Site utilization plan	Consider use of open space (square, resting space, exercise space, etc.), consider securing reserves for possible expansion	
	Building height and size	The number of floors considering the surrounding landscapes, spaces adaptable to future changes (extension, flexibility of spaces, etc.)	
	Space and facility planning	Zoning plan for each function, suitability and specification of individual rooms, circulation planning, securing the proper ratio of the public area, consider flexibility and expandability	
	Increase sustainability	Passive house design, durable and easily-maintained materials, high energy-efficiency, structure and plans ensuring long lifecycle of buildings	
	Increase safety and accessibility	Consider enhancing safety (preventing accidents), and improving accessibility	
	Specialized design, improve public building quality	Utilize key local facilities (consider open facility etc.), apply unique design reflecting local characteristics	
	Re-modeling plans	Set the scope of demolition and repairing (remodeling), removal of asbestos, structural safety diagnosis, structural reinforcement, TAB investigation	
Content of work	Set project scope	Surveys and ground surveys, make changes to the urban management plan (urban planning facility), establish a master plan, implement structural safety diagnosis, etc.	
	Design period	Review appropriate design stage period (Consider collating opinions on the basic design, residents briefing session, certification period, inspection, etc.)	
	Construction period	Review appropriate construction period (consider similar cases and the duration where construction cannot commence due to demolition)	
	Trial operation period	Trial operation (inspection and repair of facility defect), a period of certification supplement and preparation to the opening	
	Tender preparation	Review of the appropriate tendering method (two-step bidding, comprehensive evaluation bid, contract by negotiation, design competition, etc.) and duration	
	Request for tenders	Review tender process and duration etc.	
Project management	Project management system	Review implementation of design intent, appropriateness of construction supervision method, design supervision, implementation of construction project management	
	Operation and management plan	Review facility operation plan (operating method, operation cost guarantee plan, operation program, manager, etc.)	

