

# auri research brief

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## Understanding the Built Environment of Decrepit Industrial Complexes and its Improvement

Over the past 50 years, industrial complexes have played an important role in industrial development and national economic growth, functioning as a regional economic base and contributing toward balanced national development. However, over 50 years, the need for regenerating decrepit industrial complexes have increased due to facility deterioration, changes in industrial structure, and conflicts with surrounding areas due to urban expansion. In particular, decrepit industrial complexes that are more than 20 years old were initially planned only for production purposes, neglecting the spatial need for catering toward working and living environments, and even the minimum infrastructure that had been installed, have aged considerably. In view of this, the government is promoting the industrial complex structure improvement project, the old industrial complex regeneration project, and the old industrial complex competitiveness enhancement project. However, the spatial improvement agenda, especially with regards to public areas, is severely lacking even in these projects.

Against this background, this study aims to understand the current status and problems of the built environment (e.g., street and public areas)

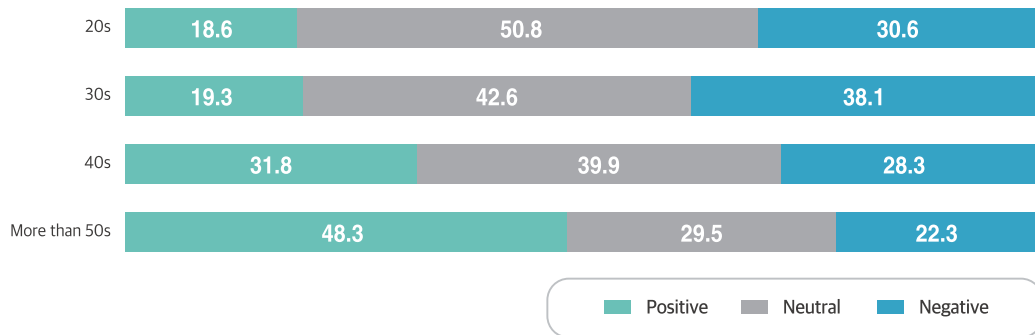
of industrial complexes, and this study aims to identify improvement measures and future implications in order to improve the working environment of decrepit industrial complexes. First, the study analyzed legislations regarding industrial complex development and regeneration and its implementation, the built environment of decrepit industrial complexes including streetscapes, public areas, and crime prevention measures. Second, the study conducted a general public survey and case studies of domestic and overseas industrial complex spatial improvement measures. Third, the study proposed system improvement and policy directions to improve the built environment of industrial complexes. Fourth, the study suggested planning guidelines for spatially improving decrepit industrial complexes and a model for a pilot project.

The study investigated three decrepit industrial complexes: the Nandong National Industrial Complex, the Daejeon 1st and 2nd Industrial Complex, and the Iksan 2nd Industrial Complex. The study analyzed the complexes' street layout, outdoor spaces such as parks and the landscape, public spaces, and crime prevention measures to identify problems and implications. As a result, the study found that public spaces need to be expanded and better connected with other public areas, parking spaces need to be secured, and traffic systems need to be improved for enhancing user convenience. The external design of factories and public facilities also need to be improved for creating a clear identity of the complex and for ensuring pleasant streets. In addition, managing stockpiles on site, sidewalk trees and green areas, and closed factory buildings required immediate improvements.



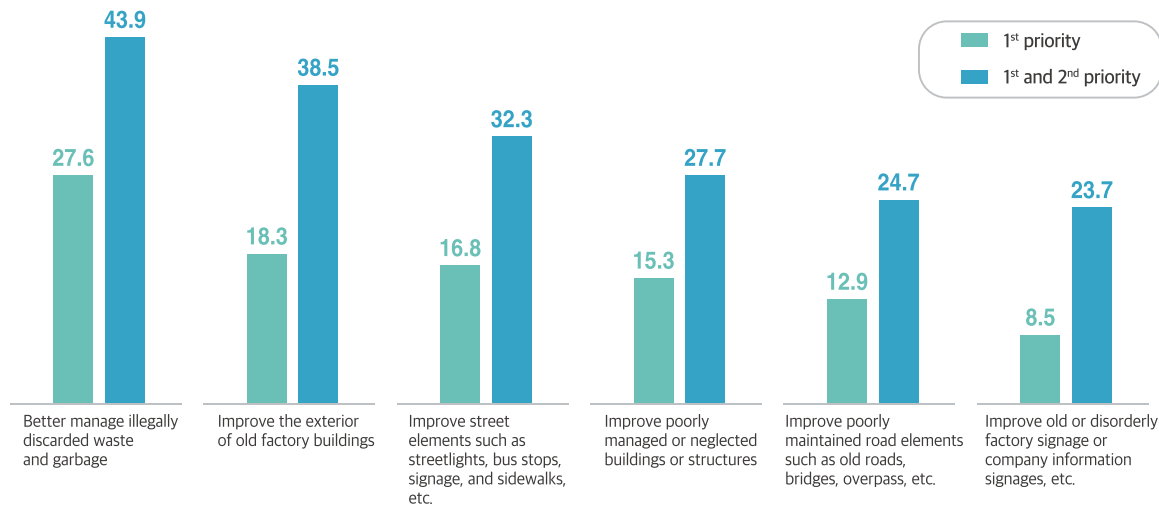
[Figure 1] The Deteriorated Built environment of Decrepit industrial complexes

The study conducted a public survey of 1,600 local residents living near industrial complexes to understand their perception of industrial complexes and the built environment. The general public perceived industrial complexes simply as places where factories were clustered, and while the concentration of factories positively impacted the local area and economy, there was also a negative perception that these places were causing environmental pollution. Overall, 18.6% of respondents in their 20s regarded industrial complexes as positive places, while 19.3% in their 30s, 31.8% in their 40s, and 48.3% in their 50s responded positively.

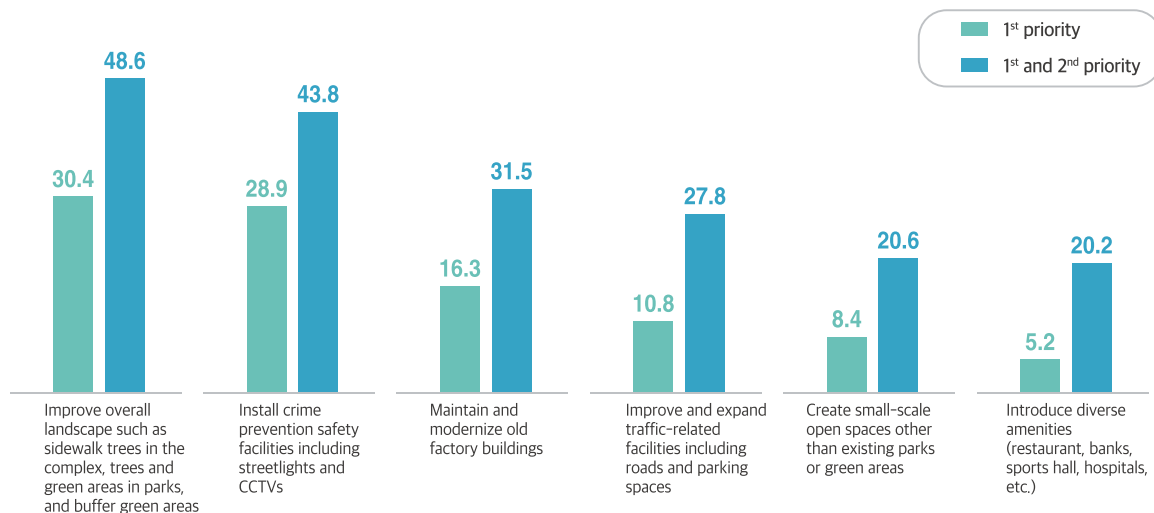


**[Figure 2] Perception of Industrial Complexes by Age Groups**

In order to improve the street environment of industrial complexes, the study found that it was necessary to improve the road structure in accordance with the spatial characteristics of the industrial complex, and to improve sidewalks and crosswalks for pedestrians. To improve the landscape, a higher percentage of respondents answered that it was necessary to manage garbage and stockpiles, and to structurally improve the exterior of old factory buildings. To create a pleasant and safe environment, there was a need to improve the landscape and install safety and crime prevention facilities such as streetlights and CCTVs.



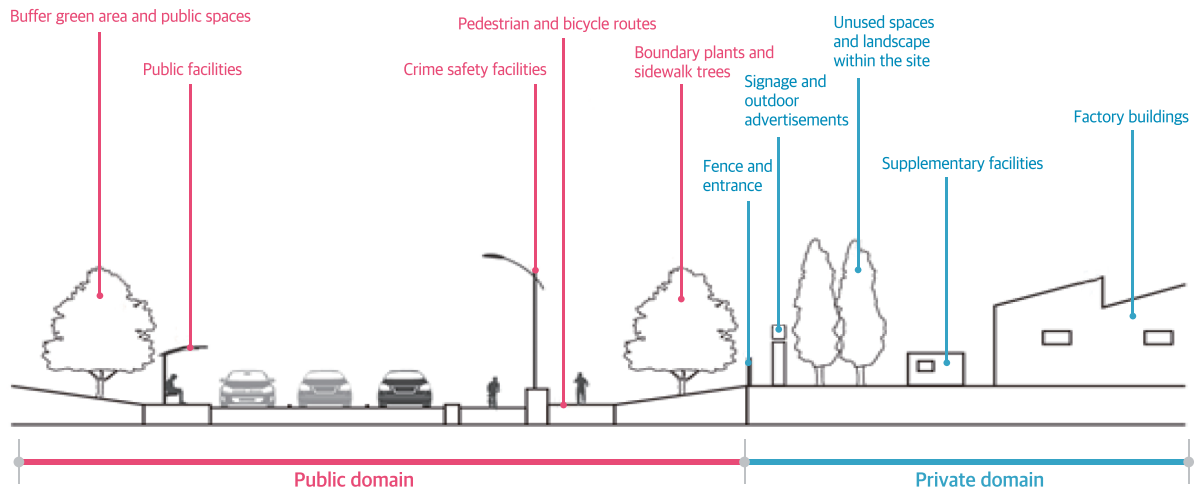
[Figure 3] Aspects to Improve the Landscape of Industrial Complexes



[Figure 4] Aspects to Improve the Safety of Industrial Complexes

In conclusion, based on the analysis of relevant legislations, the current built environment of decrepit industrial complexes, public survey, and domestic and overseas case studies, the study set the improvement objective of decrepit industrial complexes as creating a ‘pleasant and safe built environment,’ and suggested policy and system improvement measures. In particular, the study proposed a draft of the “Industrial Complex Built environment Planning Guideline.” This outlines the criteria to be considered in the planning and design stage of industrial complexes in the process of acquiring the regeneration project permit, and the role

of participants in the regeneration process. Also, the basic principles and policies to ensure a pleasant and safe built environment in industrial complex regeneration projects are presented in the guideline. The content of the guideline is largely divided into the public sector-led areas and the private sector-led areas centered on individual parcels.



[Figure 5] The Spatial Composition of the Guideline

In addition, the study proposed the ‘Pilot Project for Improving the Built environment of Decrepit industrial complexes,’ which can be implemented partially or across all areas of the project district in cases where concentrated built environment improvement is desired that aim to strengthen the competitiveness of decrepit industrial complexes.

**Keywords :** Industrial Complex, Old Industrial Complex, Spatial Environment, Landscape, Guideline, Pilot Project

